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The Victoria History of the
Counties of England

EDITED BY WILLIAM PAGE, F.S.A.

A HISTORY OF
DERBYSHIRE

VOLUME I

THE
VICTORIA HISTORY
OF THE COUNTIES
OF ENGLAND
DERBYSHIRE



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INSCRIBED
TO THE MEMORY OF
HER LATE MAJESTY
QUEEN VICTORIA
WHO GRACIOUSLY GAVE
THE TITLE TO AND
ACCEPTED THE
DEDICATION OF
THIS HISTORY

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General Editor—WILLIAM PAGE, F.S.A.

GENERAL ADVERTISEMENT

THE VICTORIA HISTORY of the Counties of England is a National Historic Survey which, under the direction of a large staff comprising the foremost students in science, history, and archæology, is designed to record the history of every county of England in detail. This work was, by gracious permission, dedicated to Her late Majesty Queen Victoria, who gave it her own name. It is the endeavour of all who are associated with the undertaking to make it a worthy and permanent monument to her memory.

Rich as every county of England is in materials for local history, there has hitherto been no attempt made to bring all these materials together into a coherent form.

Although from the seventeenth century down to quite recent times numerous county histories have been issued, they are very unequal in merit; the best of them are very rare and costly; most of them are imperfect and many are now out of date. Moreover, they were the work of one or two isolated scholars, who, however scholarly, could not possibly deal adequately with all the varied subjects which go to the making of a county history.

In the VICTORIA HISTORY each county is not the labour of one or two men, but of many, for the work is treated scientifically, and in order to embody in it all that modern scholarship can contribute, a system of co-operation between experts and local students is applied, whereby the history acquires a completeness and definite authority hitherto lacking in similar undertakings.

The names of the distinguished men who have joined the Advisory Council are a guarantee that the work represents the results of the latest discoveries in every department of research, for the trend of modern thought insists upon the intelligent study of the past and of the social, institutional, and political developments of national life. As these histories are the first in which this object has been kept in view, and modern principles applied, it is hoped that they will form a work of reference no less indispensable to the student than welcome to the man of culture.

THE SCOPE OF THE WORK

The history of each county is complete in itself, and in each case its story is told from the earliest times, commencing with the natural features and the flora and fauna. Thereafter follow the antiquities, pre-Roman, Roman, and post-Roman; ancient earthworks; a new translation and critical study of the Domesday Survey; articles on political, ecclesiastical, social, and economic history; architecture, arts, industries, sport, etc.; and topography. The greater part of each history is devoted to a detailed description and history of each parish, containing an account of the land and its owners from the Conquest to the present day. These manorial histories are compiled from original documents in the national collections and from private papers. A special feature is the wealth of illustrations afforded, for not only are buildings of interest pictured, but the coats of arms of past and present landowners are given.

HISTORICAL RESEARCH

It has always been, and still is, a reproach that England, with a collection of public records greatly exceeding in extent and interest those of any other country in Europe, is yet far behind her neighbours in the study of the genesis and growth of her national and local institutions. Few Englishmen are probably aware that the national and local archives contain for a period of 800 years in an almost unbroken chain of evidence, not only the political, ecclesiastical, and constitutional history of the kingdom, but every detail of its financial and social progress and the history of the land and its successive owners from generation to generation. The neglect of our public and local records is no doubt largely due to the fact that their interest and value is known to but a small number of people, and this again is directly attributable to the absence in this country of any endowment for historical research. The government of this country has too often left to private enterprise work which our continental neighbours entrust to a government department. It is not surprising, therefore, to find that although an immense amount of work has been done by individual effort, the entire absence of organization among the workers and the lack of intelligent direction has hitherto robbed the results of much of their value.

In the VICTORIA HISTORY, for the first time, a serious attempt is made to utilize our national and local muniments to the best advantage by carefully organizing and supervising the researches required. Under the direction of the Records Committee a large staff of experts has been engaged at the Public Record Office in calendaring those classes of records which are fruitful in material for local history, and by a system of interchange of communication among workers under the direct supervision of the general editor and sub-editors a mass of information is sorted and assigned to its correct place, which would otherwise be impossible.

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FAMILY HISTORY

Family History is, both in the Histories and in the supplementary genealogical volumes of chart Pedigrees, dealt with by genealogical experts and in the modern spirit. Every effort is made to secure accuracy of statement, and to avoid the insertion of those legendary pedigrees which have in the past brought discredit on the subject. It has been pointed out by the late Bishop of Oxford, a great master of historical research, that 'the expansion and extension of genealogical study is a very remarkable feature of our own times,' that 'it is an increasing pursuit both in America and in England,' and that it can render the historian most useful service.

CARTOGRAPHY

In addition to a general map in several sections, each History contains Geological, Orographical, Botanical, Archæological, and Domesday maps; also maps illustrating the articles on Ecclesiastical and Political Histories, and the sections dealing with Topography. The Series contains many hundreds of maps in all.

ARCHITECTURE

A special feature in connexion with the Architecture is a series of ground plans, many of them coloured, showing the architectural history of castles, cathedrals, abbeys, and other monastic foundations.

In order to secure the greatest possible accuracy, the descriptions of the Architecture, ecclesiastical, military, and domestic, are under the supervision of Mr. C. R. PEERS, M.A., F.S.A., and a committee has been formed of the following students of architectural history who are referred to as may be required concerning this department of the work:—

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GENEALOGICAL VOLUMES

The genealogical volumes contain the family history and detailed genealogies of such houses as had at the end of the nineteenth century seats and landed estates, having enjoyed the like in the male line since 1760, the first year of George III., together with an introductory section dealing with other principal families in each county.

The general plan of Contents and the names among others of those who are contributing articles and giving assistance are as follows :—

Natural History

Geology. CLEMENT REID, F.R.S., HORACE B. WOODWARD, F.R.S., and others

Palæontology. R. L. LYDEKKER, F.R.S., etc.

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Fishing, etc. }

Cricket. HOME GORDON

Football. C. W. ALCOCK



Matlock Dale.

THE
VICTORIA HISTORY
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EDITED BY
WILLIAM PAGE, F.S.A.

VOLUME ONE



JAMES STREET
HAYMARKET, LONDON

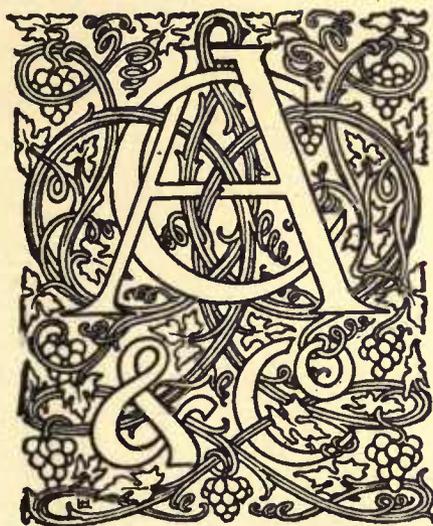
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PREFACE

DERBYSHIRE has had many careful workers upon various subjects dealing with its history, yet no author has hitherto completed a history of the whole shire. Thomas Bateman in his works on the results of his excavations on the tumuli and other remains in Derbyshire, and Stephen Glover in his incomplete work, *The History and Gazetteer of the County of Derby*, and several others in the last century, not to speak of many earnest workers still living, have, however, done much to bring to light the records of the past relating to their county. The Journal of the Derbyshire Archæological Society, under the guidance of a series of able editors, has also produced many valuable papers touching both the archæology and history of the county.

The editor wishes to express his thanks to the Rev. J. C. Cox, LL.D., for assistance in reading proofs and for valuable advice readily accorded on all matters relating to this county which Dr. Cox knows so well. The editor is also indebted to the Derbyshire Archæological Society, the Society of Antiquaries, the proprietors of the '*Times*' *Encyclopædia Britannica*, Messrs. Bemrose and Son, and Mr. C. F. Wardley of Buxton for permission to reproduce illustrations.

TABLE OF ABBREVIATIONS

Abbrev. Plac. (Rec. Com.)	Abbreviatio Placitorum (Record Commission)	Chartul.	Chartulary
Acts of P.C.	Acts of Privy Council	Chas.	Charles
Add.	Additional	Ches.	Cheshire
Add. Chart.	Additional Charters	Chest.	Chester
Admir.	Admiralty	Ch. Gds. (Exch. K.R.)	Church Goods (Exchequer King's Remembrancer)
Agarde	Agarde's Indices	Chich.	Chichester
Anct. Corresp.	Ancient Correspondence	Chron.	Chronicle, Chronica, etc.
Anct. D. (P.R.O.) A 2420	Ancient Deeds (Public Record Office) A 2420	Close	Close Roll
Ann. Mon.	Annales Monastici	Co.	County
Antiq.	Antiquarian or Antiquaries	Colch.	Colchester
App.	Appendix	Coll.	Collections
Arch.	Archæologia or Archæological	Com.	Commission
Arch. Cant.	Archæologia Cantiana	Com. Pleas	Common Pleas
Archd. Rec.	Archdeacons' Records	Conf. R.	Confirmation Rolls
Archit.	Architectural	Co. Plac.	County Placita
Assize R.	Assize Rolls	Cornw.	Cornwall
Aud. Off.	Audit Office	Corp.	Corporation
Aug. Off.	Augmentation Office	Cott.	Cotton or Cottonian
Aylofffe	Aylofffe's Calendars	Ct. R.	Court Rolls
		Ct. of Wards	Court of Wards
		Cumb.	Cumberland
		Cur. Reg.	Curia Regis
Bed.	Bedford	D.	Deed or Deeds
Beds	Bedfordshire	D. and C.	Dean and Chapter
Berks	Berkshire	De Banc. R.	De Banco Rolls
Bdle.	Bundle	Dec. and Ord	Decrees and Orders
B.M.	British Museum	Dep. Keeper's Rep.	Deputy Keeper's Reports
Bodl. Lib.	Bodley's Library	Derb.	Derbyshire or Derby
Boro.	Borough	Devon	Devonshire
Brev. Reg.	Brevia Regia	Dioc.	Diocese
Brit.	Britain, British, Britannia, etc.	Doc.	Documents
Buck.	Buckingham	Dods. MSS.	Dodsworth MSS.
Bucks	Buckinghamshire	Dom. Bk.	Domesday Book
		Dors.	Dorsetshire
Cal.	Calendar	Duchy of Lanc.	Duchy of Lancaster
Camb.	Cambridgeshire or Cambridge	Dur.	Durham
Cambr.	Cambria, Cambrian, Cambrensis, etc.		
Campb. Ch.	Campbell Charities	East.	Easter Term
Cant.	Canterbury	Eccl.	Ecclesiastical
Cap.	Chapter	Eccl. Com.	Ecclesiastical Commission
Carl.	Carlisle	Edw.	Edward
Cart. Antiq. R.	Cartæ Antiquæ Rolls	Eliz.	Elizabeth
C.C.C. Camb.	Corpus Christi College, Cambridge	Engl.	England or English
Certiorari Bdles. (Rolls Chap.)	Certiorari Bundles (Rolls Chapel)	Engl. Hist. Rev.	English Historical Review
Chan. Enr. Decree R.	Chancery Enrolled Decree Rolls	Enr.	Enrolled or Enrolment
Chan. Proc.	Chancery Proceedings	Epis. Reg.	Episcopal Registers
Chant. Cert.	Chantry Certificates (or Certificates of Colleges and Chantries)	Esch. Enr. Accts.	Escheators Enrolled Accounts
Chap. Ho.	Chapter House	Excerptæ e Rot. Fin. (Rec. Com.)	Excerpta e Rotulis Finium (Record Commission)
Charity Inq.	Charity Inquisitions	Exch. Dep.	Exchequer Depositions
Chart. R. 20 Hen. III. pt. i. No. 10	Charter Roll, 20 Henry III. part i. Number 10	Exch. K.B.	Exchequer King's Bench
		Exch. K.R.	Exchequer King's Remembrancer
		Exch. L.T.R.	Exchequer Lord Treasurer's Remembrancer

TABLE OF ABBREVIATIONS

Exch. of Pleas, Plea R.	Exchequer of Pleas, Plea Roll	Memo. R. . . .	Memoranda Rolls
Exch. of Receipt	Exchequer of Receipt	Mich.	Michaelmas Term
Exch. Spec. Com.	Exchequer Special Commissions	Midd.	Middlesex
		Mins. Accts. . . .	Ministers' Accounts
		Misc. Bks. (Exch. K.R., Exch. T.R. or Aug. Off.)	Miscellaneous Books (Exchequer King's Remembrancer, Exchequer Treasury of Receipt or Augmentation Office)
Feet of F.	Feet of Fines	Mon.	Monastery, Monasticon
Feod. Accts. (Ct. of Wards)	Feodaries Accounts (Court of Wards)	Monm.	Monmouth
Feod. Surv. (Ct. of Wards)	Feodaries Surveys (Court of Wards)	Mun.	Muniments or Munimenta
Feud. Aids	Feudal Aids	Mus.	Museum
fol.	Folio		
Foreign R.	Foreign Rolls	N. and Q.	Notes and Queries
Forest Proc. . . .	Forest Proceedings	Norf.	Norfolk
		Northampt. . . .	Northampton
Gaz.	Gazette or Gazetteer	Northants	Northamptonshire
Gen.	Genealogical, Genealogica, etc.	Northumb.	Northumberland
Geo.	George	Norw.	Norwich
Glouc.	Gloucestershire or Gloucester	Nott.	Nottinghamshire or Nottingham
Guild Certif. (Chan.) Ric. II.	Guild Certificates (Chancery) Richard II.	N.S.	New Style
Hants	Hampshire	Off.	Office
Harl.	Harley or Harleian	Orig. R.	Originalia Rolls
Hen.	Henry	O.S.	Ordnance Survey
Heref.	Herefordshire or Hereford	Oxf.	Oxfordshire or Oxford
Hertf.	Hertford		
Herts	Hertfordshire	p.	Page
Hil.	Hilary Term	Palmer's Ind. . . .	Palmer's Indices
Hist.	History, Historical, Historian, Historia, etc.	Pal. of Chest. . . .	Palatinate of Chester
Hist. MSS. Com. . .	Historical MSS. Commission	Pal. of Dur.	Palatinate of Durham
Hosp.	Hospital	Pal. of Lanc.	Palatinate of Lancaster
Hund. R.	Hundred Rolls	Par.	Parish, parochial, etc.
Hunt.	Huntingdon	Parl.	Parliament or Parliamentary
Hunts	Huntingdonshire	Parl. R.	Parliament Rolls
		Parl. Surv.	Parliamentary Surveys
		Partic. for Gts. . . .	Particulars for Grants
Inq. a.q.d.	Inquisitions ad quod damnum	Pat.	Patent Roll or Letters Patent
Inq. p.m.	Inquisitions post mortem	P.C.C.	Prerogative Court of Canterbury
Inst.	Institute or Institution	Pet.	Petition
Invent.	Inventory or Inventories	Peterb.	Peterborough
Ips.	Ipswich	Phil.	Philip
Itin.	Itinerary	Pipe R.	Pipe Roll
		Plea R.	Plea Rolls
Jas.	James	Pop. Ret.	Population Returns
Journ.	Journal	Pope Nich. Tax. (Rec. Com.)	Pope Nicholas' Taxation (Record Commission)
		P.R.O.	Public Record Office
Lamb. Lib.	Lambeth Library	Proc.	Proceedings
Lanc.	Lancashire or Lancaster	Proc. Soc. Antiq. . .	Proceedings of the Society of Antiquaries
L. and P. Hen. VIII.	Letters and Papers, Hen. VIII.	pt.	Part
Lansd.	Lansdowne	Pub.	Publications
Ld. Rev. Rec. . . .	Land Revenue Records		
Leic.	Leicestershire or Leicester	R.	Roll
Le Neve's Ind. . . .	Le Neve's Indices	Rec.	Records
Lib.	Library	Recov. R.	Recovery Rolls
Lich.	Lichfield	Rentals and Surv. . .	Rentals and Surveys
Linc.	Lincolnshire or Lincoln	Rep.	Report
Lond.	London	Rev.	Review
		Ric.	Richard
m.	Membrane		
Mem.	Memorials		

TABLE OF ABBREVIATIONS

Roff. Rochester diocese	Topog. Topography or Topographi- cal
Rot. Cur. Reg. Rotuli Curiae Regis	Trans. Transactions
Rut. Rutland	Transl. Translation
	Treas. Treasury or Treasurer
	Trin. Trinity Term
Sarum Salisbury diocese	
Ser. Series	Univ. University
Sess. R. Sessions Rolls	
Shrews. Shrewsbury	Valor Eccl. (Rec. Valor Ecclesiasticus (Record Com.) Commission)
Shrops Shropshire	Vet. Mon. Vetusta Monumenta
Soc. Society	V.C.H. Victoria County History
Soc. Antiq. Society of Antiquaries	Vic. Victoria
Somers. Somerset	vol. Volume
Somers. Ho. Somerset House	
S.P. Dom. State Papers Domestic	Warw. Warwickshire or Warwick
Staff. Staffordshire	Westm. Westminster
Star Chamb. Proc. Star Chamber Proceedings	Westmld. Westmorland
Stat. Statute	Will. William
Steph. Stephen	Wilts Wiltshire
Subs. R. Subsidy Rolls	Winton. Winchester diocese
Suff. Suffolk	Worc. Worcestershire or Worcester
Surr. Surrey	
Suss. Sussex	Yorks Yorkshire
Surv. of Ch. Liv- Surveys of Church Livings ings (Lamb.) or (Lambeth) or (Chancery) (Chan.)	

A HISTORY OF
DERBYSHIRE

AN INTRODUCTION TO THE NATURAL HISTORY OF DERBYSHIRE

The following series of papers will, it is hoped, give some idea of the natural history of Derbyshire as far as it has been investigated at present. The general features of the Geology of the county have been dealt with so fully in the article on that subject, that it is unnecessary to add anything with regard to them here.

A perusal of the various lists of the fauna will show that some departments have been much more thoroughly worked than others, and that there is still a wide field of exploration open to the observer.

Ornithology of course appeals more or less to every sportsman, and most dwellers in the country take some interest in birds, while in Entomology the Lepidoptera invariably attract some workers ; but with a few exceptions but little has been done in other departments since the time when Edwin Brown published his list of the fauna of the Burton district. There are, however, signs of the gradual growth of interest in the subject, and the publication of the present lists can hardly fail to be of great help in bringing together for the first time a good many scattered and hitherto unpublished records and also in pointing out fresh fields for research.

It may be well to note that the next decade or two will probably see considerable changes in certain parts of the county which must necessarily have some effect upon the fauna. Steps are at present being taken to put a stop to the unrestricted discharge of sewage into our rivers in many places, while the upper part of the Derwent watershed has been acquired for the purpose of ensuring a permanent water supply to four of the large towns of the Midlands. This latter scheme is of such importance that it deserves a few words to itself.

In 1899 the conflicting claims of the corporations of Leicester, Derby, Sheffield, and Nottingham, and the county of Derby to the water rights of this district were reconciled by the constitution of a water board on which all were represented, and powers were obtained from Parliament to purchase the necessary land and water rights in the Derwent and Ashop valleys and to construct the required works. The drainage area chosen for this purpose was the watershed of the Derwent and its tributaries above Bamford, an area of 50 square miles, of which 42 are in Derbyshire and the remaining 8 in Yorkshire. This is a tract of the most varied character, ranging in height from 2,070 to 585 feet above the sea level, and consisting largely of sparsely populated moorland. Here it is proposed ultimately to form a series of five reservoirs, three of

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which will be situated in the Derwent valley and two in that of the Ashop. When completed the area of these reservoirs will amount to a total of 913 acres, and their capacity is estimated at 9,996,000,000 gallons. The water will be allocated in the following proportions: one third of the collectable rainfall will be discharged into the river as compensation; the county of Derby (within the Trent watershed) will then have a first claim to the extent of 5,000,000 gallons per day, and the remainder will be divided between Derby and Derbyshire within the Derby water limits (25 per cent.), Sheffield and Derbyshire within the Rother watershed (25 per cent.), Leicester and Leicestershire (35·73 per cent.), and Nottingham and Nottinghamshire (14·28 per cent.). The county areas of Nottingham and Leicester will only participate when the water is not required for the large towns. It is estimated that the first instalment of this great work, capable of delivering 12 or 13 million gallons per day, will cost about 2½ millions, and will be completed about 1910 or 1911. The second and third instalments of almost equal magnitude will be put in hand as required, and each will probably take about eight or ten years to complete. The work of excavation for the dams has been begun at Howden and Derwent. At the former site some 120,000 cubic yards have been removed from the trench, and about 80,000 cubic yards still remain to be excavated. This trench has been carried down to a depth of 88 feet beneath the surface. Less progress has been made on the Derwent dam, where about 70,000 cubic yards have been removed out of a total of some 200,000. The 2,000,000 tons of stone which will ultimately be required for the masonry of the dams will be furnished by the Grindleford quarries, where the present output is over 1,000 tons per week.

What the effect of these enormous works upon the fauna of North Derbyshire may eventually be it is at present difficult to say. No doubt the presence of a large temporary town in this secluded district will prove prejudicial to animal life for a time at any rate, and it is probable that both red grouse (*Lagopus scoticus*) and blue hares (*Lepus timidus*) will suffer from the presence of a large labouring population in their midst. Already the rail passes through what was once a haunt of the now rare dormouse (*Muscardinus avellanarius*), and many a breeding place of grey wagtail (*Motacilla melanope*), dipper (*Cinclus aquaticus*), and sandpiper (*Totanus hypoleucus*) will eventually be submerged. But when the works are finished and the temporary village has disappeared, we may feel confident that these fine sheets of water will prove a great attraction to waders and ducks on migration, as well as to storm-driven sea birds. With a reasonable amount of protection we shall almost certainly gain the great crested grebe (*Podiceps cristatus*) as a resident, and probably the teal (*Nettion crecca*), the tufted duck (*Fuligula cristata*), and the mallard (*Anas boscas*) will nest among the heather, while the sandpipers will skim along the water's edge, and perhaps the redshank (*Totanus calidris*) may extend its range, as it has done in the south of the county, and include this district in its breeding limits.

ADDENDA AND CORRIGENDA

BIRDS

Two species have been added to our list, bringing the total number of definitely recorded species up to 235.

234. Montagu's Harrier. *Circus cineraceus* (Montagu).

One was shot by a keeper towards the end of April 1903, on the moors between Bakewell and Sheffield (W. Storrs Fox, *Zool.* 1903, p. 268). It is somewhat remarkable that this bird has not been previously recorded for the county as it is usually less rare than either of the other two species.

235. Sabine's Gull. *Xema sabinii* (J. Sabine).

One was shot at Chaddesden at the end of August 1894, and is now in the Museum at Derby. It is a young bird with black-bordered tail (*Zool.* 1904, p. 107).

107. Rough-legged Buzzard. *Buteo lagopus* (J. F. Gmelin).

One trapped on the moors near Bakewell, 11 March, 1903 (W. Storrs Fox, *Zool.* 1903, p. 268).

113. Honey Buzzard. *Pernis apivorus* (L.).

A third example was unfortunately shot by a keeper at Allestree, 23 June, 1904 (*Zool.* 1905, p. 61).

120. Shag. *Phalacrocorax graculus* (L.).

Three seen at Burton for several days at the end of August 1902, and one subsequently killed (G. H. Storer, *in litt.*).

136. Brent Goose. *Bernicla brenta* (Pallas).

One shot on the river near Rocester, 25 January, 1903; the only occurrence of this species since 1890 (*Zool.* 1904, p. 103).

138. Bewick's Swan. *Cygnus bewicki*, Yarrell.

A herd of forty crossed the south of the county flying eastward on 27 February, 1904 (*Zool.* 1905, p. 58).

149. Scaup. *Fuligula marila* (L.).

A drake shot on the Trent, near Donington, on 31 January, 1904 (*ibid.*).

153. Scoter. *Edemia nigra* (L.).

One shot on the Dove at Hanging Bridge, 4 November, 1904 (*Zool.* 1905, p. 62).

183. Grey Phalarope. *Phalaropus fulicarius* (L.).

For 'Long Eaton' read 'Little Eaton' (7 October, 1881). A. S. Hutchinson also received another on October 18 (*Zool.* 1882, p. 73).

230. Leach's Petrel. *Oceanodroma leucorhoa* (Vieillot).

For 1882 read 1881 (cf. *Zool.* 1882, p. 74).

ORTHOPTERA (p. 54)

Add: *Phyllodromia germanica* (L.). A female taken in *Derby*, 28 iv. 04 (G.P.).

Add: *Rhyparobia maderæ* (Fb.). Several accidentally imported, *Derby* (G.P.).

Stenobothrus viridulus (L.). Add: *Little Eaton* (G.P.); *Dove Valley*, local (F.J.).

[— bicolor, *Charp.* Requires confirmation.]

— *parallelus*, *Zett.* Add: *Clifton* (F.J.); *Kirk Ireton* (B. Abell).

Gomphocerus maculatus, *Thnb.* Add: *Dovedale*, common (F.J.); *Breadsall Moor* (G.P.).

Pachytylus migratorius, *L.* Add: three taken and one seen near *Burton* (*Zool.* 1858, p. 5919).

Add: *Platycleis grisea*, *Pb.* One from near *Derby* in *Derby Museum* (G.P.).

NEUROPTERA (p. 55)

Æschna juncea, *L.* Add: *Clifton*, one, viii. 1903; one, viii. 1904 (F.J.).

Pyrrosoma nymphula, *Sulz.* Add: *Clifton*, common (F.J.).

Add: *Chrysopa flava*, *Scop.* *Kirk Ireton* (Abell).

Panorpa communis, *L.* Add: *Kirk Ireton* (Abell).

TRICHOPTERA (p. 57)

Add: *Metanæa flavipennis*, *Pict.* *Lathkill Dale*, 19 October, 1899 (*Naturalist*, 1900, p. 51).

HYMENOPTERA ACULEATA (p. 58)

(See also an article by the writer in *Journal D.A. and N.H.S.* 1904, p. 219.)

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FOSSORES

- † *Sapyga quinquepunctata*, Fb. Add : one, 16 iv. 04, *Breadsall Moor* (G.P.).
 † *Sapyga clavicornis*, L. Add : one, 1903 : twelve, 16 vi. 04, *Breadsall Moor* (G.P.).
 Add : † *Pemphredon lethifer*, Shuck. One, *Chesterfield*, 26 ix. 03 (F.G.).
 Add : † *Passaloecus gracilis*, Curt. *Breadsall* (G.P.).
 Add : † *Mimesa bicolor*, Fb. One ♀, *Breadsall Moor*, 1904 (G.P.).
Mellinus arvensis, L. Add : † *Breadsall Moor*, (G.P.).
Crabro chrysostoma, St. F. Add : † *Breadsall Moor* (G.P.).

DIPLOPTERA

- Add : † *Odynerus callosus*, Thoms, *Breadsall Moor*, 1904 (G.P.).
 Add : † *Odynerus sinuatus*, Fb. *Breadsall Moor*, 1904 (G.P.).

ANTHOPHILA

- Colletes daviesanus*, Smith. Add : † *Breadsall Moor*, 1903 (G.P.).
 Add : † *Colletes succinctus*, L. *Breadsall Moor*, 1904 (G.P.).
 Add : † *Sphecodes subquadratus*, Smith. One *Shirley*, May 1903 (F.J.).
Halictus rubicundus, Chr. Add : *Breadsall Moor* (G.P.).
 Add : † *Halictus nitidiusculus*, Kirb. *Breadsall Moor*, 1903 (G.P.).
Andrena cineraria, L. Add : † *Shirley* (F.J.) ; *Little Eaton*, 1904 (G.P.).
 Add : † *Andrena coitana*, Kirb. *Breadsall Moor* (G.P.).
 Add : † *Andrena humilis*, Imh. *Breadsall Moor* (G.P.).
 Add : † *Andrena nana*, Kirb. *Breadsall Moor* (G.P.).
 Add : † *Andrena fuscipes*, Kirb. *Breadsall Moor* (G.P.).
Nomada ruficornis, L. Add : *Breadsall Moor*, 1904 (G.P.).
 Add : † *Nomada lathburiana*, Kirb. One, May 1903, *Shirley* (F.J.).
 Add : *Nomada ferruginata*, Kirb. Add : † *Breadsall Moor*, 1904 (G.P.).
 Add : *Nomada ochrostoma*, Kirb. Add : † *Shirley*, 1903 (F.J.).
Chelostoma florissomne, L. Add : † *Breadsall Moor*, 1903 (G.P.).
 Add : † *Osmia fulviventris*, Panz. *Breadsall Moor* (G.P.).
 Add : † *Psithyrus barbutellus*, Kirb. *Breadsall Moor* (G.P.).
Bombus sylvarum, L. Add : † *Breadsall Moor* (G.P.).

HYMENOPTERA PHYTOPHAGA

(p. 59)

- For *Tenthredo maculata*, Fourc. read *Allantus maculatus*, Fourc., and add *Dovedale* (W. E. Ryles).
 Add : *Nematus gallicola*, Westw. On *salix*, *Derby* (G.P.), *R. Trent* (F.J.).
 Add : *Cimbex sylvarum*, F. On *birch*, *Little Eaton* (G.P.).
Sirex gigas, L. Add : *Kirk Ireton* (B. Abell).
 — *juvencus*, L. Add : *Kirk Ireton*, one, 1903 (B. Abell).
 Add : *Aulax scabiosæ* (Gir.). *Tapley Pike*, *Buxton* (Fitch).

HYMENOPTERA ENTOMOPHAGA

(p. 61)

CHRYSIDIDÆ

- Elampus auratus*, L. Add : Three, *Little Eaton* (G.P.).
Chrysis cyanea, L. Add : One, *Little Eaton* (G.P.).
 — *viridula*, L. Add : † *Little Eaton* (G.P.).

ICHNEUMONIDÆ

- Add : * *Amblyteles palliatorius*, Gr. *Little Eaton* (G.P.) ; *Kirk Ireton* (Abell).
 Add : * *Alomyia debellator*, Fb. *Little Eaton* (G.P.) ; *Kirk Ireton* (Abell).
 Add : *Rhyssa persuasoria*, L. (G.P.).

COLEOPTERA (p. 61)

- Add : *Dyschirius æneus*, Dj. B. (Fowler).
 Add : *Calathus fuscus*, F. *Dovedale* (Jahn).
 Add : *Anchomenus sexpunctatus*, L. One, *Dovedale* (Jahn).
Anchomenus thoreyi, Dj., and *puellus*, Dj. Add : B. (Fowler).
Bembidium tibiale, Duft. Add : B. (Fowler).
 — *fluviatile*, Dj. For B. read *Egginton* (Brown).
 — *flammulatum*, Cl. Add : *Egginton* (Brown).
Brychius elevatus, Pz. Add : *R. Dove* (Jahn).
Coelambus versicolor, Sch. Add : *R. Dove* (Jahn).
Hydroporus rivalis, Gyll. Add : *R. Dove*, not scarce (Jahn).
Philhydrus minutus, F. Add : B.
Ischnoglossa prolixa, Gr. Add : *Bakewell* (Taylor).
 Add : *Homalota luridipennis*, Mann. *Bakewell* (Taylor).
Tachinus collaris, Gr. Add : *Bakewell* (Taylor).
 Add : *Gnypeta cærulea*, Sahl. *Hathersage* (Blatch).
Staphylinus stercorarius, Ol. Add : *Dovedale* (Jahn).

ADDENDA AND CORRIGENDA

- Stenus bipunctatus*, Er. Add : Banks of *Dove* near B. (Fowler).
 — *carbonarius*, Gyll. Add : B. (Fowler).
 Add : *Bledius opacus*, Block. B. (Fowler).
Trogophloeus pusillus, Gr. Add : B. (Fowler).
Deliphrum tectum, Payk. Add : *Bakewell* (Taylor).
Anthobium minutum, F. Add : *Millers Dale* (Taylor).
 — *sorbi*, Gyll. Add : *Millers Dale* (Taylor).
Bryaxis hæmatica, Reich. For B. read *R. Dove*.
Subcoccinella 24-punctata, L. Add : *Dovedale* (Jahn).
Coccinella 5-punctata, L. Add : B.
Hister bimaculatus, L. Add : B.
Thymalus limbatus, F. Add : *Dovedale* (Jahn).
 (Onthophagus ovatus, L. is recorded twice.)
Aphodius sticticus, Pz. After B. add (Bates), *R. (Brown)*.
Cryptohypnus quadripustulatus, F. Add : *Dovedale* (Jahn).
Dascillus cervinus, L. Add : *Dovedale* (Jahn).
Scirtes hemisphæricus, L. Add : *Bretby* (Brown).
Lampyris noctiluca, L. Add : *Dovedale, Matlock*, abundant (Garner).
Rhagonycha unicolor, Curt. *Millers Dale* (Taylor).
Malthinus fasciatus, Ol. Add : B.
Malachius æneus, L. Add : B.
 Add : *Clytus arcuatus*, L. 20 taken near D. 1902 (Pullen and Hey).
Toxotus meridianus, Pz. Add : B : type and black var. *Millers Dale* (Taylor).
Strangalia armata. For L. read Hbst.
 Add : *Cryptocephalus bipunctatus*, L. var. *lineola*, F. *Dovedale* (Jahn). The type does not occur.
 — *aureolus*, Suff. Add : *Millers Dale* (Taylor).
Chrysomela menthrasti, Suff. For B. read *Bretby Park* (Brown).
Phytodecta rufipes, De G. After B. add (Bates).
Longitarsus ochroleucus, Marsh. Add : *Ticknall* (Fowler).
Conopalpus testaceus, Ol. Add : *Bretby Park* (Brown).
Melandrya caraboides, L. Dele B.
 Add : *Rhynchites sericeus*, Hbst. B.
Apion trifolii, L. Add : B.
 Add : *Tropiphorus obtusus*, Boisd. One, in *Millers Dale* (Taylor).
 Add : *Philopodon geminatus*, F. B.
Atactogenes exaratus, Marsh. Add : (Bates).
Anthonomus pomorum, L. Add : B.
- Ceuthorrhynchus trimaculatus*, F. Add : *Dovedale* (Jahn), *Millers Dale* (Taylor).
- ### LEPIDOPTERA (p. 77)
- p. 78, last line, for 912 read 915 ; and p. 79, line 5, for 174 read 175, and line 12, for 914 read 915.
Colias edusa, Fb. Add : one, *Kirk Ireton* 1900 (F.J.).
Vanessa polychloros, L. Add : one, *Eggington*, 1903 (F. F. Key).
Acherontia atropos, L. Add : one, *Bakewell*, 1903 (W. Boulsover).
 Add : [*Deilephila livornica*, Esp. One taken at *Mayfield*, Staffordshire, 200 yds. from the county border (G. C. Lawson)].
Zygæna loniceræ, Esp. Add : one, *Kirk Ireton* (F.J.).
Nudaria mundana, L. Add : *Goyts Clough* (G. O. Day).
Euchelia jacobææ, L. Add : one, *Kirk Ireton* (F.J.).
Spilosoma urticæ, Esp. Add : ?
Pygæra curtula, L. Add : ?
 Add : *Apamea connexa*, Bork. Wood near *Chesterfield* (*Zool.* 1847, p. 1787).
 Add : *Dianthœcia nana*, Rott. Larvæ, *Derbyshire* (H.C. *Zool.* 1853, p. 4037).
Venusia cambrica, Curt. Add : Cheshire border between *Macclesfield* and *Buxton* (G. O. Day and C. F. Johnson).
Acidalia fumata, St. Add : *Goyts Moss* (G. O. Day).
Larentia cæsiata, Lang. Add : Cheshire border near *Buxton* (G. O. Day and C. F. Johnson).
 Dele : *Eupithecia virgaureata*, Dbl. The specimen in question was taken in the south.
 Add : *E. campanulata*, H.S. *Derbyshire* (H.C., *Zool.* 1859, p. 6735).
 Dele : *E. innotata*, Hufn. *Repton* (W.G.).
E. nanata, Hb. Add : *Goyts Clough* (G. O. Day).
 — *abbreviata*, St. Add : Cheshire border near *Buxton* (G. O. Day).
 Add : *Coremia munitata*, Hb. In high lying district on Cheshire border between *Macclesfield* and *Buxton* (G. O. Day).
Tanagra atrata, L. Add : also in same district (G. O. Day).
- ### DIPTERA (p. 94)
- Add :
 ¶ *Sericomyia borealis*, Fall. One, *Little Eaton* (G.P.).
Pegomyia ephippium, Zett. 3 males, *Baslow* (R. H. Mead, *E.M.M.* 1887, p. 73).
Mydæa nigricola, Fall. *Baslow*, R.H.M.. *E.M.M.* 1889, p. 424.

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Spilogaster fratercula, Zett. One, *Baslow*, R.H.M., *E.M.M.* 1889, p. 424.

Trichophthicus hirsutulus, Zett. 3 males, *Baslow* (R.H.M., *E.M.M.*, 1889, p. 449).

Tipula signata, Staeg. 2, near *Buxton*, by F. V. Theobald (G.H.V. in *E.M.M.* 1888, p. 24).

Tephritis onopordinus. Reported from *Willington* (G. A. Smallwood, *Ent.* 1889, p. 21).

HEMIPTERA HETEROPTERA

(p. 99)

A very interesting addition to our list is *Elasmostethus ferrugatus*, Fb., of which a single specimen was taken by Mr. G. Pullen on raspberry in mid-June 1903, not far from Derby. There is only one previous record for this species in the British Isles, viz., near Bangor in North Wales by Mr. E. J. Burgess Sopp (Cf. *E.M.M.* 1900, p. 131, and E. Saunders, *E.M.M.*, 1904). *Gastrodes abietis*, L., has also been recorded from *Burton* (Harris).

APHIDES (p. 100)

Add :

Rhopalosiphum ribis, L. On black currant, common (F.J.).

Aphis crataegi, Kalt. On white-thorn (F.J.).

— *mali*, F. On apple and crab (F.J.).

— *rumicis*, L. On broad beans and ivy, *Clifton* (F.J.)

— *brassicæ*, L. On cabbage, *Clifton* (F.J.).

BOTANY

ADDENDA :

Phanerograms.

Rubus griffithianus, Rogers.

MOSESSES.

Ditrichum tortile, Lindb. (T. Barker).

Swartzia inclinata, Ehrh. (T. Barker).

Tortula muralis, Hedw.

v. *æstiva*. Brid.

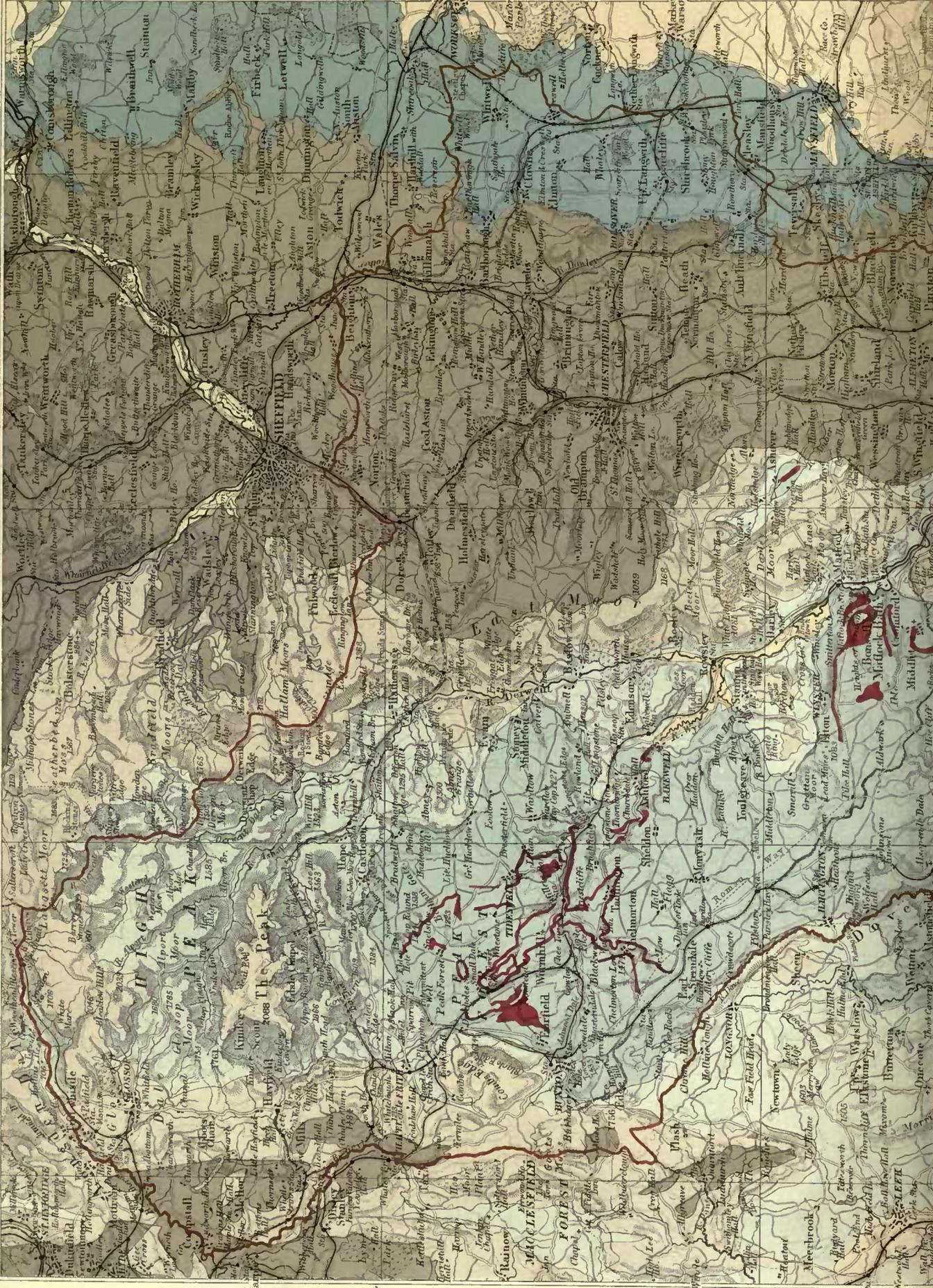
Weissia mucronata, B. & S.

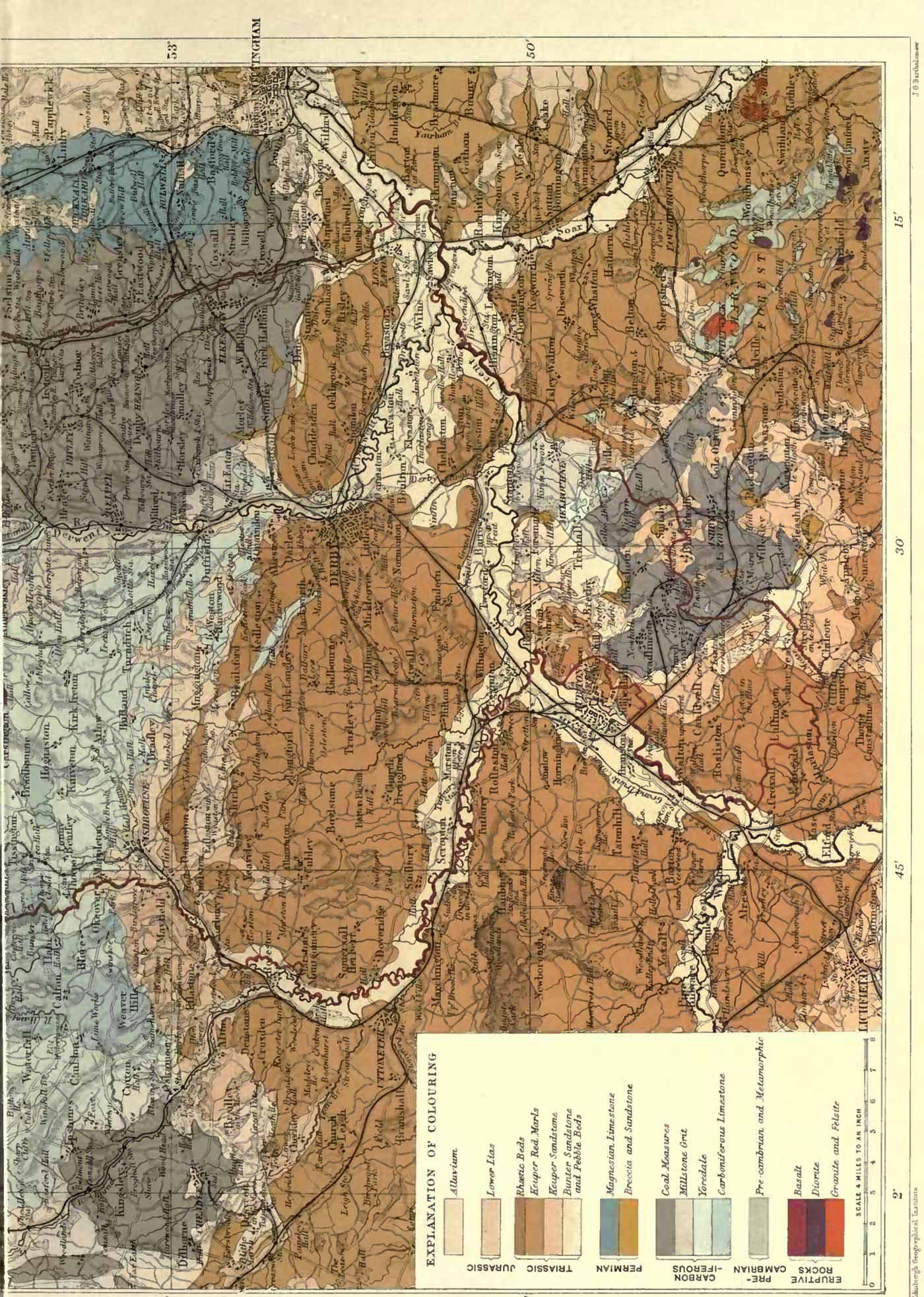
Bryum argenteum, L.

v. *majus*, B. & S.

CORRIGENDUM :

Pottia latifolia. The words 'near Castleton only' should be deleted, as the Castleton referred to is Castleton of Braemar in Aberdeenshire. The 2nd ed. of Dixon's Handbook omits it for Derbyshire.





EXPLANATION OF COLOURING

	Altuvia
	Lower Lias
	Rhete Beds
	Keuper Red Marls
	Keuper Sandstone
	Bunter Sandstone and Pebble Beds
	Magnesian Limestone
	Breccia and Sandstone
	Coal Measures
	Millsstone Grit
	Yoredale
	Carboniferous Limestones
	Pre cambrian and Metamorphic
	Basalt
	Diorite
	Granite and Felsite

SCALE 4 MILES TO AN INCH

GEOLOGY

DERBYSHIRE may be divided into two main portions, each of which is marked by its own peculiarities of geological structure and external configuration. The uplands, which consist of the hill country, forming the southern spur of the Pennine Chain, occupy the greater portion of the county. The lowlands, in the southern part of the county, which border on the hilly district and extend to the valley of the Trent. The scenery of the uplands is very varied. The Mountain Limestone, with its outlines generally smooth, its well rounded grassy slopes, intersected by deep, narrow dales and ravines, presents a marked contrast to the wild moorlands and escarpments of the Millstone Grit series.

The gorges of the Dove in Dovedale, of the Wye in Miller's Dale, and of the Derwent at Matlock, are examples of the erosion of narrow valleys in limestone. The dales or gorges, such as Great Rocks Dale, Deep Dale near Buxton, Monk's Dale near Miller's Dale, and the Via Gellia near Cromford, while in many respects similiar to those previously mentioned have in some cases insignificant streams of water flowing down them, whilst in others the valley is perfectly dry, the water having found its way underground. The Derwent, the Wye and the Dove illustrate the influence of different rocks in the erosion of river valleys. The Derwent, after flowing in the broad valley of shale from Darley Dale, suddenly enters the Mountain Limestone which rises across its path, instead of continuing in the shales and skirting the limestone as far as Cromford. The course of the river was determined before the valley of Darley Dale was formed, and the cutting of the gorge in the limestone and the broad valley in the shale proceeded together.

The Wye from Buxton to Bakewell runs in a narrow gorge, but in the shales near Haddon pursues a serpentine course in the broad valley which it has excavated in the softer rocks.

The Dove, after flowing in the shales near Hartington, enters the limestone near Beresford Hall, pursues a course for several miles through Dovedale, and enters the shales again near Thorpe, where the valley becomes broader and less rugged.

In the Gritstone country some valleys run parallel to the strike of the rocks. They often lie between two escarpments of grit which are separated by a bed of shale. The south side of the valley of Ashop Clough is formed of an escarpment of grit resting on a thick bed of

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shales. The north side is formed of a dip slope of a bed of sandstone which crops out from under the shales. The river runs along the top of the lower sandstone with a steep cliff of shale on the south, which it is undermining and wearing backwards.

A third class of valley has been caused by streams flowing down the escarpment of one of the parallel valleys and cutting back into the hill until at length a transverse valley is formed.

The oldest rocks in the county are found in the hilly districts. Their position with regard to the newer rocks by which they are surrounded and the folds into which they have been bent afford evidence of the Pennine upheaval and the subsequent denudation which the rocks have undergone. The sedimentary rocks which were deposited in horizontal beds have, subsequently to their formation, been bent into numerous folds by lateral pressure. Consequently a bed may be horizontal in one place and inclined to the horizon in another. The amount of inclination or dip may also vary from place to place. A horizontal section through the country would show a series of arches or anticlines, in which the strata dip away from a point to the east and west, and of troughs or synclines, in which the strata dip towards a point from the west and east. A comparison of several sections parallel to one another shows that the anticlines and synclines are bent over lines or axes, which are called anticlinal and synclinal axes. Where the rocks have been also folded by a second pressure almost at right angles to the first they form domes and basins. In the former they dip away in all directions from a central point or line, in the latter they dip from all sides to a central point or line.

A well marked anticline passes through the district in a north-westerly direction. The beds dip steeply to the west under the Coal Measures of Lancashire and Staffordshire, and with a more gentle dip to the east, under those of Yorkshire and Derbyshire. The Coal Measures of East Derbyshire in their turn dip under the Permian or Magnesian Limestone series. In the northern part of the county a dome-shaped mass of mountain limestone has been brought up. The severed strata on the west and east sides of the anticline which were once continuous across the arch have been removed by denudation which has not only laid bare the mountain limestone, which is the lowest rock reached in Derbyshire, but also removed a small thickness of the uppermost beds of limestone. If we were to start on the mountain limestone and travel a short distance in a westerly or easterly direction we should pass over the various members of the Carboniferous series of rocks in succession up to the Coal Measures, and on the eastern side of the county should arrive at the Permian limestone.

A smaller anticline parallel to that of the Pennine Chain passes through Ashover. At Matlock the limestone dips to the east beneath the Yoredale Shales and Millstone Grit series which form a small basin and soon dip west, and then roll over in an anticline and dip beneath the east Derbyshire coalfield and Permian rocks.

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The Mountain Limestone from Doveholes through Castleton and Bradwell to Eyam is bounded by a narrow belt of lower ground consisting of Yoredale Shales. Slopes which run nearly parallel to the limestone boundary rise from the depression. These slopes are the edges of several outliers of shale grit which once formed a large plateau which extended from Chapel-en-le-Frith to Eyam, and included the moors in the extreme north of the county. Edale and the valley of the Derwent near Hope, Bamford and Hathersage have divided this plateau into several outliers. Near the centre of the shale grit plateau is an outlier of Kinder Scout grit, which is called the Peak. Though a flat tableland, it reaches a height greater than any other part of the county, some portions of it being 2,000 feet above the sea. The shale grit dips under the Kinder Scout grit, which on the west forms a ridge from Chapel-en-le-Frith through Hayfield to Glossop, and on the north extends some distance east from Glossop into Yorkshire. The various members of the Millstone Grit series may be traced as far south as Belper. The Chatsworth or Rivelin Grit forms the fine escarpments of Froggat Curbar and Baslow Edges, east of Stoney Middleton, and that of Crow Chine near Ladybower. On the west as far as Doveholes the limestone is bounded by the Yoredale Shales, though the boundary is often faulted. In the neighbourhood of Earl Sterndale the boundary is greatly complicated by faults, and west of Buxton the limestone is faulted against the Yoredale Shales and shale grit which dip under the Millstone Grit of Axe Edge and the Goyt Basin. Between Buxton and Doveholes the limestone is bounded by the Yoredale Shales, which dip under the Millstone Grit of Combs Moors on the west.

The greater portion of the rocks of Derbyshire belong to the Carboniferous Series. This is succeeded by the Permian, which only forms a narrow strip near the eastern boundary of the county, and the Trias, which is confined to the southern part. The Jurassic formation is unrepresented, and the Pleistocene deposits are found in places covering the carboniferous and Triassic rocks.

The Peak district has a world-wide reputation for beautiful scenery, and well illustrates the intimate relation which exists between rock structure and scenery. The Toadstones, which were first investigated by Whitehurst in 1778, furnish evidence of the volcanic activities which prevailed at intervals during the deposition of the Mountain Limestone and the shales and limestones immediately succeeding it. The Mountain Limestone is interesting not only because of the fossils it contains, but on account of its numerous caverns and underground streams, its mineral waters, which have since the time of the Romans been famed for their medicinal properties, and its lead mining industry, with the curious and antiquated laws by which it is governed. The old mine heaps which disfigure parts of the county bear testimony to the great activity of this industry in bygone days.

Coal is the most important and largely worked rock in the county. Limestone is quarried largely for road metal, lime burning and building,

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and also for ornamental purposes, though the introduction of iron mantel-pieces has greatly reduced the output of encrinal marble previously used. The various grits and sandstones are used for buildings and millstones, the clays for making bricks, and the Bunter sandstone for moulding. The Keuper marl supplies gypsum and alabaster for making plaster of Paris ornaments and rock work, and calcareous tufa is largely quarried for grottoes.

The following table gives a list of the strata found in Derbyshire:—

TABLE OF STRATA

Quarternary or Port Tertiary	Recent		Alluvium, peat bogs, calcareous tufa, stalactitic formations
	Pleistocene		Cavern deposits, glacial drift, boulders, sands and clays
Secondary or Mesozoic	Triassic	Keuper	{ Red marl, with gypsum Waterstones
		Bunter	{ Pebble beds or conglomerate Lower mottled sandstone
Primary or Palæozoic	Permian	Magnesian Limestone Series	{ Marls and sandstones Lower magnesian limestone Marls and sandstones
	Carboniferous	Coal Measures	{ Middle coal measures Lower or Gannister series 1. Rough rock Shales 2. Sandstone and shales Shales
		Millstone Grit	{ 3. Chatsworth grit Shales 4. Kinder Scout grit Shales 5. Shale grit
		Yoredale Rocks	{ Shales, with thin sandstones Shales, with thin beds and nodules of earthy limestones and contemporaneous volcanic rocks
		Mountain Limestone	{ Limestone, with chert, thin shales and clay partings and contemporaneous and intrusive igneous rocks

MOUNTAIN LIMESTONE

A careful examination of a geological map will show isolated patches of rock. A patch or band of older rock surrounded by newer is called an inlier, and a patch or band of newer rock surrounded by older an outlier. Both of these may be due to denudation of horizontal strata in which case the former are situate in the valleys and the latter

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on the hilltops. An inlier may also form the summit or crest of a dome from the top of which the higher beds have been removed.

The largest mass of the Mountain Limestone forms an irregularly shaped inlier, measuring about 20 miles from north to south and 10 miles from east to west. In addition to this there are seven small inliers, viz. at Ashover and Crich on the east, at Kniveton and near Snelston on the south-west, and at Ticknall, Calke and Diminsdale in the southern part of the county. The large inlier is a pericline or dome, the longer axis ranging north-north-west. The beds dip away from the centre of the mass in every direction, and generally speaking the dip at the edges is at right angles to the boundary which is partly natural and partly faulted.

A closer examination of the limestone area shows that this conception of a simple pericline must be modified and that it is made up of a number of smaller domes and basins. The three promontories in the limestone on the east, and on which Stoney Middleton, Bakewell and Matlock Bath are situated, are portions of minor domes, whilst the bay in the limestone near Ashford which is occupied by the Yoredale Shales, and the still larger one containing the Stanton outlier of Kinder Scout grit, represent basins in the limestone. So that a section drawn nearly north and south from Eyam to Carsington would show at least three anticlines and two synclines. A parallel section on the west would show at least two anticlines and one syncline.

The dip on the east is generally gentle whilst that on the west is greater. The beds near the centre of the area are often horizontal, but on the west both the Mountain Limestone and the Yoredale Shales are thrown into numerous folds.

The limestone is the oldest rock in Derbyshire. Its thickness is unknown, the basement beds not having been reached. The section along the Midland Railway between Monsal Dale and Buxton is supposed to show a thickness of 1,600 feet. Between Winster and Grange Mill it has been estimated that at least there are about 2,300 feet thickness of limestone and its associated igneous rocks. It is probable that a greater depth than 2,000 feet has not been reached, and that the lowest beds are those at Grange Mill near Matlock or in the valley of the Wye near Pig Tor Tunnel.

The Mountain Limestone varies in structure, composition and colour. It is often an almost pure carbonate of lime, white or light blue in colour, and breaks with an irregular and sometimes conchoidal fracture. The dark grey and black varieties often contain bituminous and argillaceous material. The upper beds of limestone are generally thin and contain numerous bands and lenticles of chert, though chert is by no means confined to the upper beds. Silicified corals, foraminifera and encrinite stems are often found in the chert, and the casts and stems of the latter fossils are locally known as 'screws.'

The limestone is distinguished by its fossil contents. *Productus encrinites* and corals are perhaps the most common. The polyzoa are

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well represented. Amongst the mollusca are numerous lamellibranchs, gasteropods and cephalopods. A few species of fish have also been found. Some beds appear to have originated from reef-like accumulations, like those of existing coral reefs and shell beds, others are more or less fragmental and formed of broken corals, crinoid stems and brachiopods and other shells which have been spread out on the sea floor. The fossils vary very much in the amount of attrition they have undergone. They are often very well preserved, so that the convolutions and spiral bases are clearly marked.

Near Castleton is a conglomeratic limestone made up almost entirely of water-worn shells arranged with their flat surfaces nearly parallel to the bedding planes. In other parts of the district the limestone has a granular and sometimes an oolitic structure, and in some cases contains pebbles of a previously consolidated limestone.

Bands or way-boards of clay and also thin partings of shale occur frequently amongst some of the massive limestones. They are only local and soon thin out, so that they cannot be identified over any extent of country. In several places a thin bed of impure coal has been found some way down in the beds of limestone.

These phenomena indicate that though some of the limestones were formed in water comparatively at rest and free from mechanical sediment, that others were formed in moving water which sometimes contained a large quantity of sediment. Many limestone beds are apparently free from fossils, but when examined with a lens are found to contain numerous foraminifera or to have a crystalline structure with few if any traces of fossils. Many of these crystalline limestones originally contained fossils which have now become obliterated by subsequent alteration of the rocks, by dolomitization, silicification or contact metamorphism due to the intrusion of igneous rocks.

Dolomitized limestone, in which part of the carbonate of lime is replaced by a double carbonate of lime and magnesia, is locally known as dunstone. It forms castellated outlines, such as those at Harboro' Rocks and on the slopes of the valley between Longcliffe and Bradbourne Mill. It weathers with a rough and gritty surface which is often pitted with small holes.

Silicified limestone or quartz rock is found in many localities. Its microscopical structure and its relation to the surrounding rocks prove it to be a limestone which has been entirely converted into crystalline silica. The gradual passage may be traced from an ordinary limestone with few if any crystals of quartz through a quartzose limestone into a quartz rock of crystalline structure.

The marmorized limestone, which has a saccharoidal or sugary appearance, is sometimes found near intrusive rocks. Fine examples may be seen near Peak Forest and in Tideswell Dale, in the one case above and in the other below an intrusive igneous rock. The carbonate of lime has been rendered crystalline by the molten rock.

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SANDS AND FIRECLAYS

In the neighbourhood of Newhaven and Brassington deposits of sand and clay with quartzite pebbles occur in pockets or irregular hollows in the Mountain Limestone. They are situated on a line running in a direction from north-west to south-east for about 7 miles from near Hartington on the north-west to Brassington on the south-east. The clay from the latter place was worked previous to 1789 and used at the Derby Porcelain Works in the manufacture of china. At Minning Low, Longcliffe, Harboro' and Newhaven the sand is made into fire-bricks. The hollows in the limestone are sometimes as much as 100 yards across and probably represent large swallow holes. The sand consists mainly of well rounded quartz grains and is often bedded in the form of a basin, that in the centre of the pit being nearly horizontal and that near the edges dipping steeply away from the limestone which forms the sides. The limestone is often dolomitized. The pits contain in addition to the sand and pebbles fragments of shale, lignite and grit.

These deposits have been supposed by some geologists to have originated from the millstone grits and by others from the Bunter beds. Probably both suppositions are correct. The shale, grit, Bunter pebbles, sand and clay may represent the products of decomposition of Carboniferous and Triassic rocks which have been washed into the swallow holes. There is undoubted evidence that the deposits are preglacial.

A few words of description may be given of the small inliers of limestone.

At Ashover, about 4 miles north-east of Matlock, is a small inlier of Mountain Limestone with a bed of intercalated volcanic tuff. An anticline passes through Ashover in a north-north-west direction. The river Amber has cut its way along this anticline down the Millstone Grits, Yoredale Shales, and part of the Mountain Limestone into a bed of tuff which may be seen in the bottom of the valley. In a direction northwards from Ashover the succession of rocks from the limestone to the Coal Measures are passed.

At Crich the Mountain Limestone has been brought up by three faults and bending of the strata. The inlier of limestone is about a mile in length and consists of an elongated dome the main axis of which runs north-north-west and south-south-east. On the east the beds dip gently under the Yoredale Shales, but on the west they are more highly inclined and faulted against the Chatsworth Grit of Coddington Park. A lava flow contemporaneous with the limestone is found some distance below the quarry floor in some of the old lead mines. Several landslips have occurred. They were due to the slipping of the limestone over a bed of shale in consequence of the quarrying operations which removed some of the limestone occupying the lowest part of the arch.

Near Kniveton is another inlier of Mountain Limestone. The boundary has not been yet accurately determined because of the covering of the ground by glacial drift. A coarse agglomerate which

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may mark the site of a volcanic vent occurs in the western part of the inlier.

At Snelston Common south-west of Ashbourne is a small dome-shaped inlier of Mountain Limestone surrounded by Keuper Marl. Lead and copper ore were formerly worked here. Some portions of the limestone are dolomitized.

At Diminsdale, Calke and Ticknall are three small inliers consisting of the upper beds of Mountain Limestone, which are succeeded conformably by the Limestone Shales. They are brought to the surface through the combined agency of a series of gentle rolls and of a great fault which brings them against the Ashby Coal Measures.

CAVERNS

The upper beds of Mountain Limestone are in many places honey-combed with caverns. Some of the caverns of Derbyshire are old lead mines, but others are natural and connected with the underground drainage of the district.

The existence of unexplored caverns may be inferred by the numerous swallow holes found in the limestone. These swallows vary in depth and diameter and have generally the shape of a wide cone with a blunted point at the bottom. The sloping sides may be covered with grass with or without any signs of rock. The swallows are formed by the action of water containing carbonic acid finding its way into joints and enlarging them by dissolving away the rock and ultimately emerging at a lower level and at some distance from the place of entry. As the volume of water increases the subterranean course is enlarged by the solvent action of the water, and caverns are formed. The caverns are often enlarged by the falling in of the roof and the removal by water of the resulting debris.

Poole's Hole or Cavern near Buxton illustrates the intimate relation between caverns and underground drainage. The river Wye, a tributary of the Derwent, rises on Axe Edge, and after flowing over the Yoredale Shales disappears down a swallow in the limestone called Plunge Hole. It reappears in Poole's Cavern, and after flowing for some distance in the part shown to visitors suddenly disappears again and finally emerges from a small hole called Wye Head a few fields away from the mouth of the cavern.

The Speedwell Cavern near Castleton is an instance of those caverns which are partly artificial and partly natural. The entrance is at the foot of the Winnats. A level was driven into the limestone in order to reach some of the rakes which run through the hill. After passing several scrins or calcite veins the level reached the New Rake at a horizontal distance of 750 yards from the entrance. The level entered a large narrow cavern which extends to a great height and was hollowed out in the New Rake by underground waters. A solid platform has now been built on the sloping floor of the cavern which is inclined at an angle of about 45° to the horizon. The level now contains water

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several feet in depth, and visitors are conveyed along it in boats. The excess of water falls over the edge of the platform with a deafening roar into the lower part of the cavern known as 'The Bottomless Pit.' This pit was explored by the Kyndwr Club in 1901, and the writer descended with the party. The vertical distance from the platform to the water surface was 63 feet, and the depth of the water was not more than 22 feet. A vertical vein of calcite nearly 6 feet in width was seen at the west end of the platform.

The Blue John Mine near Castleton consists of large underground cavities connected by artificial passages. It is supposed to have been discovered accidentally in mining operations by the Romans.

The Grand Cystallized Cavern is 60 feet long, 13 feet wide, and 45 feet high. Lord Mulgrave's diningroom is 39 feet by 36 feet, and 57 feet high. The new cavern which has been described as the 'largest, the wettest, the dirtiest and the most rugged and irregular' of any of the series measures 100 yards in length, 16 in width. This cavern leads to the Fairy Grotto, a small cavern with delicate stalactites and stalagmites. The total distance of the winding passages is said to amount to over 3 miles.

The Peak Cavern at Castleton, which has a magnificent entrance, is another example of a natural cavern connected with a system of underground drainage. The water enters the limestone along a line of swallow holes near Perryfoot at the boundary of the Mountain Limestone and shales. The water is finally discharged partly through the cavern, but largely by a spring called Russett Well, and flows down the valley joining the river Noe near Hope.

Eldon Hole, a chasm in the side of Eldon Hill near Peak Forest village, has been supposed to be connected by underground passages with Peak Cavern. This supposition has not been proved. The chasm is about 100 feet long and 20 feet wide at the surface. The sides are almost vertical. In December, 1900, the writer and thirteen others were lowered down this chasm by a rope. It was 180 feet deep. The bottom measured 36 feet by 29 feet. The floor is composed of loose angular blocks of limestone and slopes at an angle of 35°. Climbing down we reach a low archway about 3 feet in height which opens out into a cavern. The slope of scree continues 40 feet further. The cavern is pear-shaped in a nearly horizontal section, and measures 40 feet from north-east to south-west, and 36 feet from north-west to south-east. The lowest part of the cavern is 256 feet from the surface to the ground. No stream of water was seen.

Another system of underground drainage occurs near Eyam. The water enters the limestone by swallow holes and finds its way to the valley of the Derwent by way of Middleton Dale.

The disappearance of the water down swallows often results in a dry valley which represents the old watercourse. Linen Dale near Eyam is one of these valleys. Great Rocks Dale through which the Midland Railway passes between Miller's Dale and Doveholes is another dry valley.

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Some of the caverns at Matlock Bath are well worth a visit, but it is unnecessary to enter into any details concerning them, as they are combinations of watercourses and old lead mines. The so-called caverns on the High Tor are roofless for the most part and are probably joints which have been enlarged by the action of water. The fissure called the Fern Cave runs north-north-west and is nearly parallel to the precipice of the High Tor. It is about 600 feet long, 150 feet deep, and in places reaches a width of 2 feet. It probably once extended further in the direction of Matlock Bridge. The eastern wall of the fissure produced forms the face of the present cliff which bounds the valley of the Derwent.

The Roman Cavern is a smaller fissure which runs nearly parallel to the strike and to the boundary between the limestone of the High Tor and the shales and grits of Riber Hill.

WARM SPRINGS

Many parts of the limestone district are destitute of water because of the readiness with which the surface waters make their way underground. Springs on the limestone hills are only present where there are beds of impervious rock as Clay and Toadstone. These springs issue from the top of the Clay or Toadstone along its line of outcrop. Several springs flow from the top of the bedded tuff near Grange Mill. Dunsley Spring which runs down into the Via Gellia, several springs near Taddington, and that which supplies Tideswell with water flow from the upper surface of Toadstone beds.

Many of the springs are warm, or at least tepid. The most noted are at Buxton, Matlock and Bakewell. The temperature at St. Ann's Well at Buxton is 81° F. The water is remarkable for the amount of free nitrogen dissolved in it. Another spring supplies the tepid swimming bath. The temperature of the warm springs at Matlock Bath is 68° F. They supply the Fountain Swimming Baths and smaller baths at the New Bath and Royal Hotels. An analysis of the spring at the Fountain Baths was made by Dr. Dupré. It contains

	Grains per gallon
Chloride of sodium	4'57
Sulphate of magnesia	9'73
Sulphate of calcium	2'04
Carbonate of calcium	14'68
Silica	0'71
Total	31'73
Organic matter, traces of alumina, minute traces of potassium, lithium and strontium and loss	1'03
Total dry residue	32'76

and a small quantity of free carbonic acid. The old swimming bath at Bakewell is supplied at a temperature of about 60° F.

GEOLOGY

LEAD AND LEAD MINING

The large number of old mines bears witness to the vast amount of mining which has been done in Derbyshire. The majority of mines have been worked out or abandoned through the difficulty of getting rid of water, the expense of obtaining the ore, and the great fall in the price of lead. The only mine at which any quantity of lead is being raised is the Mill Close near Darley Dale. It is in the upper beds of Mountain Limestone.

The oldest mine in the county is probably the Odin near Castleton, which is reputed to have been worked by the Danes. The Romans raised and smelted ore in Derbyshire, and left traces of their work in pigs of lead with Latin inscriptions.

The lead mining industry in Derbyshire is governed by curious customs and rights which have existed from time immemorial, and were confirmed by Acts of Parliament passed in 1851 and 1852.

In certain parts of the county any one may search or dig for lead ore without asking for the owner's permission, and the owner or occupier of the land cannot claim compensation. This is subject to the condition that the miner finds ore and pays a dish to the barmaster. The miner is entitled to sufficient surface for his hillock, a way to the highway most convenient to the mine, and waterway to the nearest stream of running water. The only compensation the owner gets for the loss is the right to sell any other mineral except lead which the miner may bring to the surface.

Galena is the ore of lead which has been mostly worked. It is found in rakes, pipes and flats.

A rake vein is generally an almost vertical fissure in the limestone. The ore usually occurs in ribs with layers of calcite, barytes or fluor arranged more or less parallel to the walls of the rake. Sometimes it is found in isolated cubes in association with calcite or barytes.

Pipes veins are irregularly shaped cavities or pockets in the limestone generally parallel to the bedding planes, and are often connected by a crack filled with clay or spar called a leader.

They vary in size, and may be considered as the widening out of a rake or of a scrin, which is a string of ore branching off from a rake and forming smaller veins.

A flat is not so common as rake and pipe veins. It is generally found along the junction of two beds, and consists of a low flat chamber with the roof and floor separated by only a few feet.

The lodes are richer and more numerous in the upper than in the lower beds of limestone, and most of the rich deposits of ore have been found in the beds of limestone immediately below the Yoredale Shales.

In addition to galena the following ores of lead have been obtained in small quantities : mimetite, cerussite, pyromorphite and phosgenite.

Small quantities of copper ore, black oxide of manganese ('wad'), hæmatite, yellow and red ochre have been worked in the limestone.

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Heavy spar or cauk (barytes) is often obtained from old mining hillocks. A stalactitic form of barytes has been found near Youlgreave. Fluor-spar (calcium fluoride) is often found in small cubes lining cavities in the limestone. At Windy Knoll near Castleton large cubes of this mineral occurred in a vein a few years ago. 'Blue John,' the purple variety, arranged in layers of different shades of colour, is found at Castleton in the Blue John mine and worked into ornaments. Calc-spar is abundant in veins, and in some places is crushed for making footpaths. It is often found in large dog-tooth crystals, which show traces of the rhombohedral cleavage. It is rarely that the specimens are clear enough to show double refraction. Bitumen is found in small quantities filling cavities in the limestone and the interior of fossils. The hard variety is black and has a shining surface when fractured. The softer variety is known as elaterite and adheres to the fingers, but is sometimes soft like indiarubber. It slowly oozes out of the limestone in Windy Knoll quarry and is a rare mineral in England. It consists mainly of carbon, hydrogen and oxygen.

Quartz is found in the siliceous or quartzose limestone in numerous small bipyramidal crystals only just visible to the naked eye. Larger quartz crystals called 'Buxton diamonds' have been found lining the interior of cavities in the Toadstone.

YOREDALE ROCKS

The upper beds of the Mountain Limestone are sometimes interstratified with shales. These shales become more numerous, until the rock may be described as shale with intercalated beds or nodules of limestone. There is thus a gradual passage from the calcareous to the argillaceous deposits. These shale beds, in which the amount of limestone varies considerably, are passage beds from the Mountain Limestone to the Millstone Grit series. They were called by Farey in 1811 the Great or Limestone Shale. In 1860 they were in the neighbourhood of Ticknall called Upper Limestone Shales by the Geological Survey officers, but later in other parts of the county were designated by them as Yoredale Shales. Dr. Wheelton Hind considers that the upper parts of the Carboniferous Limestone of Derbyshire and not the Yoredale Shales of the Geological Survey are the palæontological equivalent of the Yoredales of Wensley Dale, and suggests that the name Pendleside Group should include the shales and limestones which rest on the Mountain Limestone.¹

As the question of the name is under dispute it will save confusion to adhere to that by which these rocks are at present known on the maps and in the memoir of the Geological Survey.

The black shales and thin limestones of the Yoredale series vary in character and thickness in different parts of the county. In Edale they consist of shales with nodules of limestone containing goniatites, whilst

¹ *Geol. Mag.* 1897, p. 159; *Quart. Journ. Geol. Soc.* lvii. 347.

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at Cromford the limestone forms short lenticular beds in the shale. In other places the limestone is intercalated in thin beds amongst the shales, and the proportion of limestone to shale varies greatly. Near Ashbourne the limestones are more evenly bedded, more numerous and closer together, so that it is often difficult to say whether they are at the top of the Mountain Limestone or at the base of the Limestone Shales. In the neighbourhood of Kniveton and Tissington they are often contorted.

One of the best exposures which gives evidence of the numerous folds into which these beds have been thrown was seen during the construction of the new railway from Buxton to Ashbourne near the village of Tissington. Although only about 60 feet of these shales were seen in a distance of 300 yards, they were bent into about six anticlines and the same number of synclines. The thin beds of limestones are local and soon thin out.

It has been estimated that these beds may reach a thickness of 1,000 feet in the northern part of the county, but at Matlock they cannot be more than 400 feet thick.

The sandstones in Edale which are mapped as Yoredale by the Geological Survey may possibly belong to the Shale Grit. In places further south they are absent, and the Shale Grit rests on the Yoredale Shales.

IGNEOUS ROCKS

The quiet deposition of the Mountain Limestone of Derbyshire was in various places disturbed by small volcanoes which poured out their lavas in a molten condition or discharged their fragments of volcanic detritus over the sea floor. The volcanic activity did not cease with the deposition of the Mountain Limestone, but continued whilst the lower portion of the Yoredale Shales was being formed. There was a later phase of volcanic activity when the molten material was no longer able to force its way to the surface, but intruded itself between the beds of limestone or successive lava flows.

The igneous rocks of the county for more than a century have been known by the name of Toadstone. Some suppose it to have been derived from the German *toadstein* (deadstone), from the absence of ore in it; others consider the rock was so named because of its resemblance to the back of a toad.

The Toadstones vary not only in their character and appearance but also in their behaviour with regard to the limestone beds in which they occur. The rock is in places hard and dark in colour, in others soft and decomposed to a kind of clay. In some cases it is evidently interbedded with the limestones and in others cuts across them.

Lithologically the Toadstones may be divided into two classes, viz. massive and fragmental. The massive kinds include lavas which are contemporaneous with the limestones in which they occur, and have a vesicular and often a slaggy appearance. The vesicles are frequently filled with amygdules of calcite and other minerals. The harder, more

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compact and coarsely crystalline dolerites and finer grained basalts are intrusive, transgressing the limestone beds, and form either sills, vents or dykes.

The fragmental igneous rocks comprise tuffs, which are interbedded with the limestone, and vents, which cut across the beds of limestone.

The massive Toadstones belong to the basic division of igneous rocks. They consist of olivine, augite, plagioclase felspar, magnetite and secondary products, and vary from an ophitic dolerite or diabase to a basalt. The fragmental rocks sometimes consist of fragments of the massive rocks, but in the majority of cases are made up of lapilli, which either are or have been of a glassy nature, due to rapid cooling.

An examination of the maps of the Geological Survey will show that the Toadstones may be divided into a northern and southern group. Each of these groups consists of lava flows and bedded tuff contemporaneous with the limestone and the vents or remains of pipes up which the showers of tuff and flows of lava came to the surface. Both groups contain the sills or intrusive rocks which transgress the beds of limestone.

VOLCANIC VENTS

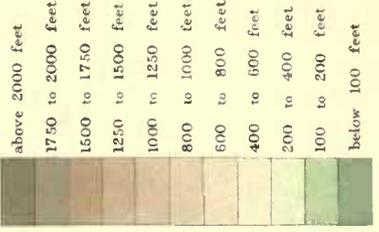
Some of the Toadstones consist of a coarse agglomerate or a fine tuff with or without blocks of dolerite and limestone. They are not intercalated with the limestone but are found to cut across the beds. They may form hills with a dome-shaped outline, occupy a hollow, or even mark no feature on the surface of the ground. Their relation to the surrounding limestone beds and their lithological structure are sufficient evidence to prove that they are the remains of the pipes or vents which have been filled with volcanic debris and received their present contour through the action of denudation.

The most interesting group of vents is found at Grange Mill near Winster and about five miles west of Matlock Bath. They form two dome-shaped hills with grassy and well marked contours, which rise from the valley to heights of 100 feet and 200 feet respectively. The larger one covers an area of 2,400 feet by 1,300 feet, and the smaller one an area of 1,300 feet by 900 feet. Good views of these hills are seen on the roads from the village of Aldwark and from Longcliffe Wharf to Grange Mill. The road from Grange Mill to Winster passes close by them, and several good exposures of the rock are seen. The smooth and steep grassy slopes consist of a grey rock with green lapilli and a few limestone pebbles. On the hillsides are found a few blocks of saccharoidal limestone. The rocks in the neighbourhood of the vents form part of a small dome, the longer axis of which ranges north-north-west; the two vents lie on this anticline. The limestone is seen within a few feet of the agglomerate. On the south-west of the northern vent it dips north or north-west at an angle of 10 to 15°, so that the agglomerate cuts across the strike of the limestone. South of the larger vent the beds are





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much disturbed, and their upturned edges may be seen striking at the agglomerate. To the east of the vents is a small valley with its eastern slopes running up to a well marked escarpment of limestone higher in the series. The escarpment reaches a height of 1,000 feet above the sea, and may be traced for about a mile. West of the vents a similar but not so well marked an escarpment may be traced. On both sides of the valley in which the vents are situated a bed of laminated tuff underlies the limestone of the escarpments. Its thickness is about 90 feet, and it is made up of alternations of finely and coarsely laminated bands of volcanic lapilli in a cement of calcite. This tuff was probably thrown out from the vents. That the volcanic action then became very feeble and intermittent is proved by the irregular distribution of minute lapilli in the limestone immediately above the tuff up to a height of 18 feet. Several small dykes of dolerite traverse the southern vent, one of them being several feet in width. Near the northern boundary of the Mountain Limestone at Castleton is a small elliptical vent which forms a slight feature in the landscape. It pierces the limestones near the northern slope of Cow Low. The limestones may be seen dipping about 20 degrees north on the north, south and west of the agglomerate and within a short distance of it, so that the igneous rock undoubtedly cuts across the beds of limestone. The agglomerate forms a low ridge covered with grass, and is about 80 feet in length. It consists of a mass of minute lapilli with included blocks of a doleritic type containing minute feldspars in an isotropic ground mass. The lapilli contain crystals and are seldom vesicular.

The vent near the village of Hopton presents no feature in the landscape and is not separated by any difference of contour from the surrounding limestones. It penetrates the upper beds of the limestone. A short distance to the east and also immediately north of the agglomerate the limestones are seen dipping 10 to 20° south-east. Good sections of the igneous rock are seen along the Wirksworth and Carsington road, and also on the side of the road which has been cut in the east bank of the ravine leading down from Via Gellia on the north. The rock consists of a coarse tumultuous agglomerate composed of masses of small lapilli and angular blocks of basalt and dolerite. It is pierced by several veins or small dykes of a black fine grained rock enclosing red coloured fragments which contain feldspars and are probably small pieces of agglomerate caught up by the dykes.

Near the village of Bonsall a coarse agglomerate is exposed in the banks of Ember Lane and in the field above. There is a large admixture of calcareous material with the volcanic detritus. It consists of an intimate mixture of limestone fragments and of volcanic lapilli. This mass of agglomerate probably marks the site of a vent, though there are no exposures very near to it showing the dip of the limestone. The adjacent limestones consist of a quartz rock or silicified limestone from which all traces of bedding have been obliterated.

Near the village of Kniveton are several exposures of Toadstone

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in what is mapped by the Geological Survey as an inlier of Mountain Limestone.

They consist of an agglomerate of more or less rounded blocks of a vesicular dolerite and pieces of limestone mingled with a finer deposit of lapilli. The largest of these patches covers an area of about 800 feet by 400 feet, and is cut by two streams and forms a ridge of high ground between them. The beds surrounding it are very much contorted. On the north and south the beds dip east and west at high angles, forming an anticline through which the agglomerate has made its way, and on the west the beds are vertical with a north-north-west strike. Half a mile north is another small patch of agglomerate, and south-east of the large mass is another small patch which apparently cuts across the strike of limestones a short distance from it and may mark the site of a vent.

TUFFS

In addition to the fragmental igneous rocks or tuffs found in the vents, there are bands of tuff interbedded with the limestones and therefore contemporaneous with them. As far as has been at present ascertained, five of these bedded tuffs were unaccompanied by lava flows.

The thickest is probably that at Ashover, in the inlier of Mountain Limestone. The river Amber has cut its way through the limestone down into the tuff. A shaft was sunk into it to a depth of 210 feet without reaching the bottom. This tuff is laminated, contains fragments of chert, of limestone often rounded, and blocks of amygdaloidal dolerite, and is traversed by veins of calcite. The matrix of the rock is composed of lapilli cemented with volcanic dust and calcite.

At the village of Litton near Tideswell is a well banded tuff intercalated with the limestone. It probably attains a thickness of 200 feet. It consists of alternations of fine and coarse laminæ of a green and yellow colour, with pebbles of coralline limestone and blocks of dolerite or basalt up to 18 inches in length. The matrix is formed of very vesicular lapilli cemented by calcite. Near the Peep o' Day, the highest house in Litton, the road has been cut through several feet of the rock, and the alternating bands of coarse and fine volcanic detritus, which are clearly visible, point to the varying length and intensity of the volcanic explosions. The limestones immediately above the tuff are very fossiliferous, and contain volcanic detritus in small quantities up to a height of about 18 feet.

Another laminated tuff is seen in a valley a short distance north-west of Tideswell, but its thickness is not known, as the base is not visible. The tuff at Shothouse Spring has been described above.

The latest series of tuffs are found in the neighbourhood of Tissington in the Limestone Shales. Though they cover a large area of ground, they were not discovered until the new railway line from Ashbourne to Buxton was in course of construction. The rocks in this part of the district are very much contorted, and the numerous folds have caused a repetition of the beds to be seen in the cuttings, and the tuff is brought

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to view four times. At its second appearance, near the middle of Tissington cutting, the tuff was exposed to view from top to bottom, and proved to be about 140 feet thick. It rests on cherty limestones. It is generally coarse in texture, often has a distinct lamination, and contains numerous blocks, up to one foot in diameter, of a dark blue or amygdaloidal rock, distributed irregularly throughout its mass. The finer portions of the tuff are made up of lapilli varying from one inch in diameter down to a fine dust. They are very vesicular, contain no crystals, and are an altered glass or palagonite. The lower part of the bed consists of small 'ball-like' lapilli about 1 inch in diameter. There is an entire absence of non-volcanic material. In the limestones and shales above this thick bed of tuff are numerous intercalations of tuff, some of which are only a quarter of an inch in thickness. After the prolonged eruption or series of eruptions which produced the thick band of tuff, there was a series of intermittent eruptions during the accumulation of at least 80 feet of shales and limestones. Volcanic detritus was mingled with the ordinary sediment of the sea bottom, so that a limestone which in one place is entirely free from volcanic material passes into a tuffaceous limestone or a shelly tuff in another.

LAVAS

The lava flows which were contemporaneous with the formation of the limestone are found on different horizons, and are of limited extent. Some of them were ejected without any accompaniment of tuff. They consist of olivine dolerites and have often undergone a large amount of alteration, due to the action of the weather. When very much weathered they decompose to a kind of clay. They are nearly always vesicular and amygdaloidal, and in places have quite a slaggy structure. In a thick lava stream the central portions are sometimes almost free from vesicles, are hard and compact, and have a spheroidal structure slightly developed in them.

One of the most typical examples of a lava flow, and also one easy of access, is that seen at the bottom of Miller's Dale just before reaching the station from the south. The beds here form a slight dome, and the river Wye has cut its way down into the Toadstone. The lava contains numerous vesicles and amygdules, and is often slaggy. The base is not seen in the valley, but the junction of the upper surface with the limestone above it may be examined under Ravenstor. The igneous rock has not altered the limestone; indeed in no case in Derbyshire is a lava flow known to have altered the limestone beds either above or below it. About 150 feet higher in the series is another lava flow, which may be traced from Litton Mills in the railway cutting to Miller's Dale station. It is then carried up by the dip of the rocks and may be traced along the hillsides through the villages of Priestcliffe, Taddington and Chelmerton as far as Great Low on the Ashbourne and Buxton road, where it apparently thins out. The same lava flow forms a ring round Critchley Wood Hill, where it is capped by limestone. It forms the summit of Knot Low,

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a curiously shaped hill near Miller's Dale station. In this neighbourhood it attains a thickness of more than 100 feet. This lava flow was preceded by showers of tuff. A few years ago a section along a tram line leading to some limekilns east of the station showed the junction of the lava with the limestone beneath it. On the limestone are 2 feet of clay, followed by about 2 feet of a tufaceous limestone; this was succeeded by a small lava flow about 9 feet thick, and then by a well bedded and coarse tuff of several feet in thickness, and above this is the main lava flow. A section in the quarry on the opposite side of the valley at the foot of Knot Low shows several feet of a decomposed tufaceous limestone below the lava. Traces of tuff have been found at several other places below this lava flow.

The lower and earlier lava flow of this district, which we have already said appears at the bottom of Miller's Dale, is also seen in Monk's Dale, from whence it is carried up by the rise of the rocks through Hargatewall to Tunstead and Small Dale.

In the Matlock district there were at least two flows of lava. The largest, which forms the summit of Masson Hill, may be traced for several miles, and was succeeded by a fall of tuff. This tuff is well banded, and is best seen near Tearsall farm. It extends for at least a mile. It is about 20 feet thick. There were probably a number of lava flows, and there is plenty of evidence that some of them thin out rapidly. Some of them were very thin, and do not extend any distance. In Cressbrook Dale a small flow 10 to 20 feet thick is seen on the eastern slope of the valley. Immediately south of the fault which bounds the Tideswell Dale inlier on the south are two small flows 15 to 20 feet thick, and separated by about 15 feet of limestone.

At Pethills, near Kniveton, are two bands of igneous rock, which probably represent lava flows. They are bedded with Yoredale Shales, and consist of vesicular dolerite. The beds dip at a high angle, and the limestones and shales between the two igneous bands are nearly vertical with a north-north-west strike. The beds probably form an anticline, and the two bands of Toadstone on either side of the axis may therefore be parts of the same flow. The limestone is seen in contact with the igneous rock, and there are no evidences of metamorphism.

THE SILLS

Some of the Toadstones differ in several respects from those which we have just described. They weather less rapidly, and consist of a hard coarsely crystalline dolerite or a basalt, and are neither vesicular nor slaggy. They often project in large compact pieces above the surface of the ground. Whilst in some places they lie between two beds of limestone, in others there is evidence that they transgress or cut across the limestone beds. In some places they have altered the limestones in contact with them to a marble or a saccharoidal condition. They are undoubtedly intrusive sheets or sills. We will briefly describe several of

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them before bringing to a close the account of the igneous rocks of the district.

One of the most interesting of these sills is in Dam Dale, a short distance south of Peak Forest village. The igneous rock is exposed in a small valley, and dips regularly beneath the limestone. The thickness is unknown, as the base is not visible, and the igneous rock is not seen to cut across the limestone beds in this place. The limestones immediately above it are marmorized for a distance of about 5 feet, whilst a few feet higher in the series they contain chert nodules and are partly dolomitized and show no signs of contact metamorphism. The marmorization may be traced for a horizontal distance of 800 feet on the north-east of the outcrop, and for about half that distance on the north-west on the opposite side of the valley. The rock is a coarse grained ophitic dolerite which becomes fine grained near its upper margin.

About a mile south-east of Peak Forest sill a coarse ophitic dolerite covers nearly ninety acres of the surface. In the north-west it is bedded with the limestone, but on the south-east it cuts across the beds. The limestones immediately above it on the north-west are marmorized. It varies in thickness, and in some places evidently forms only a thin coating over the limestone below it, which is seen in several small quarries and swallow holes. At Black Hillock a shaft is said to have been sunk 100 fathoms into it without reaching the bottom, whilst a short distance to the north-east it varied in thickness from 16 fathoms to 2 fathoms. The Black Hillock shaft was probably sunk down the pipe up which the igneous mass found its way.

In Tideswell Dale there is another interesting sill. The ground is somewhat complicated. The sill occurs in an inlier of Mountain Limestone which has been brought up by two faults. Intercalated with the limestones is a bed of red clay, which varies in thickness and is in places absent. This appears to have been followed by several lava flows. At a later period the intrusive rock made its way into the lava and spread along planes of weakness. It occupies different horizons in the lava, sometimes resting on the limestone, at others on the clay, and at others on the vesicular lava. Below the sill the clay has been baked to a depth of 9 feet, and the limestone has been altered to a hard saccharoidal marble to a depth of 10 or 12 feet. Where some feet of the vesicular or slaggy lava separates the intrusive rock from the clay or the limestone underneath it, no alteration has been produced in the latter rocks. The sill is about 70 feet thick. It is well exposed in an old marble quarry. The central portions are a coarse grained ophitic dolerite, but the upper and lower margins pass into a fine grained dolerite.

Several other outcrops of ophitic dolerite in the county are probably intrusive bosses or sills. One of these near Ible and others at Bonsall and Buxton transgress the beds of limestone in their neighbourhood.

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MILLSTONE GRIT

The Millstone Grits rest conformably on the Yoredale Shales, and are found in the northern part of the county and on the east and west side of the Pennine Chain. They extend as far south as Little Eaton, and a small patch occurs in the neighbourhood of Ticknall and Melbourne in the south. The alternation of hard sandstones with beds of soft shale has produced a type of scenery different from that of the Mountain Limestone. The outcrop of each sandstone bed forms a long ridge with a sloping surface on one side in the direction of the dip, and on the other side a steep face or escarpment which is almost vertical. Below the escarpment the ground has a more gentle slope, and often a broad valley is hollowed out in the beds of shale underlying the grit. These escarpments are known locally as edges, and form very well marked features in the landscape. Amongst the finest of them are Curbar, Froggatt, Bamford and Derwent Edges on the eastern side of the county. The highest part of the county is composed of Kinder Scout Grit. It forms a large outlier which is roughly triangular in outline, and is situated in the north. This tableland, though dignified by the name of the Peak, contains no pointed hills. The rocks dip inwards towards the middle of the plateau, and to this fact the outlier probably owes its survival. The escarpments which bound the plateau form irregular and rugged cliffs, through which streams of water have cut deep gorges called cloughs. The scenery is wild and the surface of the plateau is covered with peat. It is strictly preserved, but, owing to the efforts of a local footpaths association, the pedestrian may enjoy a walk from Hayfield either to the Snake Inn or to Edale through some of the characteristic parts of the scenery.

The Millstone Grit series consists of five thick sandstones or grits parted by shales, with which thinner sandstones are intercalated. The grits vary in character from a fine grained sandstone to a conglomerate, and consist of quartz, orthoclase, felspar and white mica. Dr. Sorby considers that they have been formed from the disintegration of granites and schists, and have been deposited by currents from the north-east. From the Kinder Scout Grit near Whatstandwell the author obtained a pebble of foliated rock or schist, which is well rounded and measures $6 \times 3 \times 2$ inches.

The fifth or lowest grit, called Shale Grit by Farey because of the numerous bands of shales it contains, consists of thick massive sandstones which often pass into a conglomerate. The shales when traced some distance are found to thin out. This grit attains a thickness of 500 or 600 feet around the Peak, thins out towards the south, and is absent in some places. The Shale Grit forms round the Kinder Scout Grit of the Peak a broad plateau, which is deeply channelled by rivers and brook courses. The outcrops of the shale bands are marked by small terraces which run along the steep sides of the valleys. Numerous landslips have taken place along the course of the river Alport. The largest slip is

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called Alport Towers, and has been formed by masses of Shale Grit which have slipped down from the hills above.

The ridge between Lose Hill and Mam Tor is capped by the Shale Grit. The beds dip north, and at Castleton, a short distance further south, we find the Mountain Limestone dipping under the Limestone Shales and Shale Grit. In the Edale valley the river Noe has cut down through the plateau of Shale Grit to the Limestone Shales below it. An anticline runs along the north flank of the valley, and on that side the Limestone Shales are brought out by the rise of the beds. Good sections of these grits may be seen in the 'cloughs' which run down from Kinder Scout into Edale.

At right angles to the anticline above mentioned, another runs through Edale Chapel and Mam Tor in a north-westerly and south-easterly direction. This anticline if produced would pass through the middle of the Mountain Limestone district, and it has been considered that it marks the direction of the Pennine upheaval. A dome shaped mass of the Yoredale Shales is brought up in the middle of the valley, and the sandstones of Mam Tor are raised up to a greater height than the Shale Grit of Lose Hill. Mam Tor, or the Shivering Mountain, with its precipitous face of some 200 feet in height, consists of sandstones intercalated with shales. In the latter *Goniatites* and *Posidoniella* have been found. A great part of the hill has fallen and carried away with it a portion of the Roman entrenchment which was made round the hill not far from its summit. At the foot of the tor the Yoredale Shales are faulted against the Mountain Limestone near the Blue John mine. The present turnpike road from Castleton to Chapel-en-le-Frith and Buxton passes over masses of grit and shale which have at some time slipped from the face or base of Mam Tor. These hummocks form an insecure basis for a road, as, from the shape of the ground, there is nothing to prevent further slipping.

In the winter of 1901-2 small portions of the road slipped, and some ominous cracks which were present when these pages were being written indicated that some further portions of the road might slide down the hill at the next ground thaw. The alternation of sandstones and shales has a tendency to produce landslips, especially when the rock dips into the valley. Perhaps the most striking of such landslips is Alport Tower. The eastern bank of the river Alport is covered with landslips formed by masses of Shale Grit which have slid down from the hill above. In one place the fallen mass is about 28 chains in length and 12 in breadth. At Coumbs Wood near Matlock the outlier of Shale Grit is in the form of an anticline, the beds on both sides dipping away from the hill. On both sides of the hill large masses of the grit have slipped away into the valley below.

The fourth, or Kinder Scout Grit, consists of two thick beds of sandstone separated by shale. The lower one dies away on Bamford Edge, and is not found further south. The upper varies from a coarse grit to a fine grained sandstone, and generally forms bold craggy cliffs

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surmounted with piles of rock weathered into fantastic shapes. Robin Hood's Stride and the Rowtor Rocks near Rowsley exhibit the characteristic weathering of this grit. The Black Rocks near Cromford, so named from their black surface, probably due to the action of vegetation, form part of an escarpment of the Kinder Scout Grit.

The third, or Chatsworth or Rivelin Grit, varies greatly in character. It is a coarse conglomerate in the centre of the district, and further south becomes a fine grained sandstone. It is sometimes called the Escarpment Grit, because its outcrop forms escarpments which often extend for miles along the county, and make a distinctive feature in the scenery. Amongst these edges or escarpments are Crow Chine and Stanage Edges.

The rocks between the third and first grits are made up of shales and sandstones which vary in thickness and horizontal extent, beds of gannister and thin coals. The first or topmost grit, known as the Rough Rock, is the most constant of the Millstone Grit group, both in thickness and in character. Its average thickness is 100 feet. It is a massive coarse grit with a large proportion of felspar, the decomposition of which renders the rock loose and crumbly. The same bed of grit often varies greatly in character from a coarse conglomerate to a fine grained sandstone, and no particular grit in the series can be identified by its lithological appearance. The sequence can only be found by tracing the successive beds along the country. Traces of coal are found on the top of each of the five grits of this series.

COAL MEASURES

The Derbyshire coalfield forms part of the largest coalfield in England, viz. that which occupies portions of the counties of Derby, Nottingham and York. It is bounded on the east by an escarpment of magnesian limestone, which lies above the Coal Measures and extends from near Nottingham in a northerly direction, far beyond the limits of the great coalfield. On the west it is underlain by the Millstone Grit, Yoredales and Mountain Limestone, which with their easterly dip rise into the ridge of the Pennine Chain. On the western side of the Pennine Chain are the south Staffordshire and north Staffordshire and Cheshire coalfields. A comparison of the carboniferous rocks on the east and west side of the Pennine anticline has shown that though there is on the east a general diminution in the thickness of the strata, they can be correlated from the Millstone Grit up to the lower beds of the middle Coal Measures. This correlation of the beds on opposite sides of the anticline, taken in connection with the fact that there lies between them an elongated dome of Mountain Limestone, is sufficient to lead to the conclusion that originally the Coal Measures extended over part of the north of England almost from the coasts of Lancashire and Cheshire into Nottinghamshire, and perhaps as far east as the river Trent. The denudation which has taken place since the Pennine upheaval has

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removed the upper carboniferous rocks from the central portions of Derbyshire and Yorkshire, and thus separated the coalfields on the two sides of the Pennine Chain one from the other. The Yorkshire, Nottinghamshire and Derbyshire coalfield was considered by Professor Ramsay to lie in the form of a basin, the northern, southern and eastern edges of which lie underneath the New Red, Permian and other overlying secondary strata. He estimated the area of available Coal Measures under these strata to be approximately equal to the area of the coalfield exposed at the surface.

The depth at which the coal is worked varies considerably. Some shafts are sunk through the Magnesian Limestone which lies unconformably on the Coal Measures. Under Bolsover the depth to the 'top hard' coal is 900 to 950 feet, at Pleasley colliery near Mansfield it was reached at 1,545 feet.

In Derbyshire the Coal Measures may be divided into the middle coal measures, which are about 2,300 feet in thickness, and the lower or gannister series, which is about 1,000 feet in thickness. The middle coal measures consist of sandstones, shales and clays with ironstones and coal seams. The gannister series consists of flagstones and shales with thin coal seams, under which are floors or beds of gannister. The seams of coal vary from 2 to 7 feet in thickness.

According to the horizontal section of the Geological Survey the succession of strata from Kirby Woodhouse, through Alfreton Common and Wingfield Manor to Crich are as follows in descending order:—

Permian Rocks	Marls and Sandstone	ft. 40
	Magnesian Limestone (lower) .	60
	Marls and Sandstone	30
Middle Coal Measures	Strata to Top Hard Coal, about Waterloo	700
	Ell	} 1,600
	Lower Hard	
	Furnace	
	Black Shale or Clod	
	Kilburn	
	Shales with Ironstone	
Lower Coal or Gannister Series	Flagstones of Wingfield Manor Shales and Flaggy Sandstones, with two coals underlaid by Gannister floors	1,000

Near the southern extremity of the coalfield at Cinderhill colliery the depth to the top hard coal was 655 feet, to the deep hard coal 1,183 feet, and to the Kilburn coal 1,995 feet. The principal coals in Derbyshire are the 'top hard' and 'lower hard' seams, which produce the glossy coal with long fracture known as splint; and the 'upper soft' and 'lower soft' coals. Different seams have different qualities, and are suited for household, steam or gas purposes. The coal output of Derby-

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shire has increased considerably, and although at present greater than that of Nottinghamshire, Mr. Stokes thinks that it has almost reached its limit and will in turn be exceeded in the neighbouring county. At the commencement of the nineteenth century the coal raised in Derbyshire amounted to about 270,000 tons, whilst during the last year of the century it had reached $15\frac{1}{4}$ million tons.

In addition to the main coalfield there are two others of small area which deserve a brief mention. That in the southern portion of the county is a continuation of the Leicestershire field. The boundary is very irregular. It enters the county near Calke Abbey, runs nearly to Ticknall, and in a zigzag line to Bretby colliery. These Coal Measures dip south until close upon the county boundary, where they are overlain by Triassic rocks. The coal of this district, the principal seam of which is called the main coal, is generally used for manufacturing and steam purposes.

The north Derbyshire coalfield is a continuation of the Lancashire and Cheshire coal basin. It covers only a small area of the county. Four seams are worked, but no large amount of coal is raised. It is mostly employed for local purposes, and is too inferior in quality and too far from a railway to compete with the coal raised in the east Derbyshire coalfield.

Clay ironstone is found either in nodules or in beds amongst the Coal Measure shales. It is in the form of a carbonate of iron mixed often with argillaceous and silicious material. Though it was once largely worked in the county its place has now been taken by the Northamptonshire ore, which can be delivered more cheaply at the Derbyshire furnaces.

The fossils of the Coal Measures are indicative of estuarine or brackish water conditions, with a land flora alternating with layers containing marine fossils. The presence of the numerous seams of coal and beds of carbonaceous shale point to the profusion of vegetable growth during that part of the carboniferous period when the Coal Measures were being formed. The flora, consisting of some hundreds of forms, has only distant representatives to-day in the tree ferns of tropical swamps and jungles and the horsetails and club mosses of temperate regions. The seams of coal are composed of compressed and mineralized remains of this vegetation. The vegetable matter becomes decomposed, gives off gases, passes through states similar to those of peat and lignite, and is finally transformed into coal.

Some coals were undoubtedly formed on dry land or in swampy marshes. That such was the case is shown by the uniformity of character and thickness which a seam of coal often maintains over a considerable area, and by the fact that fossil trees are now found in the Coal Measures in the position in which they grew. A coal seam generally rests on an under-clay or shale or gannister, called 'seat earth' by the miners. The fossil trees called sigillaria are found erect in the coals with their roots or stigmara penetrating the under clay. These

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coals have originated from the growth of forests *in situ*, and were buried by beds of sand when the delta or coal jungle subsided and its surface was covered by water. The succession of coal seams through a great thickness of deposits points to a prolonged and extensive subsidence, marked by pauses sufficiently long for the silting up of the lagoons and jungles.

But while we have proof that these coal seams were formed *in situ*, we have evidence likewise that some of the coal was formed by the drifting of vegetation into lakes by rivers and floods. The conditions of soil and climate must have been favourable to the growth of the prodigious masses of vegetation which, whether swept out to sea by floods or accumulated in forests and jungles, became submerged and were finally compressed and mineralized into our seams of coal.

PERMIAN

The Coal Measures are overlain unconformably by a series of limestones, sandstones and marls which belong to the Permian series. The name Permian was given to these rocks because of their wide development in the Russian province of Perm. Compared with the Carboniferous the Permian rocks are comparatively barren of life. Their fauna contains an admixture of carboniferous types with others which are more akin to those of the Mesozoic which succeeded them. The general character of the Permian rocks and their impoverished fauna have been considered as evidence that they were formed in isolated basins or inland salt lakes in which the water underwent evaporation until chemical precipitation took place. In Derbyshire the Permian formation covers no large extent of the surface. It is found only in a narrow strip running north and south near the eastern boundary of the county. The high ground which it occupies forms a well defined escarpment resting on the Coal Measures below. This escarpment and the lower lying land of the Coal Measures are well seen between Chesterfield and Bolsover, and form a well known feature in the landscape. The Permian rocks of Derbyshire consist mainly of the Lower Magnesian Limestones and Sandstones, the Upper Magnesian Limestone being absent.

In some places underneath the Magnesian Limestones there are present beds of coarse sandstone and conglomerate with marls and thin bands of limestone, and sometimes coarser beds containing fragments of sandstone and water-worn fragments of Mountain Limestone. Their maximum thickness is about 15 feet.

It is difficult to estimate the thickness of the Magnesian Limestone owing to the false bedding which occurs in it, and the variations in character which take place at short distances render it impossible to correlate the beds. Near Bolsover it is supposed to be from 100 to 200 feet thick, but further south near Eastwood to be only about 30 feet. It has been largely quarried at Bolsover, Langwith, Stoney Houghton and Pleasley. It varies lithologically from a crystalline

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dolomitic limestone to a calcareous sandstone. The former is sometimes burnt for lime and the latter makes good building stone. Though it is difficult to say to what part of the series certain beds belong, there seems to be no doubt that in the neighbourhood of Mansfield the dolomitic limestones are above the calcareous freestones.

The published chemical analyses show that the white and red sandstones of Mansfield differ from the Magnesian Limestones of Mansfield Woodhouse in the amount of silica they contain, and also in the proportion of carbonate of lime to carbonate of magnesia.

The limestones examined under the microscope are seen to consist of more or less well defined rhombohedra of dolomite, with a few angular grains of quartz. In the sandstones, on the contrary, the angular grains of quartz are more numerous and form in the specimens examined by the writer about one-fourth of the whole rock. The sandstones may therefore be termed dolomitic sandstones or quartzose dolomites.

Sometimes the Magnesian Limestone forms scenery somewhat resembling that of the Mountain Limestone district. The short ravine known as Cresswell Crags has been cut through this limestone. The light yellowish brown rocks are massive and jointed and penetrated by large fissures and caverns. The cliffs are 50 to 60 feet in height. Above the Magnesian Limestone are marls and sandstones which are only found in two small outliers to the west of Cresswell village. They consist of sand interstratified with marl, and are used for brickmaking.

TRIAS

The name Trias was given to this group of rocks on the continent because they were divisible into three members. The middle one, which is called Muschelkalk on the continent, is absent in Great Britain; so that here the system consists of two members only, viz. the Bunter and the Keuper. In Great Britain the Triassic and Permian strata bear so general a resemblance to one another that the old writers on geology placed them in one group under the name 'New Red Sandstone,' Old Red Sandstone being the name applied to the Devonian series, which lies underneath the carboniferous rocks. The marine fauna of the Trias is almost entirely unrepresented in Great Britain, and it is considered that the strata were deposited for the most part in great salt water lakes.

The lower Trias or Bunter in Derbyshire consists of the pebble beds or conglomerate and the Lower Mottled Sandstone, the Upper Mottled Sandstone being absent. It is found in several isolated patches. At Ashbourne and Mapleton there is a narrow strip which extends from near Church Mayfield on the west by Bradley, Turnditch and Muggington to Quarndon near Derby on the east. Another strip lies south of this and is cut off from it by the Snelston and Osmaston fault. It extends from Norbury on the west by Edlaston and Osmaston to Brailsford. It also occurs near Breadsall and Morley, Dale, and at Sandiacre in the

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Erewash valley. South of the Trent it is found at Repton and Foremark. In the neighbourhood of Ashbourne the Bunter is much obscured by drift, and its boundary is somewhat uncertain. The uncertainty of arriving at the true boundary of rocks in a country covered by a mantle of drift is exemplified in the district immediately south of Ashbourne. A well was sunk for the Ashbourne waterworks on Spital Hill where the ground was mapped as Bunter by the Geological Survey. But 70 feet of drift and over 60 feet of Keuper were passed through before the Bunter beds were reached. Though the Bunter is seen at the surface at many places it is not always present under the Keuper. At Snelston Common the Keuper Marl rests on the Mountain Limestone, and at Mickleover a borehole passed from the Keuper into the limestones and shales of the Yoredale series; whilst at Derby, 4 miles distant, another borehole indicated that the Bunter was probably present under the Keuper. The Bunter Sandstone consists of a soft yellow and light red sandstone with scattered pebbles mostly of quartzite. The proportion of pebbles to sand varies considerably. Where the pebbles are numerous the rock becomes a gravel with little sand and when hard a conglomerate. The Bunter in Derbyshire is considered to belong mainly to the pebble beds or conglomerate, the Lower Mottled Sandstones being absent except at Dale. Good exposures of the Bunter beds are seen at Ashbourne, where they are at least 120 feet thick. The road from Ashbourne to Clifton is cut through beds of a soft yellow and light red sandstone containing a few pebbles. These measures are also seen in the banks of the old Derby road south of Ashbourne, at Bradley Wood and near Sandybrook Hall. At Brailsford, 23 feet of the pebble beds are exposed in a quarry, and the conglomerate is well exposed on the road from Repton to Ingleby. Near Sandiacre the rock is quarried. It consists mainly of a soft yellow and light red rock with few pebbles. Some of the beds are sufficiently hard to require blasting, but soon become friable. The sand is used largely for building.

The Keuper beds (or New Red Marl), which overlie the Bunter, are in this district divided into the Red Marl and the Waterstones or White Beds. They occupy a large tract of county south of Ashbourne, Muggington, Breadsall and Sandiacre, and stretch across the southern part of the county in a direction from east to west. On the west and south they are bounded by the Dove and the Trent, and on the east by the Erewash. The Upper Keuper consists of beds of red marl and shale, with intercalations of greyish, sandy and micaceous shales or sandstones (called skerry) and irregular bands of gypsum, a hydrated sulphate of lime. The marl is largely used for making bricks and forms a stiff soil well suited for agricultural purposes. The gypsum, which is burnt for making plaster of Paris, occurs in irregular beds, spheroidal masses, lenticular intercalations and veins in the marl. The beds thin out and come in again in a short distance, and vary in thickness and quality. At Chellaston and Aston the gypsum occurs in a bed about 10 to 15 feet in thickness. At the latter place it is worked underground. A tough

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and massive variety called alabaster, which is capable of being sculptured, is obtained at Chellaston. The Lower Keuper Sandstone series consists of laminated micaceous sandstones, intercalated with beds of red marl. Under these are beds of sandstone, breccia and a conglomerate with red marls. In this district the lowest beds are generally a band of red clay or marl. The term Waterstones applied to these sandstones originated from their watered-silk-like appearance, though now it is used to denote their water bearing qualities, which are due to the alternation of sandstones and marls.

We have seen that the Permian rocks are unconformable with the Coal Measures. The Keuper beds were deposited unconformably on the more or less tilted and denuded edges of the carboniferous rocks. They cover in one place the Millstone Grit, in another the Yoredale Rocks and in another the Mountain Limestone ; and in the neighbourhood of Charnwood Forest rest on still older rocks. Hence before the Keuper period earth movements took place which raised the Palæozoic rocks and exposed them to denudation.

PLEISTOCENE

SOUTH OF THE PENNINE CHAIN

The deposits of the Pleistocene or Glacial Period consist of clays, sands and gravels resting unconformably upon the rocks which form the solid floor of the country. This mantle of drift is almost continuous from the northern part of our country to the Midlands, where it dies away into ordinary sands and gravels and disappears before we reach the Thames valley. The drift varies locally in character, and is generally composed of masses of clay, sand and gravel, with or without any signs of stratification. Boulders which vary considerably in size and character are often found embedded in the clay. Some of them consist of rocks derived from the district, others are foreign to it and must have travelled hundreds of miles from the places where they were once in situ. These boulders are frequently scratched, grooved and polished as if they had been pressed and rubbed against the rocks of the country over which they have passed. Often when the rocky floor is laid bare by the removal of the clay by which it has been overlain, it has been found to be covered with scratches and grooves whose bearings indicate the direction from which the boulders and clay have been brought.

At present very little information has been published about the glacial deposits of the uplands of Derbyshire, but those of the Trent basin have received a considerable amount of attention. Mr. Deeley, after some years' work, gave in 1886 a general description and classification of the Pleistocene deposits which occur south of the Pennine Chain. The following information is abstracted from his paper. The deposits consist of Boulder Clays, gravels and sands of various kinds and ages. They vary very much in thickness, and are most greatly developed on the plains to the south and east of the Pennine axis. The oldest Pleisto-

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cene deposits are distinguished from those of later age by their freedom from cretaceous rock debris. Mr. Deeley divides them into three epochs, viz. the Older Pleistocene, the Middle Pleistocene and the Newer Pleistocene. The Boulder Clays of the lower series, or older epoch, are tough bluish or reddish clays chiefly made up of the subjacent rocks or of those immediately to the north or west and contain fragments of all the Pennine rocks. The boulders in them are such as would be brought down by glaciers descending the valleys of the Derwent and Wye and crossing the valley of the Trent. The clays of the middle and newer epochs contain large quantities of flint and chalk and, except in the west, not so large a proportion of boulders from the Pennine Chain. The beds associated with the Boulder Clays consist of widespread deposits of sand or gravel formed during times of submergence, or of fluviatile gravels occupying terraces bordering the main watercourses. Not only does the development of each deposit vary largely in different localities, but there is an indication of an almost continuous series of changes from early glacial times down to the present day.

The following is Mr. Deeley's classification of the Pleistocene deposits in this district :—

NEWER PLEISTOCENE EPOCH

Later Pennine Boulder Clay.
Interglacial River Gravel.

MIDDLE PLEISTOCENE EPOCH

Chalky Gravel.
Great Chalky Boulder Clay.
Melton Sand.

OLDER PLEISTOCENE EPOCH

Middle Pennine Boulder Clay.
Quartzose Sand.
Early Pennine Boulder Clay.

Interbedded with the Boulder Clays of the Older Pleistocene are deposits of fine light yellowish or reddish false bedded sand and gravel. A fine section of this sand occurs at Blackwall near Kirk Ireton. It is about 25 feet thick and consists of coarse sand or grit, derived apparently from the breaking up of the Yoredale Sandstone, which forms the ridge upon which it rests. The sand contains numerous pebbles of quartzite, quartz, sandstone, and is obliquely laminated. It is only slightly consolidated, and at a short distance looks not unlike Bunter pebble beds. Mr. Deeley considers that the Middle Pennine Boulder Clay was formed in the path of the glaciers which came down the valleys of the Derwent, Wye and Dove and crossed the partly submerged valley of the Trent in the direction of the Charnwood Hills. The presence of erratics at Burton-on-Trent foreign to the district point to the deflection of the Scotch and Cumbrian glaciers into the western portion of the Trent basin.

Several masses of this Boulder Clay have been found in the southern part of Derbyshire. At the village of Spondon east of Derby is a

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large patch of Middle Pennine Boulder Clay. A well sunk in a brickyard proved it to be at least 60 feet thick. It rests upon a contorted surface of Keuper Marl and skerry. The clayey matrix is composed chiefly of Coal Measure clay with varying proportions of Keuper Marl, and is wholly unstratified. Amongst the pebbles were nodules of ironstone, Millstone Grit, chert, Coal Measure sandstone, limestone, coal and quartzites. Some of the larger erratics, one of which weighed at least 6 tons, were finely polished, striated and grooved. Another small patch of Boulder Clay caps the hill north-east of Chaddesden and north-west of Brushwood. Its junction with the upper Keuper Marl showed the stiff blue clay with boulders, contorted and crushed into the marl below, masses of the one being sometimes torn off and buried in the other.

At Sheldon Wharf brickyard south of Derby, on the road to Chellaston, was an exposure excavated in Boulder Clay. The pit was worked at two levels. The lower one showed a section of 9 or 10 feet of a loose broken red clay with pieces of Keuper Marl and pockets of sand. Small pebbles are distributed through the mass. Towards the top quartzite pebbles and fragments of carboniferous rocks begin to appear in tolerable abundance, and have their longer axes arrayed in a horizontal position. About 5 feet of silty sand and pebbles separated the redeposited red marl from the Boulder Clay above it. This clay was about 8 feet thick and contained numerous pebbles and boulders well polished and striated.

The largest one seen was of carboniferous limestone and measured 20 by 16 inches. In addition to pebbles of quartz and quartzite were fragments of coal, ironstone, marble, chert, Coal Measure sandstone and Millstone Grit. There was no marked line of division between the beds, and Mr. Deeley considers that they were deposited in quiet water, the local rocks at the bottom, the foreign materials coming in greater abundance as the glaciers approached and deposited sand, mud and boulders in the quiet water.

The deposits formed in the Trent basin during the Middle Pleistocene epoch indicate that important physical changes had taken place since the earlier period. These changes led to the advance of an ice sheet from a north-easterly direction, which spread out over central England the rocks it successively encountered. The abnormal direction of this ice flow probably owed its existence to a period of intense cold coupled with a considerable depression of the Pennine axis. The Boulder Clay from this ice sheet is known as the Great Chalky Boulder Clay, because of the large number of cretaceous rocks which it contains. An indication of the direction of flow was, in one instance at least, obtained by Mr. Teall, who found the Lias limestone south of Nottingham striated in the direction from east-north-east to west-south-west.

The presence of sand below the Chalky Boulder Clay on Chellaston Hill was shown by some borings which passed through the chalky sand, then through some 40 feet of Boulder Clay into running sand, which was 6 feet deep. Under this were 10 feet of loam, sand and gravel, the

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latter resting on the Keuper Marl with gypsum. The patch of Chalky Boulder Clay at Chellaston fills up an old valley and caps the hilltop. It is of a sedimentary character, and has to a great extent escaped the grinding character of the ice.

The boulders range in age from Carboniferous to Cretaceous, and the Carboniferous rocks have been derived from the Older Pleistocene Boulder Clays. East of Chellaston the great Chalky Boulder Clay is not met with again till we come to the ridge between south Notts and Leicestershire.

In Derby a patch of stratified gravel with flints was seen in an excavation in Green Lane. It probably belongs to the Chalky Gravel stage, as does also another patch near the Arboretum. On Chellaston Hill the Chalky Boulder Clay is capped by a deposit of gravel at least 17 feet in thickness and covering an area of about a quarter of a square mile. A section of this sand and gravel may be seen between Chellaston and Weston. The sand contains flint and quartz pebbles. On the high land south of Ashbourne gravel is of tolerably frequent occurrence, in most cases the deposit is very much disturbed and signs of stratification are only shown in the lower parts of the sections.

The deposits of Newer Pleistocene age indicate the first signs of subaerial erosion and the consequent formation of river gravel. During this stage the rivers cut down their valleys through the older Boulder Clays and sands to within about 20 feet of their present depths and left their gravels stranded as terraces at various heights above their present courses. Upon these gravels there frequently rests a Boulder Clay which is conformable to the surface features produced by the erosion of the previous stage.

The erratic boulders distributed over the westerly part of Staffordshire are considered by Mr. Deeley to belong to this stage and to prove that the climate was sufficiently severe for the Scotch and Cambrian glaciers to invade the western portion of the Trent basin.

The interglacial river gravel occupies terraces at various heights along the valley of the Trent and its tributaries. In the valley of the Trent between Findern and Weston there are long patches of high level river gravel, which by their oblique bedding indicate currents down the valley. A lower terrace may be traced from near Weston to within about half a mile of Aston, and a still lower series of terraces occupies considerable areas in the valleys of the Trent and Derwent. One of these, a large crescent shaped terrace, stretches from Willington to Stenton Lock. Its escarpment runs along the north side of the Trent valley past Swarkestone, Weston, Aston and then up the valley of the Derwent past Elvaston and Osmaston to Derby. Posterior to these river gravels is the later Pennine Boulder Clay which is well developed in south Derbyshire. Wherever the rocks upon which this clay rests are exposed they are seen to be contorted. Mr. Deeley considers that the contortions have been formed by the same ice sheet that produced the later Pennine Boulder Clay, and that the direction in which the ice sheet moved is

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denoted by the trend of the furrows and ridges of the contortions. There have been several good exposures of these gravels in and near Derby.

THE UPLANDS

It has generally been considered that the uplands of Derbyshire are comparatively free from glacial drift. This is because the subject has received very little consideration at the hands of geologists. The literature is very meagre and is mainly confined to the Geological Survey memoir which has often been quoted in favour of the absence of drift on the tableland and of the transport of erratics in the valley of the Wye to floating ice rather than to land ice. From what is apparently merely negative evidence it has been inferred that the tableland has never been overflowed by ice. Mr. Deeley considered that the Pennine debris was brought by glaciers flowing down the valleys of the Dove, the Wye and the Derwent, but geologists have carefully reserved judgment until something like moraines or evidences of glaciers are found in the valleys. The Bloody Stone near Cromford has been quoted as a doubtful case of a glaciated rock floor. This stone is composed of a quartzose or silicious limestone, and it is more likely that the groovings are either slickenside or part of the rock structure than that they are due to glacial action. But we are no longer dependent on the Bloody Stone as a doubtful witness to the glaciation of the uplands. The presence of a large mass of Boulder Clay near the village of Crich has long been known. About two years ago Mr. Deeley and the writer found that the limestone floor, which had been recently exposed by removal of the Boulder Clay, was finely striated, polished and grooved. The striæ ran north 20° west, indicating an ice flow roughly coinciding in direction with the neighbouring Derwent valley. Large masses of drift cover the ground in the neighbourhood of Ashbourne and Tissington. On Spital Hill south of Ashbourne 50 feet of Boulder Clay were sunk through before reaching the Keuper Marl, and the most of the cuttings in the new railway between Ashbourne and Tissington were in Boulder Clay. Near Bakewell, Stanton, Youlgreave and on the dip slope of Riber Hill near Matlock traces of Boulder Clay containing striated blocks of Mountain Limestone, Gritstone, Toadstone, and in a few cases foreign erratics were noticed by the Geological Survey. They considered that the drift came from the west along a gap cutting across the great barrier of the Pennine Chain; that its path was up the Goyt valley by Doveholes and Buxton and thence down the valley of the Wye; that a depression or submergence of 1,100 to 1,200 feet converted this pass into a strait and that the foreign erratics found in the drift of the Wye valley were carried from the west on floating ice. The occurrence of high level gravels containing marine shells at Macclesfield, Moeltryfaen and other places has been quoted as evidence of a submergence of at least 1,000 feet. On the other hand it is contended with a great deal of reason that the glaciation in north Derbyshire is due to land ice rather than to floating

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ice, and that the Macclesfield shells and sands and gravels were pushed up from the Irish Sea by the glacier which filled it.

Foreign erratics have been found by the writer at considerable heights above sea level in various parts of the Mountain Limestone district, the highest one at 1,370 feet. Miss Dale records the finding of foreign erratics in the neighbourhood of Buxton, one at the height of 1,360 feet above sea level, and considers that the ice advanced over the Col at Dove Holes, filled the valley of Buxton and flowed through the valleys of the Wye and the Dove, and the Derwent below its junction with the Wye into the Trent valley. A considerable amount of detailed work will have to be done before our knowledge of the high level drifts of the county is complete. It will probably be found that the glaciation of the uplands was much more extensive than has been supposed. Sufficient evidence has been already published to modify the theory which was formulated by the officers of the Geological Survey some years ago and founded on the evidence which had at that time been obtained.

APPENDIX

Want of space prevents any attempt at a bibliography of the geology of the county. Further details of some of the subjects which have been briefly dealt with in the preceding pages will be found in the following memoirs and papers:—

Geol. Survey Memoir North Derbyshire. This contains a bibliography to the year 1887.

STOKES, A. H.—‘Lead and Lead Mining in Derbyshire,’ *Trans. Chesterfield and Derbyshire Inst. Eng.* (1880), viii. 60 et seq.

TEALL, J. J. H.—*British Petrography*, pp. 209, 210 and plate ix.; *Igneous Rocks* (1888).

ARNOLD-BEMROSE, H.—‘On the Microscopical Structure of the Carboniferous Dolerites and Tuffs of Derbyshire,’ *Quart. Journ. Geol. Soc.* (1894), l. 603–44 (1 plate). ‘On a Quartz Rock in the Carboniferous Limestones of Derbyshire,’ *Quart. Journ. Geol. Soc.* (1898), liv. 169–82. ‘Geology of the Ashbourne and Buxton Branch of the London and North-Western Railway (Ashbourne to Crakelow),’ *Quart. Journ. Geol. Soc.* (1899), lv. 224–36 (2 plates). ‘On a Sill and Faulted Inlier in Tideswell Dale,’ *Quart. Journ. Geol. Soc.* (1899), pp. 239–49 (2 plates and sections). ‘A Sketch of the Geology of the Lower Carboniferous Rocks of Derbyshire,’ *Proc. Geol. Assoc.* (August, 1899), xvi. 165–221, pt. 4 (2 plates and sections). This sketch contains a brief bibliography of some recent papers on the Mountain Limestone.

GEIKIE, SIR ARCHIBALD.—*Ancient Volcanoes of Great Britain* (1897), ii. 8–22.

PALÆONTOLOGY

THE vertebrate palæontology of Derbyshire is restricted to remains from two widely separated epochs—the Carboniferous and the Pleistocene. In the latter epoch the rock-fissure of Windy Knoll near Castleton, and the caverns at Matlock Bath, Cresswell Crags, Wirksworth, and elsewhere have yielded a large series of mammalian remains. In the former epoch a number of species of fishes have been recorded from the Coal Measures, Yoredale Rocks, and Mountain Limestone of the county.

It will be unnecessary on this occasion to refer by name to all of the numerous bone caves in the limestone rocks of the county. Special mention should, however, be made of the 'Dream Cave' near Wirksworth, as being one of those explored by Dean Buckland in the early part of the last century. This cave is noteworthy on account of having contained the entire skeleton of a rhinoceros. Another celebrated cave is that of the Peak, at Castleton, which was also explored at an early date.

Among the most recent of the mammaliferous deposits in the county appears to be one in a rock-fissure at Windy Knoll near Castleton, which has been carefully described by Messrs. Pennington and Dawkins,¹ by the latter of whom the fauna is regarded as of late Pleistocene age. The remains include bones of a bison—perhaps the existing *Bos bonasus*—reindeer, brown bear (perhaps two races), wolf, fox, and common hare. The bison bones are largely those of young animals, whereas those of the reindeer belong chiefly or entirely to adult individuals; and from this it has been suggested that reindeer may have visited the locality only in winter. No traces of the mammoth, woolly rhinoceros, or hippopotamus were observed.

The caves of Cresswell Crags (to which attention will be chiefly restricted in this article) have been explored by the Rev. J. Mello,² and their fauna described by Messrs. Busk and Dawkins. One of the earliest of these to be visited is that known as the rock-fissure cavern, from which the late Professor Busk³ recorded the following species, viz.: brown bear (*Ursus arctus*, var.), cave-hyæna (*Hyæna crocuta spelæa*), wolf (*Canis lupus*), fox (*C. vulpes*), Arctic fox (*C. lagopus*), wolverine (*Gulo luscus*), wild ox or bison (*Bos* sp.), giant fallow deer, commonly

¹ *Quart. Journ. Geol. Soc.* xxxiii. 724.

² *Ibid.* xxxi. 679; xxxii. 245; xxxiii. 724.

³ *Ibid.* xxxi. 683.

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called Irish elk (*Cervus giganteus*), reindeer (*Rangifer tarandus*), domesticated sheep (*Ovis aries*), wild horse (*Equus caballus fossilis*), woolly rhinoceros (*Rhinoceros antiquitatis*), and mammoth (*Elephas primigenius*). The bones of the sheep are probably of later age than the other remains, and may have been introduced by human agency. The most interesting of the remains is undoubtedly the bone assigned to the Arctic fox, since, with the exception of specimens from Kent, it appears to be the only evidence of the former existence of that animal in Britain. The bone in question is the second or axis vertebra of the neck. 'This single bone, however,' writes Prof. Busk, 'appears to me to be amply sufficient to identify the species to which it belonged.' This interesting specimen is now in the Manchester Museum. Another noteworthy species is the wolverine, or glutton, since its remains are of very rare occurrence in British caverns.

From another of the caverns in Cresswell Crags, the 'Robin Hood' cave, the following fauna was recorded in 1877 by Professor Dawkins¹: sabre-toothed tiger (*Machærodus latidens*), cave-lion (*Felis leo spelæa*), leopard (*F. pardus*), wild cat (*F. catus*), cave-hyæna, wolf, fox, brown bear, reindeer, giant fallow deer, Pleistocene bison (*Bos priscus*), wild horse, woolly rhinoceros, mammoth, and hare (*Lepus europæus*). In a former list² the wild boar and the water-vole were also mentioned, but from their absence in the present one it may be concluded that the determinations were incorrect. From the superficial deposits of the same cave were obtained remains of the wild cat, dog, fox, marten, stoat, badger, red deer, roe, Celtic shorthorn, sheep or goat, pig, hare, rabbit, and a few undetermined birds.

From another cave, 'Mother Grundy's parlour,' in the same locality, Prof. Dawkins³ records remains of the cave-hyæna, fox, brown bear, bison, reindeer, hare, leptorhine rhinoceros (*Rhinoceros leptorhinus*), woolly rhinoceros, and an undetermined species of elephant. In 1889 Mr. R. Laing⁴ described jaws of a cat from Cresswell which he identified with the continental Pliocene species *Felis brevirostris*. If the identification be correct, it is the only known occurrence of that species in Britain.

From yet another cave in the county, that of Pleasley Vale, have been obtained, in addition to those of other mammals, remains assigned to the lynx (*Felis lynx*); this being one of the three British caves from which bones referred to that animal have been recorded.

It may be added that among rare remains from the Cresswell caves is part of the upper jaw of a mammoth-calf containing the first two cheek-teeth now preserved in the British Museum. The same collection also contains a magnificent pair of red deer antlers, apparently referable to the Caspian or eastern race (*Cervus elaphus maral*), from a fissure in a quarry at Allport, Youlgreave near Bakewell. The specimen is described in vol. lxxv. p. 353 of the *Philosophical Transactions*, published in 1785.

¹ *Quart. Journ. Geol. Soc.* xxxiii. 590.

³ *Ibid.* xxxv. 729.

² *Ibid.* xxxii. 247.

⁴ *Rep. Brit. Assoc.* 1889.

PALÆONTOLOGY

In sinking a well in the yard of the Crown Inn at Allenton near Derby, a number of mammalian bones were discovered. These were carefully dug out, and after being examined and described by Mr. H. H. Arnold-Bemrose,¹ were deposited in the Derby Museum. The majority are referable to the Pleistocene hippopotamus, but one belongs to an elephant and another to a rhinoceros.

The following species are recorded from the Carboniferous formations of the county in the British Museum *Catalogue of Fossil Fishes*. Commencing with those of the Mountain Limestone, we have first of all three sharks belonging to an extremely primitive and totally extinct group known as the Ichthyotomi. Two of these, *Gladodus mirabilis* and *G. striatus*, belong to a genus containing several species, both being typically from the Mountain Limestone of Armagh. The third, *Dicrenodus dentatus*, which was likewise first described from Armagh, is the sole representative of its genus. Among the rays and true sharks (Selachii), a representative of a widely-spread Carboniferous genus, *Janassa imbricata*, is peculiar to the upper division of the Mountain Limestone of the county, the two type teeth (apparently the only known remains of the species) having been obtained from Ticknall near Melbourne, South Derbyshire.² A more widely-spread species, *J. clavata*, also occurs at the same place. The mouths of the primitive rays of this genus were furnished with crushing teeth of a very peculiar and unmistakable type. From the same locality have been obtained teeth of an allied kind of ray, *Petalorbynchus psittacinus*, which is common to the Carboniferous rocks of Armagh. The typical genus of the same family of rays (*Petalodontidæ*) is represented by two species, *Petalodus acuminatus* and *P. hastingsiæ*, from the Mountain Limestone of Ticknall, neither of which is, however, peculiar to the county. To the allied family *Pristodontidæ* belongs *Pristodus benniei*, a species first described from Scotland, but also known by teeth from Ticknall.

Another Palæozoic family of ray-like selachians, the *Psammodontidæ* (at present only known by their dentition), are represented in the Carboniferous or Mountain Limestone of the county by *Copodus spatulatus* and *Psammodus rugosus*, both being widely spread forms belonging to genera with several species. The crushing teeth of *Psammodus* are in the form of large quadrangular flat plates, with a surface suggestive of sandpaper—hence the name.

Other fishes from the Mountain Limestone of the county, known as *Pleuroplax attheyi*, *Pl. woodi*, *Psephodus magnus*, *Xystrodus striatus*, *Pæcilodus jonesi*, *Deltoptychius acutus*, and *D. gibberulus*, all of which were originally described from other localities, indicate the occurrence of an imperfectly known family of Palæozoic sharks (*Cochliodontidæ*) with crushing teeth, which appear to have been distantly related to the modern Port Jackson

¹ *Quart. Journ. Geol. Soc.* lii. 497.

² A list of twenty species from this locality is given by E. Wilson (*Midland Naturalist*, iii. 172); many of the names are however synonyms, while others were applied to specifically indeterminate specimens, and others, again, have been amended. It would therefore be useless to quote the list seriatim.

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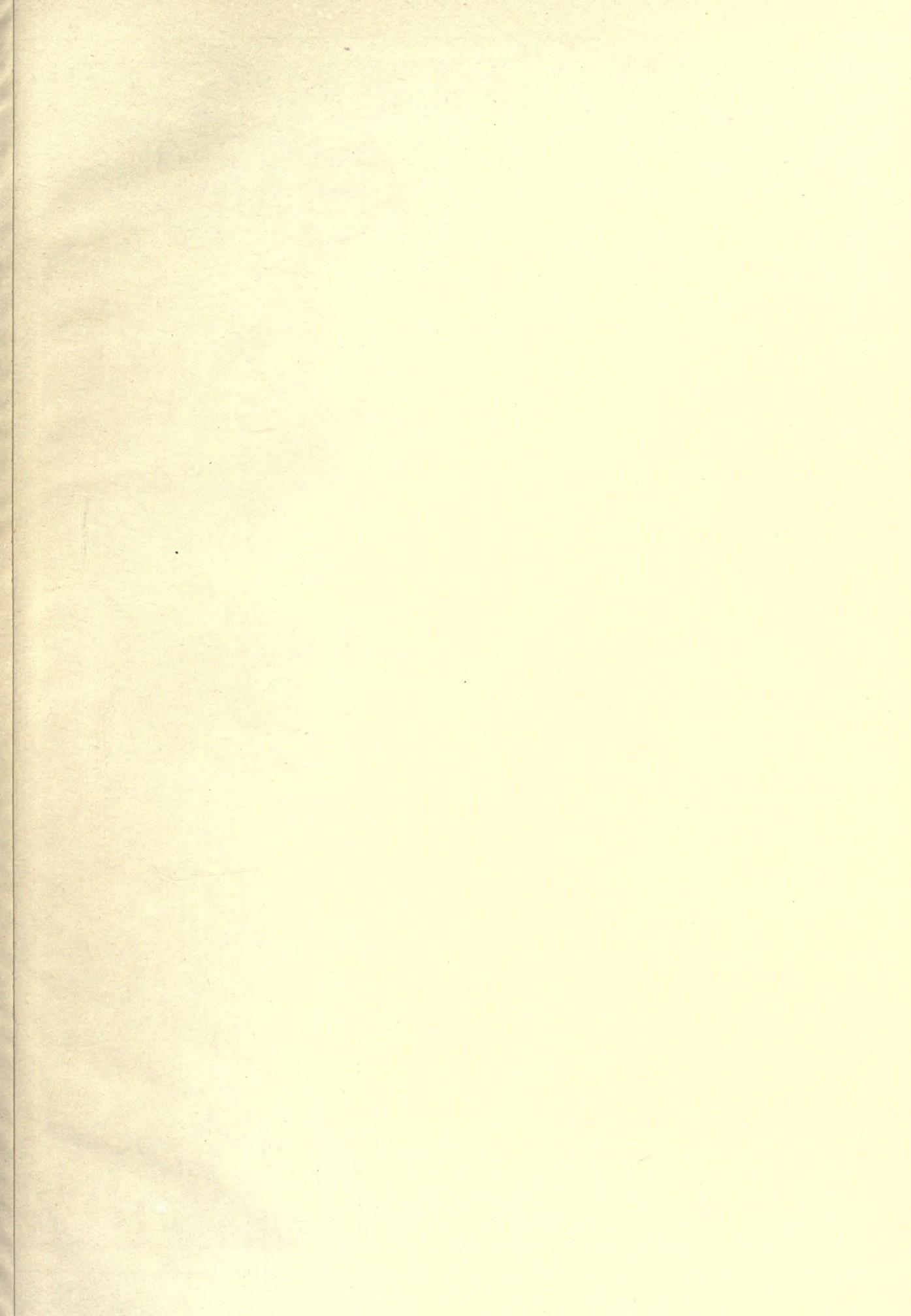
shark and its allies (*Cestraciontidae*). Certain teeth of this type from Ticknall have been described as *Venustodus serratus*.

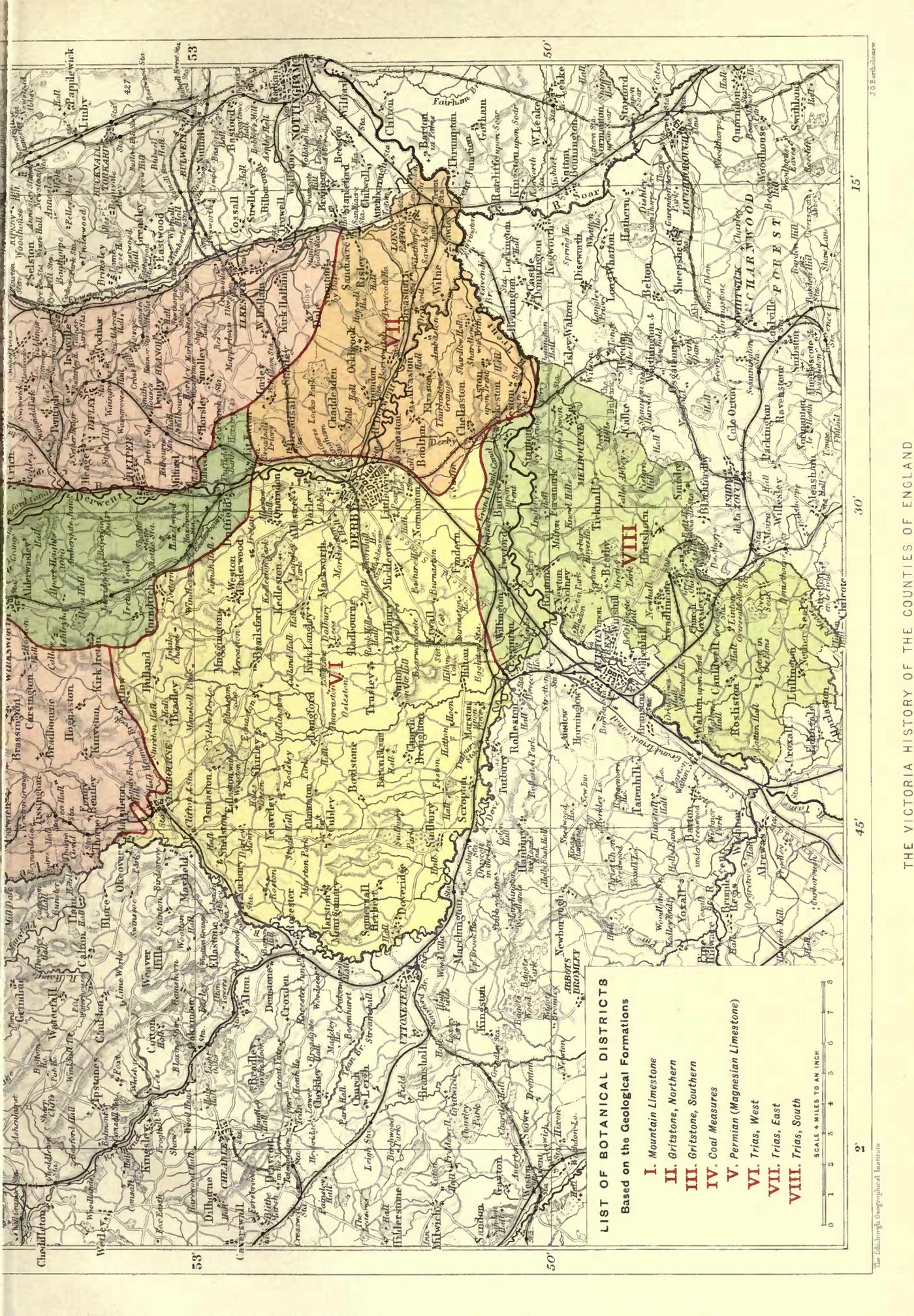
Two species, *Acrolepis hopkinsi* and *A. wilsoni*, of a Carboniferous genus of ganoid fishes have been described upon the evidence of scales from the county. Of the former species, which is from the Mountain Limestone, and is also known from other localities, the type specimens are in the Cambridge Museum. Of the latter, which is peculiar to the county, the types (now in the British Museum) were obtained from the Yoredale Rocks of Turnditch near Belper.

A splenial bone from the Mountain Limestone of the county preserved in the Woodwardian Museum, Cambridge, was described by McCoy in 1848 as *Cheirodus pes-ranae*. It indicates a member of the ganoid family *Platysomatidae*, but is insufficient for accurate diagnosis.

The fishes of the Derbyshire Coal Measures belong, with one exception, to the ganoid or hard-scaled group. The exception in question is *Sphenacanthus hybodontes*, a widely-spread species of a numerously represented Carboniferous genus. Of the Coal-Measure ganoids the first is *Rhizodopsis sauroides*, remains of which have been obtained from the Dalemoor Rake Ironstone of Stanton-by-Dale. This widely distributed species is a member of a large genus belonging to a family (*Rhizontidae*) characterized by the complicated internal structure of the teeth, which in this respect correspond to those of the primitive salamanders, or labyrinthodonts. Another family (*Osteolepididae*) of fringe-finned ganoids is represented by two widely-ranging species, *Megalichthys bibberti* and *M. pygmaeus*, of a well-known genus restricted to the Coal Measures and Calciferous Sandstone. The Ironstone of Stanton has also yielded remains of *Cælacanthus elegans*, a member of the type genus of an allied family of the same great group of ganoids. Peculiar to the Dalemoor Rake Ironstone of Stanton-by-Dale is the fish known as *Platysomus tenuistriatus*, a representative of the typical genus of a family belonging to a totally different group of ganoids, in which the fins have a rayed and not a fringed structure. The type of this species is a whole fish in the Museum of Practical Geology, Jermyn Street.

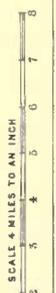
Since the above was written Professor W. B. Dawkins exhibited before the Geological Society of London (Jan. 7, 1903) a number of molar teeth of *Mastodon arvernensis* from a cave at Doveholes, Buxton. This mastodon is a Pliocene species, occurring in the Norwich and Red Crags of England, and in the Upper and Lower Pliocene of the continent. Its remains have never previously been found in a cave, neither, I believe, is any other instance known of a cavern containing fossils of Pliocene age.





LIST OF BOTANICAL DISTRICTS
Based on the Geological Formations

- I.** Mountain Limestone
- II.** Griststone, Northern
- III.** Griststone, Southern
- IV.** Coal Measures
- V.** Permian (Magnesian Limestone)
- VI.** Trias, West
- VII.** Trias, East
- VIII.** Trias, South



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IN the botanical investigation of any area the questions which arise are such as what plants grow in it and why? why do these grow here and those there? why are some scarce and local and others common and widely prevalent? The answers are found in the consideration of the factors which determine the distribution of plants and their operation. Among these factors two will be dealt with here—climate and soil.

In estimating climate both altitude and latitude have to be taken into account, the result of their interaction being manifested in the varying gradations of temperature, humidity, etc., which they produce. Mr. Watson, in his *Compendium of the Cybele Britannica*, represents their combined action in his scheme of regions and zones, which, taken in ascending order, comprise two regions, the agrarian and the arctic, each subdivided into three zones, the infer-, mid- and super-agrarian, and the infer-, mid- and super-arctic. Each zone is distinguished from its neighbour by certain plants which are especially characteristic of it and which disappear in ascending to the zone above it. No better scheme than the above-mentioned has been put forth, nor more useful for determining the relation of the flora to the physical character of any area.

In our county we have three of these zones exemplified, the two upper zones of the agrarian and the lowest of the arctic region. These therefore are treated of here. Our lowest zone, the second or mid-agrarian, the characteristic species of which are buckthorn (*Rhamnus catharticus*) and cornel (*Cornus sanguinea*), may be subdivided into two, a lower, milder, warmer area south and east of Derby and from Burton along the course of the Trent, ranging from about 90 feet to 250 feet, in which the following plants reach their upper limit: *Diploxys muralis*, *Geranium pusillum*, *Vicia lathyroides*, bryony (*Bryonia dioica*), *Enanthe fluviatilis*, teasle (*Dipsacus silvestris*), *Filago minima*, water violet (*Hottonia palustris*), *Utricularia vulgaris*, *Polygonum minus*, *Rumex maritimus* and *R. pulcher*, *Calamagrostis lanceolata*, *Festuca myurus*; and a higher area comprising the valleys and hillsides, from 250 feet to 1,050 feet, in the central and south-western part of the county, with spindlewood (*Euonymus europæus*), buckthorn (*Rhamnus catharticus*), maple (*Acer campestre*), convolvulus (*C. sepium*), black bryony (*Tamus communis*) as characteristic species which reach their limit here.

Our next zone in the ascending scale is the super-agrarian, where buckthorn and cornel die out and bracken (*Pteris aquilina*) and cultiva-

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tion reach their limit. This zone includes the higher levels from about 1,100 feet in the central part of the county and 900 feet in the Peak to 1,750 or 1,800 feet. Characteristic plants are holly (*Ilex aquifolium*), hawthorn (*Crataegus oxyacantha*), bramble (*Rubus fruticosus*), honeysuckle (*Lonicera periclymenum*), ash (*Fraxinus excelsior*) and oak (*Quercus robur*); of alpine plants *Draba incana* is found as low as 800 feet, bearberry (*Arctostaphylos uva-ursi*) at 1,250 feet, bracken reaches 1,650 feet on Axe Edge and nearly the same level on the moorland above Glossop.

Our next and highest zone is the infer-arctic, where bracken (*Pteris*) ceases and cross-leaved heath (*Erica tetralix*) reaches its limit. This embraces the high moorland above the 1,750 feet level, the highest points being Bleaklow Stones, 2,060 feet; Kinderscout, 2,031 feet; Crowden Head, 2,070 feet; a point near it marked 2,088 feet on the Ordnance map; Kinderlow, 2,077 feet. Characteristic species are cloud-berry (*Rubus chamæmorus*), mountain ash (*Pyrus aucuparia*), *Vaccinium Vitis-idaea*, cranberry (*V. oxycoccos*), bearberry (*Arctostaphylos uva-ursi*), *Andromeda polifolia*, heather (*Calluna vulgaris*), crowberry (*Empetrum nigrum*), lesser twayblade (*Listera cordata*), *Habenaria albida*, moor rush (*Juncus squarrosus*).

PHANEROGAMIA

BOTANICAL DISTRICTS.—The other factor dealt with here is that of rocks and soils. The botanical divisions are based upon the surface geology so far as possible, as will be seen. Beginning with the oldest formation the mountain limestone occupies the west central district, interpolated here and there with sheets of contemporaneous lava (toadstone). It has a few small outliers at Ashover and Crich eastwards, at Snelston Common southwards, and another more distant at Ticknall and Calke south of the Trent. The well known dales on its west, north and east borders are the result of the action of water. The main plateau rises here and there into rounded hills, the dales present tiers of wall-like cliffs along their sides, and in them the characteristic flora abounds. This stratum is succeeded on all sides by the Yoredale shales, best seen at Mam Tor above Castleton. These are in some part included with the limestone, and with it form division I. of the flora. It should be added that the mountain limestone passes westwards into Staffordshire. The following is a list of plants characteristic of the division, those peculiar to it being marked with an asterisk: **Thalictrum minus*, Linn.; *Helleborus viridis*, Linn.; *Arabis hirsuta*, Scop.; **Cardamine impatiens*, Linn. (occasionally carried into other districts along the banks of streams); **Draba muralis*, Linn.; **D. incana*, Linn.; **Cochlearia alpina*, H. C. Wats.; **Thlaspi alpestre*, Linn.; **Hutchinsia petræa*, R. Br.; *Helianthemum vulgare*, Gært. n.; *Viola hirta*, Linn.; **Silene nutans*, Linn.; *Arenaria verna*, Linn.; **A. tenuifolia*, Linn.; *Hypericum Androsæmum*, Linn.; **H. montanum*, Linn.; **Geranium sanguineum*, Linn.; *G. columbinum*, Linn.; *G. lucidum*, Linn.; **Hippocrepis comosa*, Linn.; *Spiræa filipendula*,

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Linn. ; **Potentilla verna*, Linn. ; *Poterium sanguisorba*, Linn. ; *Rosa spinosissima*, Linn. ; *Pyrus rupicola*, Syme ; **Saxifraga birta*, Haw. ; **S. hypnoides*, Linn. ; *Ribes alpinum*, Linn. ; *Sedum telephium*, Linn. ; *Rubia peregrina*, Linn. ; **Galium silvestre*, Poll. ; **Valerianella carinata*, Loisel. ; *Scabiosa columbaria*, Linn. ; *Erigeron acre*, Linn. ; *Inula conyza*, DC. ; *Carlina vulgaris*, Linn. ; *Cnicus eriophorus*, Hoffm. ; *C. acaulis*, Hoffm. ; **Hieracium britannicum*, F. J. Hanb. ; **H. rubiginosum*, F. J. Hanb. ; **H. holophyllum*, W. R. L. ; **H. cymbifolium*, Purchas ; **H. vulgatum* var. *glauco-virens*, Dahlst. ; **H. prenanthoides*, Vill. ; *Campanula Trachelium*, Linn. ; *C. glomerata*, Linn. ; **Pyrola minor*, Linn. ; *Hypopithys multiflora*, Scop. ; *Chlora perfoliata*, Linn. ; *Gentiana amarella*, Linn. ; **Polemonium cœruleum*, Linn. (occasionally carried off limestone along streams) ; *Lithospermum officinale*, Linn. ; *Cynoglossum officinale*, Linn. ; *Plantago media*, Linn. ; *Origanum vulgare*, Linn. ; *Thymus serpyllum*, Linn. ; *Nepeta cataria*, Linn. ; **Daphne mezereum*, Linn. ; **Juniperus communis*, Linn. ; **Taxus baccata*, Linn. ; **Epipactis atrorubens*, Hoffm. ; *Orchis ustulata*, Linn. ; *O. pyramidalis*, Linn. ; *Ophrys apifera*, Huds. ; *O. muscifera*, Huds. ; *Habenaria conopsea*, Benth. ; **Polygonatum officinale*, All. ; *Convallaria majalis*, Linn. ; **Scirpus caricis*, Retz ; **Carex digitata*, Linn. ; **C. ornithopoda*, Willd. ; *Avena pratensis*, Linn. ; *Kæleria cristata*, Pers. ; *Melica nutans*, Linn. ; *Bromus erectus*, Huds. ; *Brachypodium pinnatum*, Beauv.

Lying over the limestone shale on the east and north is the millstone grit, consisting mostly of massive coarse hard sandstones, which, owing to the underlying shales having been much worn away, present valleys running north and south, topped by lofty escarpments of grit on their eastern side. The grit forms the extensive high tableland of the Peak and Axe Edge, and extends southwards on both sides of the Derwent valley to Little Eaton near Derby. This with the adjoining shales is divided into two by a line drawn east and west through Hathersage, the northern portion forming division II., the southern division III. of the flora. There is one outlier of the grit in the south of the county about Stanton and Melbourne. The following is a list of plants characteristic of the grit moorland, those peculiar to it being marked with an asterisk : *Ranunculus Lenormandi*, Schultz ; *Empetrum nigrum*, Linn. ; *Genista anglica*, Linn. ; **Rubus chamæmorus*, Linn. ; *Potentilla comarum*, Nestl. ; *Drosera rotundifolia*, Linn. ; **Vaccinium vitis-idaea*, Linn. ; **V. oxycoccus*, Linn. ; **Arctostaphylos uva-ursi*, Spreng. ; **Andromeda polifolia*, Linn. ; *Myosotis repens*, D. Don. ; **Listera cordata*, R. Br. ; **Habenaria albida*, R. Br. ; *Narthecium ossifragum*, Huds. ; *Juncus squarrosus*, Linn. ; *Potamogeton polygonifolius*, Pourr. ; *Heleocharis multicaulis*, Sm. ; *Eriophorum polystachyon*, Linn. ; *Carex pulicaris*, Linn. ; *C. dioica*, Linn. ; *C. echinata*, Murr. ; *C. canescens*, Linn. ; *C. fulva*, Good. ; *Molinia cœrulea*, Good. ; *Nardus stricta*, Linn.

Next above the grit come the coal measures. The lower beds form a strip of varying width on the true coal measures. They consist of varied sandstones, shales, fireclays and a few thin coal seams, and are succeeded on the east by the middle and upper coal measures, extending

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to the county boundary and to a line drawn north and south through Bolsover. These strata form division IV. of the county flora. A shallow layer of coal measures lies on the west of the Peak between New Mills and Mellor, and there is a small area of the same in the south-east of the county, being an extension of the Leicestershire coalfield, which runs up here to Church Gresley, Swadlincote, Newhall and about Hartshorne, between Southwood and Scaddows near Calke. Botanically the coal measures are the least interesting; they can scarcely be said to possess a distinctive flora, though there are several species which are noticeable for their prevalence on them. The few plants which have been found only in this division are *Rubus pallidus*, Weihe; *R. Marshalli*, Rogers; *Senecio viscosus*, Linn.; *Alopecurus fulvus*, Sm.

The magnesian limestone (Permian), extending from Ault Hucknall and Pleasley by Bolsover and Barlborough northwards, forms division V. of the county flora. It is a westward extension of the Permian system from Yorkshire and Notts. It lies at a much lower elevation than the mountain limestone, and like that formation has dales on its borders, viz. three, Markland Grips, Cresswell Crag and Pleasley Park. It shares its flora with the mountain limestone, but there are special features belonging to it which give its flora a character of its own, as is shown in the accompanying list: *Helleborus viridis*, Linn.; *Arabis hirsuta*, Br.; *Helianthemum vulgare*, Gærtn.; *Viola hirta*, Linn.; *Galium mollugo*, Linn. (abundant, rare elsewhere); *Erigeron acre*, Linn.; *Inula Conyza*, DC.; *Cnicus acaulis*, Hoffm.; *Campanula Trachelium*, Linn.; **Galeopsis Ladanum*, Linn.; *Taxus baccata*, Linn.; **Epipactis palustris*, Crantz. (now only known here, though there are old records for its occurrence on other formations); *Orchis pyramidalis*, Linn.; *Opbrys muscifera*, Huds.; *Eriophorum latifolium*, Hoppe; **Carex montana*, Linn.; *Avena pratensis*, Linn.; *Kæleria cristata*, Pers.; *Bromus erectus*, Huds.; *Brachypodium pinnatum*, Beauv. (abundant, rare elsewhere).

The next in order is the series of the trias or new red sandstone, which occupies the south of the county, with the exception of some outliers and patches of other strata occurring here and there which have been mentioned above. There are two main beds: the bunter yellow or red sandstone, with quartzose pebbles frequently conglomerate, in a narrow strip between Ashbourne and Mugginton, between Ednaston and Brailsford, between Morley and Breadsall, and between Foremark and Bretby Park, the keuper red marls and waterstones occupying the remainder of the area. The broken character of the surface is much increased by the numerous faults which occur, rendering the assignment of divisions to bunter and keuper respectively impracticable. Still, the area allotted to division VI. (viz. all west of a line drawn from Derby southwards and north of the Trent and Dove) is at a higher average elevation and colder than the other two divisions, and is marked by the absence of such plants as *Silene noctiflora*, bryony (*B. dioica*), teasle (*Dipsacus silvestris*), water violet (*Hottonia*), *Festuca myurus*.

Division VII., the area east of Derby and north of the Trent,

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reaches the lowest level, 80 feet or 90 feet, by the Trent near Long Eaton, rising to 412 feet above Locko Park. Its surface is in parts alluvial, a broad tract south-east of Derby containing the ancient and present beds of the Derwent and a strip on the north bank of the Trent from Shardlow to the county boundary. Characteristic plants are owing to the restricted area few, such, viz., as brookweed (*Samolus valerandi*), *Plantago coronopus*, *Potamogeton flabellatus*.

Division VIII., that part of the county which lies south of the Trent, whilst mainly trias, is geologically more or less a jumble containing samples of all the formations hitherto noticed. Its altitude ranges from 120 feet along the Trent to 604 feet just south of Pistern Hill. Appended is a list of those plants which prefer sandy habitats, and are chiefly found on the bunter formation: *Papaver Argemone*, Linn.; *Corydalis claviculata*, DC.; *Senebiera coronopus*, Poir.; *Lepidium campestre*, Br.; *Silene noctiflora*, Linn.; *Cerastium arvense*, Linn.; *Spergularia rubra*, Pers.; *Silaus pratensis*, Besser.; *Dipsacus silvestris*, Linn.; *Filago germanica*, Linn.; *Senecio silvaticus*, Linn.; *Specularia hybrida*, DC.; *Anchusa arvensis*, Bieb.; *Plantago coronopus*, Linn.; *Alisma ranunculoides*, Linn.; *Heleocharis acicularis*, Sm.; *Festuca myurus*, Linn.; *F. sciuroides*, Roth.; *Hordeum murinum*, Linn.

The total number of flowering plants in the county comprises 41 orders, 187 genera and 1001 species. Of the latter 878 come under the heads of natives, colonists and denizens, the remainder consisting of 74 aliens and 49 casuals.

There are still some few plants which seem worthy of mention as likely to be found in the county, seeing that they occur in one or more of the five surrounding counties, Chester, Leicester, Notts, Staffs and W. Yorks, but which have not as yet been discovered, and therefore should be looked for, viz. *Lepidium hirtum*, Sm., only once seen as a casual, but found in all five surrounding counties; *Sagina subulata*, Presl., in Cheshire, Staffs, W. Yorks; *Radiola linoides*, Roth., in all five; *Rosa stylosa*, Desv., and *Drosera anglica*, Huds., Cheshire and W. Yorks; *D. intermedia*, Hayne, in all but Leicester; *Trientalis europæa*, Linn., W. Yorks; *Centunculus minimus*, Linn., Cheshire, Staffs, W. Yorks; *Utricularia neglecta*, Lehm., Staffs; *U. minor*, Linn., Cheshire, Staffs, W. Yorks; *Mercurialis annua*, Linn., Notts, W. Yorks; *Myrica Gale*, Linn. (reported from Wingerworth by Pilkington, 1789), all but Leicester; *Fritillaria Meleagris*, Linn., Staffs and W. Yorks, these being its northernmost localities; *Scirpus fluitans*, Linn. (reported without loc. by Glover, 1829), all but Notts; *Rhynchospora alba*, Linn., Cheshire, Leicester (?), W. Yorks; *Schænus nigricans* (reported without loc., Glover, 1829), all five (Leicester?). Certain plants also are remarkably scarce in Derbyshire compared with their comparative frequency in the surrounding counties, e.g. the creeping willow (*Salix repens*), once probably much more prevalent, now owing to enclosure of heaths and wild lands reduced to two or three stations; juniper (*Juniperus communis*), only known for one station, most probably far more abundant in former

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ages ; *Alopecurus fulvus*, Sm., only known for one station, where it is plentiful, though suitable habitats are numerous in the county. A remarkable and recent discovery is that of *Rubia peregrina* in Dovedale, at about 600 feet altitude, quite above its normal zone.

CRYPTOGAMIA

FILICES

The variety of rocks as well as the considerable vertical range found in Derbyshire make it the home of a large number of species of ferns, 23 being known for the county. A list of them is appended, and where any species occurs only on one formation the name of the formation is added in brackets. *Pteris aquilina*, Linn. ; *Lomaria spicant*, Desv. ; *Asplenium ruta-muraria*, Linn. ; *A. Trichomanes*, Linn. ; *A. viride*, Huds. (limestone) ; *A. adiantum-nigrum*, Linn. ; *A. filix-fœmina*, Bernh. ; *A. ceterach*, Linn. (mostly limestone) ; *Scolopendrium vulgare*, Sm. ; *Cystopteris fragilis*, Bernh. ; *Aspidium aculeatum*, Sw., and var. *lobatum*, Sw. ; *A. angulare*, Willd. ; *Nephrodium filix-mas*, Rich. ; *N. dilatatum*, Desv. ; *N. spinulosum*, Desv. ; *N. oreopteris*, Desv. ; *Polypodium vulgare*, Linn. ; *P. pbegopteris*, Linn. ; *P. dryopteris*, Linn. ; *P. robertianum*, Hoffm. (limestone) ; *Osmunda regalis*, Linn. ; *Ophioglossum vulgatum*, Linn. ; *Botrychium lunaria*, Sw.

There is an old record of *Aspidium lonchitis* near Buxton, 1863, Darwin and Huish (Smith's *Ferns of Derbyshire*). Probably this was a form of *A. lobatum*, which was published under the former name for Derbyshire by Jewitt in 1811.

EQUISETACEÆ

EQUISETUM, LINN.

Five species of this genus are known for Derbyshire ; they are found equally on all formations, and are generally distributed through the county ; *E. arvense*, Linn. ; *E. maximum*, Lamk. ; *E. silvaticum*, Linn. ; *E. palustre*, Linn. ; *E. limosum*, Linn.

LYCOPODIACEÆ

Derbyshire produces five members of this order, mostly occurring on the moorland or remains of old heath, and none of them at all common : *Lycopodium clavatum*, Linn. (also rarely on limestone) ; *L. alpinum*, Linn. ; *L. inundatum*, Linn. ; *L. selago*, Linn. (also occasionally on limestone) ; *Selaginella selaginoides*, Gray.

CHARACEÆ

This order is by no means well represented in the county, several species preferring a warmer situation apparently than is to be found here : *Chara fragilis*, Desv. ; *C. hispida*, Linn. ; *C. vulgaris*, Linn. ; *Tolypella glomerata*, Leonh. (one station only on the Permian) ; *Nitella opaca*, Agardh.

BOTANY

MUSCI

The mosses of Derbyshire have been to a large extent investigated, and results published by Mr. Whitehead in the *Journal of Botany* for 1896 (p. 193), and the Rev. A. Ley contributed a MS. list: these have been combined with some other records and published in the *Naturalist* (1899) by the Rev. W. H. Painter. Professor T. Barker, who has given me valuable assistance in the drawing up of this article, has added a list of his findings, and these, together with a few more from other sources or discovered by myself, bring up the total number of species to 324. There are a few which are of exceptional interest from their extreme rarity, notably *Porotrichum angustifolium*, Dixon, for which the locality in Cressbrook still remains the only known station. Other species of great rarity are: *Seligeria tristicha*, B. & S.; *Ditrichum tenuifolium*, Lindb.; *Campylopus setifolius*, Wils.; *Grimmia Stirtoni*, Schimp.; *Pottia latifolia*, C. M.; *Tortula brevirostris*, B. & S.; *Weissia squarrosa*, C. M.; *Pleurochæte squarrosa*, Lindb.; *Zygodon Stirtoni*, Schimp.; *Discelium nudum*, Brid.; *Physcomitrella patens*, B. & S., var. *Lucasiana*, Schimp.; *Physcomitrium sphaericum*, Brid.; *Amblyodon dealbatus*, P. Beauv.; *Bryum uliginosum*, B. & S.; *B. affine*, Lindb.; *B. capillare*, L., var. *Fercheli*, B. & S.; *Fontinalis Dixoni*, Cardot; *Eurhynchium circinatum*, B. & S.; *Amblystegium Sprucei*, B. & S., and *confervoides*, B. & S.; *Hypnum cuspidatum*, L., var. *cæspitium*, Whiteh. There are some others which are notable as being rare in Derbyshire, though not so much so elsewhere, such as *Andreæa petrophila*, Ehrh.; *A. crassinervia*, Bruch.; *Tetraphis Browniana*, Grev.; *Catharinea crispa*, James; *Diphyscium foliosum*, Mohr.; *Cynodontium Bruntoni*, B. & S.; *Blindia acuta*, B. & S.; *Dicranodontium longirostre*, B. & S.; *Fissidens crassipes*, Wils.; *Hedwigia ciliata*, Ehrh.; *Pottia Starkeana*, C. M.; *Tortula lamellata*, Lindb.; *T. mutica*, Lindb.; *Weissia tenuis*, Schrad.; *Trichostomum tenuirostre*, Lindb.; *Ulota Drummondii*, Brid.; *Orthotrichum Sprucei*, Mont.; *O. tenellum*, Bruch.; *Webera polymorpha*, Schimp.; *Bryum murale*, Wils.; *Mnium serratum*, Schrad.; *Neckera pumila*, Hedw.; *Antitrichia curtispindula*, Brid.; *Cylindrothecium concinnum*, Schimp.; *Pylaisia polyantha*, B. & S.; *Brachythecium albicans*, Neck.; *B. illecebrum*, Schwgr.; *Eurhynchium striatulum*, Spruce; *E. megapolitanum*, Bland.; *Plagiothecium pulchellum*, B. & S.; *Amblystegium varium*, Lindb.; *A. irriguum*, B. & S.; *Hypnum vernicosum*, Lindb.; *H. incurvatum*, Schrad. It should be added that *Webera cucullata*, Schimp., published in the *Handbook of British Mosses*, is now considered by Messrs. Dixon and Barker to be only a form of *W. nutans*. *Andreæa alpina* and *Webera polymorpha* must also be withdrawn from the list, both records being probably erroneous. Limitation of habitat as a feature is more pronounced in the moss-flora than in the phanerogams of Derbyshire. Thus as many as 49 species are found on the limestone alone, 18 species on both limestone and Permian, one on Permian only, yielding a total of 68 limestone mosses, though it must be mentioned that some of these species are by no means restricted to limestone in England generally.

A HISTORY OF DERBYSHIRE

Then there are 36 species which are found only on the grit, and four occurring on both grit and sand. These limitations are indicated in the list appended.

With regard to the occurrence or otherwise of mosses in the county some remarks seem to be called for. The *Andreaeæ* are all rare ; apparently they require the proximity of high mountains in order to flourish well. No *Buxbaumia* has as yet been discovered, whilst the genus *Seligeria* is well represented, all but one being found. The list of *Dicrana* is poor, and though the genus contains species inhabiting all altitudes, there are but few to be found in Derbyshire. The *Racomitria* again are not so plentiful as might be expected. As regards the *Orthotrichaceæ*, tree mosses are very and inexplicably scarce in the county ; few of any interest are recorded except about Matlock. Neither are there many members of the orders *Leucodontaceæ* and *Leskeaceæ* to be found. Very little of the surface level being over 2,000 feet there is an absence of alpine species as a rule, and the county being far from the sea maritime mosses are also mostly not in evidence. The absence of certain species (if really absent) is not easy to understand, such e.g. as *Bartramia ithyphylla*, *Grimmia orbicularis*, *Brachythecium salebrosum*.

The following is the list of mosses for the county ; the *Sphagna*, which are arranged on the Warnstorffian system, are not assigned to any particular formation, though as far as I know none have been recorded from the limestone :—

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|--|---|
| <p><i>Sphagnum fimbriatum</i>, Wils.
 — <i>Girgensohnii</i>, Russ.
 — <i>rubellum</i>, Wils. var. <i>palescens</i>, W.
 — <i>acutifolium</i>, Ehrh.
 — <i>quinguefarium</i>, Warnst.
 — <i>subnitens</i>, Russ. & Warnst.
 var. <i>palescens</i>, Warnst.
 ,, <i>versicolor</i>, Warnst.
 ,, <i>violascens</i>, Warnst.
 ,, <i>virescens</i>, Warnst.
 — <i>molle</i>, Sulliv. var. <i>tenerum</i>, Braith.
 — <i>squarrosum</i>, Pers.
 var. <i>spectabile</i>, Russ.
 — <i>teres</i>, Angstr. var. <i>imbricatum</i>, Warnst.
 — <i>cuspidatum</i>, Russ & Warnst.
 var. <i>submersum</i>, Schimp.
 — <i>recurvum</i>, Russ. & Warnst.
 var. <i>amphyphyllum</i>, Warnst.
 ,, <i>mucronatum</i>, Warnst.
 — <i>parvifolium</i>, Warnst.
 — <i>molluscum</i>, Bruch.
 — <i>compactum</i>, DC.
 var. <i>squarrosum</i>, Russ.
 ,, <i>subsquarrosum</i>, Warnst.
 — <i>subsecundum</i>, Limpr.
 — <i>inundatum</i>, Warnst.
 — <i>rufescens</i>, Warnst.
 — <i>crassicladum</i>, Warnst.
 — <i>turfaceum</i>, Warnst.</p> | <p><i>Sphagnum cymbifolium</i>, Warnst.
 var. <i>glaucescens</i>, Warnst.
 ,, <i>palescens</i>, Warnst.
 — <i>papillosum</i>, Lindb.
 var. <i>normale</i>, Warnst.
 ,, <i>sublæve</i>, Limpr.
 <i>Andreaea petrophila</i>, Ehrh. Grit
 — <i>crassinervia</i>, Bruch. Grit
 <i>Tetraphis pellucida</i>, Hedw.
 — <i>Browniana</i>, Grev. Grit
 <i>Catharina undulata</i>, Web. & Mohr.
 — <i>crispa</i>, James. Grit
 <i>Oligotrichum incurvum</i>, Lindb. Grit
 <i>Polytrichum nanum</i>, Neck.
 — <i>aloides</i>, Hedw.
 — <i>urnigerum</i>, Linn.
 — <i>alpinum</i>, Linn. Grit
 — <i>piliferum</i>, Schreb.
 — <i>juniperinum</i>, Willd.
 — <i>strictum</i>, Banks. Bogs on grit
 — <i>gracile</i>, Dicks. Grit
 — <i>formosum</i>, Hedw.
 — <i>commune</i>, Linn.
 <i>Diphyscium foliosum</i>, Mohr. Grit
 <i>Archidium alternifolium</i>, Schimp.
 <i>Pleuridium axillare</i>, Lindb.
 — <i>subulatum</i>, Rabenh.
 — <i>alternifolium</i>, Rabenh.
 <i>Ditrichum tenuifolium</i>, Lindb.</p> |
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A HISTORY OF DERBYSHIRE

- Trichostomum tenuirostre*, Lindb.
 — *nitidum*, Schimp. Limestone
 — *tortuosum*, W. & M. Limestone preferred
Pleurochæte squarrosa, Brid. Limestone and Permian
Cindidotus fontinaloides, Lam. Limestone
Encalypta vulgaris, Hedw. Limestone and Permian
 — *streptocarpa*, Hedw. Limestone and Permian (walls)
Zygodon Mougeoti, B. & S.
 — *viridissimus*, Dicks.
 — *Stirtoni*, Schimp. Limestone
Ulota Drummondii, Hook. *Whaley Bridge* only
 — *Bruchii*, Hornsch.
 — *crispa*, Ehrh.
Orthotrichum anomalum, Hedw. Limestone and Permian mostly
 var. *saxatile*, Milde. Limestone and Permian mostly
 — *cupulatum*, Hoffm. Limestone and Permian
 — *leiocarpum*, B. & S.
 — *Lyellii*, Hook. & Tayl.
 — *affine*, Schrad.
 — *rivulare*, Turn. Limestone
 — *Sprucei*, Mont.
 — *stramineum*, Hornsch.
 — *tenellum*, Bruch.
 — *diaphanum*, Schrad.
Schistostega osmundacea, Mohr. Grit and sand
Splachnum sphæricum, Linn. fil. Moorland
Discelium nudum, Dicks. Clay in grit districts
Ephemerum serratum, Schreb.
Physcomitrella patens, B. & S.
Physcomitrium sphæricum, Brid.
 — *pyriforme*, Linn.
Funaria calcarea, Wahl. Limestone
 — *hygrometrica*, Linn.
Amblyodon dealbatus, P.B.
Aulacomnium palustre, Linn.
 — *androgynum*, Linn.
Bartramia Œderi, Sw. Limestone
 — *pomiformis*, Linn. Grit and sand
Philonotis fontana, Linn.
 — *calcarea*, B. & S. Mostly lime springs
Breutelia arcuata, Dicks.
Leptobryum pyriforme, Linn.
Webera cruda, Linn. Limestone
 — *nutans*, Hedw.
 — *annotina*, Linn.
 — *carnea*, Linn.
 — *albicans*, Wahl.
Plagiobryum Zierii, Dicks. Limestone
Bryum filiforme, Dicks.
 — *pendulum*, Schimp.
 — *inclinatum*, Bland.
Bryum uliginosum, B. & S. Grit or sand
 — *pallens*, Sw.
 — *bimum*, Schreb.
 — *pseudotriquetrum*, Hedw.
 — *pallescens*, Schleich.
 — *affine*, Bruch. *Buxton* and *Chapel* only
 — *intermedium*, Brid.
 — *cæspiticium*, Linn.
 — *capillare*, Linn.
 — *erythrocarpum*, Schwægr.
 — *atropurpureum*, W. & M.
 — *murale*, Wils. Lime in mortar
 — *argenteum*, Linn.
 — *roseum*, Schreb.
Mnium affine, Bland. Limestone
 — *cuspidatum*, Hedw.
 — *rostratum*, Hedw.
 — *undulatum*, Schrad.
 — *hornum*, Linn.
 — *serratum*, Schrad.
 — *stellare*, Reich.
 — *punctatum*, Linn.
 — *subglobosum*, B. & S.
Fontinalis antipyretica, Linn.
 — *squamosa*, Linn. Subalpine streams
 — *Dixoni*, Cardot *in litt.* Stream, *Chatsworth*
Cryphæa heteromalla, Mohr.
Neckera crispa, Linn. Mainly limestone and Permian
 — *pumila*, Hedw.
 — *complanata*, Linn.
Homalia trichomanoides, Brid.
Pterygophyllum lucens, Linn.
Leucodon sciuroides, Linn.
Antitrichia curtipendula, Brid. *Calke* only
Porotrichum alopecurum, Linn.
 — *angustifolium*, Holt. Wet limestone rocks
Leskea polycarpa, C. M.
Anomodon viticulosus, Linn. Limestone and Permian
Heterocladium heteropterum, B. & S.
Thuidium tamariscinum, Hedw.
 — *recognitum*, Hedw. Limestone and Permian
Climacium dendroides, Linn.
Cylindrothecium concinnum, De Not. Limestone
Pylaisia polyantha, Schreb. Limestone (trees)
Orthothecium intricatum, Hartm. Limestone
Isothecium myurum, Poll.
Pleuropus sericeus, Linn.
Camptothecium lutescens, Huds. Limestone
Brachythecium glareosum, Bruch.
 — *albicans*, Neck. *Foremark Park* only
 — *salebrosum*, B. & S., var. *palustre*, Schp.
 — *rutabulum*, Linn.
 — *rivulare*, Bruch.
 — *velutinum*, Linn.

BOTANY

- Brachythecium populeum*, Hedw.
 — *plumosum*, Sw.
 — *cæspitosum*, Wils.
 — *illecebrum*, Schwægr.
 — *purum*, Linn.
Hycomium flagellare, Dicks. Streams on grit
Eurhynchium piliferum, Schreb.
 — *crassinervium*, Tayl.
 — *prælongum*, Linn.
 — *Swartzii*, Turn.
 — *pumilum*, Wils.
 — *Teesdalei*, Sm. Limestone
 — *tenellum*, Dicks. Mostly limestone and Permian
 — *myosuroides*, Linn.
 — *circinatum*, Brid. Limestone, *Lathkil Dale*
 — *striatum*, Schreb.
 — *striatulum*, Spruce. Limestone
 — *rusciforme*, Weiss.
 — *confertum*, Dicks.
 — *murale*, Hedw.
 — *megapolitanum*, Bland. Near *Whaley Bridge* only
Plagiothecium depressum, Bruch. Limestone
 — *Borrierianum*, Spruce. Grit and sand
 — *pulchellum*, Dicks. *Miller's Dale* only
 — *denticulatum*, Linn.
 — *silvaticum*, B. & S.
 — *undulatum*, B. & S.
 — *latebricola*, B. & S.
Amblystegium Sprucei, Bruch. Limestone
 — *confervoides*, Brid. Limestone
 — *compactum*, C. M. Limestone, *Dovedale*
 — *serpens*, Linn.
 — *varium*, Hedw.
 — *irriguum*, Hook. & Wils.
 — *fluviatile*, Sw. Limestone streams
Amblystegium filicinum, Linn.
 var. *Vallisclausæ*, Dixon. Lime springs
Hypnum riparium, Linn.
 — *stellatum*, Schreb.
 — *chrysophyllum*, Brid. Prefers limestone
 — *Sommerfeltii*, Myr. Limestone and Permian
 — *aduncum*, Hedw.
 — Gr. *Kneiffii*, Ren.
 — „ *pseudofluitans*, Sanio.
 — *uncinatum*, Hedw.
 — *fluitans*, L. Moorland
 — Gr. *amphibium*, Ren.
 — „ *falcatum*, Ren.
 — *exannulatum*, Ren.
 — Subgr. *Rotæ*, Ren.
 — *vernicosum*, Lindb. Bogs on grit
 — *revolvens*, Sw. „ „
 — *intermedium*, Lindb.
 — *scorpioides*, Linn. Bogs on grit
 — *commutatum*, Hedw.
 — *falcatum*, Brid.
 var. *virescens*, Schimp. Lime springs
 — *incurvatum*, Schrad. Limestone
 — *cupressiforme*, Linn.
 — *Patientiæ*, Lindb.
 — *molluscum*, Hedw. Prefers limestone
 — *palustre*, Linn.
 — *ochraceum*, Turn.
 — *stramineum*, Dicks. Grit moorland
 — *cordifolium*, Hedw.
 — *cuspidatum*, Linn.
 — *Schreberi*, Willd.
Hylocomium splendens, Hedw.
 — *brevirostre*, B. & S.
 — *loreum*, Linn.
 — *squarrosum*, Linn.
 — *triquetrum*, Linn.
 — *rugosum*, Ehrh. Limestone

HEPATICÆ

These are well represented in Derbyshire, which with its many kinds of rock, its extensive moorlands, its range vertically from lowland to subalpine, offers congenial habitats for a large number of species, 96 in all being so far known. Several species are peculiar to one or other formation, which will be indicated in the appended list. Thus 5 species are found on limestone only, 6 on limestone and Permian, 28 on grit or sand and 5 on wet moorland or marshes. There are a few of special interest owing to their rarity or their occurrence in the county being a considerable extension from where they have been previously noted, such as *Hygrobiella laxifolia*, Hook., not found previously nearer than Westmorland; *Lophocolea spicata*, Tayl., hitherto known for Cornwall, N. Wales and Scotland; *Targionia hypophylla*, Linn., rare and local, the nearest recorded station being in west Yorkshire; *Anthoceros punctatus*, Linn. The order and nomenclature followed here are those of Mr. W. H. Pearson's *Hepaticæ of the British Isles*.

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Frullania Tamarisci, Linn. (limestone and Permian); *F. dilatata*, Linn.; *Lejeunia serpyllifolia*, Dicks (limestone and Permian); *L. calcarea*, Lib. (limestone); *L. Rossettiana*, Mass. (limestone); *Radula complanata*, Linn.; *Porella platyphylla*, Linn. (limestone and Permian); *Blepharozia ciliaris*, Linn.; *B. pulcherrima*, Hoffm.; *Trichocolea tomentella*, Ehrh. (moorland); *Blepharostoma trichophylla*, Linn.; *Lepidozia reptans*, Linn. (grit and sandstone chiefly); *L. Pearsoni*, Spruce (grit moorland); *L. setacea*, Web. (grit moorland); *Bazzania trilobata*, Linn. (grit moorland); *Kantia trichomanis*, Linn.; *K. Sprengelii*, Mart.; *K. arguta*, Mont. & Nees; *Cephalozia lunulæfolia*, Dum.; *C. bicuspidata*, Linn.; *C. Lammersiana*, Hüben.; *C. heterostipa*, Carr & Spruce (grit rocks); *C. Sphagni*, Dicks (moorland); *C. denudata*, Nees (decaying wood); *C. divaricata*, Sm.; *C. stellulifera*, Tayl.; *Hygrobiella laxifolia*, Hook (grit rocks), *Scapania compacta*, Roth. (grit and sandstone); *S. æquiloba*, Schwæg. (limestone); *S. aspera*, Muell. & Bern. (limestone and Permian); *S. resupinata*, Linn.; *S. nemorosa*, Linn. (avoids limestone); *S. undulata*, Linn.; *S. purpurascens*, Tayl. MSS. (grit moorland); *S. intermedia*, Husnot (grit moorland); *S. irrigua*, Nees (moors and marshes); *S. rosacea*, Corda (grit moorland); *S. curta*, Mart. (grit moorland); *S. umbrosa*, Dum. (grit); *Diplophyllum albicans*, Linn. (prefers sand); *D. Dicksoni*, Hook. (grit moorland); *Lophocolea bidentata*, Linn.; *L. cuspidata*, Limpr.; *L. heterophylla*, Schrad.; *L. spicata*, Tayl. (grit woodland); *Chiloscyphus polyanthus*, Linn.; *Mylia Taylori*, Hook., and *M. anomala*, Hook. (grit moorland); *Pedinophyllum interruptum*, Nees. (limestone); *Plagiochila asplenoides*, Linn.; *P. spinulosa*, Dicks. (avoids limestone); *Jungermannia cordifolia*, Hook. (grit rocks); *J. pumila*, With. (grit rocks); *J. riparia*, Tayl.; *J. sphærocarpa*, Hook.; *J. crenulata*, Sm., var. *gracillima*, Sm.; *J. inflata*, Huds. (bogs and marshes); *J. turbinata*, Raddi (limestone); *J. bantriensis*, Hook., var. *muelleri*, Nees. and var. *acuta*, Lindenb. (limestone); *J. capitata*, Hook.; *J. bicrenata*, Schmid.; *J. ventricosa*, Dicks.; *J. incisa*, Schrad. (grit and moorland); *J. exsecta*, Schmid. (grit rocks); *J. Lyoni*, Tayl. (prefers limestone); *J. gracilis*, Schleich. (grit and sand rocks); *J. barbata*, Schreb.; *J. lycopodioides*, Wallr., and var. *Floerkii*, Web. & Mohr. (grit and moorland); *J. minuta*, Crantz (grit); *Nardia byalina*, Carr.; *N. obovata*, Carr. (grit rocks); *N. compressa*, Hook. (grit rocks); *N. scalaris*, Schrad.; *N. silvrettæ*, Gottsche (grit moorland); *Marsupella emarginata*, Ehrh. (grit rocks); *Fossombronina pusilla*, Linn.; *Blasia pusilla*, Linn.; *Pellia epiphylla*, Linn.; *P. Nessiana*, Gottsche; *P. calycina*, Tayl.; *Aneura multifida*, Linn.; *A. ambrosioides* (Nees); *A. sinuata*, Nees; *A. pinguis*, Linn.; *Metzgeria pubescens*, Schrank. (limestone and Permian); *M. furcata*, Linn.; *Marchantia polymorpha*, Linn.; *Fegatella conica*, Linn.; *Reboulia hemisphærica*, Linn. (prefers limestone and Permian); *Preissia commutata*, Nees (limestone); *Lunularia vulgaris*, Mich.; *Targionia hypophylla*, Linn. (limestone); *Riccia sorocarpa*, Bisch (limestone); *R. glauca*, Linn.; *Ricciella fluitans*, Linn.; *Anthoceros punctatus*, Linn. (grit and sand).

ZOOLOGY

MOLLUSCS

From a conchological point of view the county of Derbyshire may be conveniently divided into four districts.

1. *The Peak, or Grit and Heather District*, consisting of the north-west corner cut off by a line from Hathersage through Castleton, Chapel-en-le-Frith to Whaley Bridge. This portion of the county is particularly barren of molluscs owing to the absence of lime for the formation of the shells.

2. *The Limestone District*, of oblong form, with Hathersage, Chapel-en-le-Frith, Ashbourne and Derby at the corners. This district is very rich in land molluscs, but the absence of ponds other than farmyard duck-ponds accounts for the absence of freshwater species.

3. *The Triassic Marls and Sandstone District* which comprises the south of the county is, like the Millstone Grit district though to a less extent, poor in terrestrial species.

Aquatic species, on the other hand, are well represented owing to the number of canals traversing this portion of the country.

The rivers of Derbyshire are particularly unfruitful, probably on account of the scanty weed supply, the swiftness of the currents and the coldness of the water when the snow melts on the hills, as well as the presence of lead in solution.

4. *The Coal Measure District*. The remaining (eastern) division of the county may be termed the Coal Measure district, and is superficially composed of shale and marl and new red sandstone. It is the most unprofitable collecting ground of all the county, being almost destitute of land and freshwater species alike.

Of the 139 species known to occur in the British Islands, 99 are met with in Derbyshire, and it is not likely that more than one or two others will ever be added to the list. The following have been recorded but their identification is too doubtful to admit of their inclusion: *Amalia gagates*, *Vitrea lucida*, *Hygromia granulata*, and *Amphipeplea glutinosa*. *Acanthinula lamelleta* and *Vertigo moulinsiana* are included on the authority of the *Records of the Conchological Society*, though further confirmation would be welcomed.

The assemblage is of the average north British type.

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The more important papers relating to this district are those by Mr. Lionel E. Adams (*Journ. Conch.* vi. 247, vii. 77), and the Rev. Herbert Milnes (op. cit. vii. 274-88).

A. GASTROPODA

I. PULMONATA

a. STYLOMMATOPHORA

- Limax maximus*, Linn.
 — *flavus*, Linn.
 — *arborum*, Bouch.-Chant. Common in the limestone district and in the valley of the Goyt
Agriolimax agrestis (Linn.)
 — *lævis* (Müll.)
Vitrina pellucida (Müll.)
Vitrea crystallina (Müll.)
 — *alliaria* (Miller)
 — *glabra* (Brit. Auct.)
 — *cellaria* (Müll.)
 — *nitidula* (Drap.)
 — *pura* (Ald.)
 — *radiatula* (Ald.). Rare : Ambergate ; Repton ; Matlock ; Clifton
 — *excavata* (Bean). Local : Miller's Dale ; Repton ; Clifton ; Compstall ; Chapel-en-le-Frith ; Darley Dale ; Ticknall
 — *nitida* (Müll.)
 — *fulva* (Müll.). Widely distributed in the south of the county
Arion ater (Linn.)
 — *hortensis*, Fér.
 — *circumscriptus*, John.
 — *intermedius*, Norm.
 — *subfuscus* (Drap.)
Punctum pygmæum (Drap.)
Pyramidula rupestris (Drap.). Abundant on the limestone
 — *rotundata* (Müll.)
Helicella virgata (Da C.). Willington station ; Ticknall (most probably imported) ; Monsall and Miller's Dales
 — *itala* (Linn.). Dovedale (a very small form) ; Miller's Dale ; Monsal Dale ; Cromford ; Crich ; Hartington
 — *caperata* (Mont.). Ambergate ; Matlock ; Ticknall
Hygromia fusca (Mont.). Rare : Cressbrook Dale
 — *hispida* (Linn.)
 — *rufescens* (Penn.). Belper ; Clifton (most probably imported in both cases) ; Matlock
Acanthinula aculeata (Müll.)
 — *lamellata* (Jeff.). Cresswell Craggs
Vallonia pulchella (Müll.) } Common on the
Helicigona lapicida (Linn.) } limestone
- Helicigona arbustorum* (Linn.). Common : a reversed specimen was found in Ashwood Dale in 1887
Helix aspersa, Müll. Repton ; Littleover ; Matlock
 — *nemoralis*, Linn. Common : the white-lipped form frequent in Dovedale
 — *hortensis*, Müll.
Bulimimus obscurus (Müll.)
Cochlicopa lubrica (Müll.)
Azeca tridens (Pult.). Derby ; Cromford ; Ashbourne (where it is now extinct) ; Belper ; Pleasley Vale ; Matlock
Cæcilianella acicula (Müll.). Miller's Dale ; Monsall Dale ; Repton ; Dovedale
Pupa secale, Drap. Miller's Dale ; Monsall Dale ; Haddon Hall ; near Matlock
 — *anglica* (Fér.). Near Buxton ; Matlock
 — *cylindræa* (Da C.)
 — *muscorum* (Linn.). Rare : Buxton ; Dovedale ; Matlock
Sphyradium edentulum (Drap.)
Vertigo substriata (Jeff.). Cresswell ; Matlock
 — *pygmæa* (Drap.). Near Burton-on-Trent ; Clifton ; Derby
 — *moulinsiana* (Dup.). Markland Gripps, near Cresswell
 — *pusilla*, Müll. Cresswell ; a colony restricted to a few square yards in Dovedale
 — *angustior*, Jeff. Cresswell Craggs
Balea perversa (Linn.). Haddon Hall ; Derby ; Cromford
Clausilia laminata (Mont.)
 — *bidentata* (Ström.)
Succinea putris (Linn.)
 — *elegans*, Risso

b. BASOMMATOPHORA

- Carychium minimum*, Müll.
Ancylus fluviatilis, Müll. In brooks in the south of the county ; in the river at Darley Dale
Velletia lacustris (Linn.). Weston-on-Trent canal ; Cromford canal
Limnæa auricularia (Linn.)
 — *pereger* (Müll.)
 — *palustris* (Müll.). Weston, in the canal ; Cresswell Craggs
 — *truncatula* (Müll.)
 — *stagnalis* (Linn.)

MOLLUSCS

- Limnæa glabra* (Müll.). Very rare : two specimens have been found near Derby
- Planorbis corneus* (Linn.). Plentiful in all the canals in the south of the county
- *albus*, Müll. Common in the south of the county
- *glaber*, Jeff. Cresswell Crag, in rejectamenta ; pits at Willington
- *nautileus* (Linn.). Cresswell Crag, in rejectamenta
- *carinatus*, Müll. Derby ; Clifton
- *marginatus*, Drap. Derby
- *vortex* (Linn.). Derby ; Clifton
- *spirorbis*, Müll. Derby
- *contortus* (Linn.)
- *fontanus* (Lightfoot). Marple ; canals at Derby ; Cromford canal
- Physa fontinalis* (Linn.)
- Physa hypnorum* (Linn.). Rare : canal at Little Eaton ; Darley Dale ; river Dove, near Repton
- Bithynia tentaculata* (Linn.)
- *leachii* (Shepp.). Canals at Weston-on-Trent ; Eggington ; Shardlow
- Vivipara vivipara* (Linn.). Canals round Derby
- *contecta* (Millet). Rare : two specimens in canal at Willington ; one in the canal at Cromford
- Valvata piscinalis* (Müll.). Derby ; Cromford ; two reversed specimens were found at Cresswell
- *cristata*, Müll. Eggington ; Derby
- Acicula lineata* (Drap.). Cresswell Crag in rejectamenta
- Neritina fluviatilis* (Linn.). Canals at Borrowash ; Sawley ; Pyebridge

B. PELECYPODA

- Dreissensia polymorpha* (Pall.). Derby and Nottinghamshire canal ; Willington canal ; Butterley
- Unio pictorum* (Linn.). Derby, in canals
- *tumidus*, Retz. Canals round Derby ; Repton, where a specimen was found measuring $4\frac{3}{4} \times 2\frac{5}{8}$ in., and weighing $4\frac{1}{2}$ oz.
- Anodonta cygnæa* (Linn.). Plentiful in canals round Derby
- Sphærium rivicola* (Leach). Canal between Shardlow and Chellaston ; Cromford
- *corneum* (Linn.)
- Sphærium ovale* (Fér.). Peak Forest canal ; one specimen in the canal near Sawley at its junction with the river Trent
- *lacustre* (Müll.). In canals at Derby and Ambergate
- Pisidium amnicum* (Müll.)
- *pusillum* (Gmel.)
- *nitidum*, Jenyns. Cresswell Crag, in rejectamenta
- *fontinale* (Drap.). River Wye ; Ashwood Dale and Monsall Dale ; Stanton ; Clifton ; Matlock
- *milium* (Held). Clifton

INSECTS

ORTHOPTERA

The only attempt at a systematic study of the Orthoptera of any part of the county appears to be the scanty account contributed by the late Mr. Edwin Brown to the *Natural History of Tutbury*. This was written in 1863, and forms a portion of his list of the fauna of the neighbourhood of Burton-on-Trent (pp. 163-5). He only mentions fourteen species, many of which are well known. S. Glover (*Hist. of the County of Derby*, i. 173) mentions the mole cricket; but no reliance can be placed on the statement, which has not been confirmed by any subsequent writer. *Periplaneta australasiæ* is now a resident in one locality in south Derbyshire. Abbreviations used:—

E.B. = Edwin Brown

H.H.C. = Hugo Harpur Crewe

G.P. = G. Pullen

ORTHOPTERA

FORFICULARIA

Anisolabis maritima, Bonelli. Has occurred in *Burton* (E.B.)

Labia minor, L. 'Frequently taken . . . in my garden and elsewhere' (E.B.); not uncommon (G.P.)

Forficula auricularia, L. Common everywhere

BLATTODEA

Blatta orientalis, L. Common in towns and many villages

Periplaneta americana, L. Already established for some years in *Burton* in 1863 (E.B.); occasionally in *Derby* (G.P.)

— *australasiæ*, Fb. First noticed at *Calke Abbey* in 1897; accidentally imported with plants from *Queensland* and now established (H.H.C.)

[At least one large exotic species of cockroach occurs occasionally in the greengrocers' shops at *Derby*, but is not known to be resident (G.P.)

ACRIDIODEA

Stenobothrus viridulus, L. Common in the lowlands on sunny banks

— *bicolor*, Charp. *South Derbyshire*

— *parallelus*, Zett. Also occurs

ACRIDIODEA (continued)

Gomphocerus maculatus, Thnb. (*biguttatus*, Charp.). Said to have been taken near *Burton* (E.B.)

Pachytylus migratorius, L. Occurs occasionally; *Elton Moor*, *Youlgreave* (*Zool.* 1848, p. 2001), etc.

— *cinerascens*, Fb. One near *Derby* in 1842 (*Zool.* 1843, p. 123); one near *Burton* (E.B.)

Schistocerca peregrina, Oliv. Visited the south-eastern counties in some numbers in 1869, spreading into *Derbyshire*, *Staffordshire*, *Notts*, etc. No later records

Tettix bipunctatus, L. Common in *Bretby Park* (E.B.)

LOCUSTODEA

Locusta viridissima, L. One brought to the *Derby Museum* for determination five or six years ago, caught not far from *Derby* (G.P.)

Thamnotrizon cinereus, L. *Repton Shrubs*, but rare (E.B.)

Platycleis brachyptera, L. *Repton Shrubs* (?) (E.B.)

GRYLLODEA

Nemobius sylvestris, Fb. *Willington* once (G.P.)? introduced

Gryllus domesticus, L. In houses

INSECTS

NEUROPTERA

Mr. Brown's list of Neuroptera in his account of the 'Fauna of Burton-on-Trent' (*Natural History of Tutbury*, pp. 171-4, 1863) is almost the only general authority for the county with regard to this order. He records ten species of the Odonata, but treats everything else in a very summary manner. Mr. G. Pullen has of late years noticed fourteen species of Dragonflies, chiefly in the vicinity of Little Eaton. Upwards of thirty years ago Mr. Brown's collection was examined by Mr. Robert MacLachlan, F.R.S., and the Rev. A. E. Eaton, both of whom also collected Neuroptera in Derbyshire at that period. The species vouched for by them in the present work are either recorded from this county in MacLachlan's *Monographs of Trichoptera* (1865 and 1874-80), and an article by Eaton on the Hydroptilidæ (1873), or are given from the latter's recollection.

E.B. = Edwin Brown
A.E.E. = A. E. Eaton

F.J. = F. C. R. Jourdain
McL. = R. MacLachlan

G.P. = G. Pullen

PSEUDO-NEUROPTERA

PSOCIDÆ

Atropos divinatoria, Müll. In houses, amongst old papers, etc.

Lachesilla fatidica, Westw. (E.B.)

PERLIDÆ

Dictyopteryx microcephala, Pict. (bicaudata, Steph.). *Dove* (E.B.)

Perla marginata, Panz. The *Dove* near *Mappleton* (A.E.E.); *Dovedale* (G.P.)
— *cephalotes*, Curt. The *Dove*, near *Mappleton*, plentiful (A.E.E.)

Chloroperla grammatica, Poda (*virescens*, Pict.). The 'Yellow Sally,' not uncommon near the *Dove* (E.B.); *Mappleton* (A.E.E.); common near *Derby* (G.P.)

Isopteryx tripunctata, Scop. Generally distributed throughout the county (A.E.E.)

Tænipteryx nebulosa, L. Occurs in March on the *Trent* (E. Brown's collection, A.E.E.)

— *risi*, Morton (*trifasciata*, Pict. *part*). Small streams in the *Ashbourne* district (A.E.E.)

Leuctra geniculata, Steph. The slower parts of the *Dove* near *Mappleton*; common (A.E.E.)

[At least two other species of *Leuctra* occur near *Ashbourne*, formerly included in the series of *fusciventris* and *abdominalis*]

Nemoura variegata, Oliv. ? Morton. Common in the *Ashbourne* district; also mentioned by E.B.

— *meyeri*, Pict. Base of *Thorpe Cloud*, at a spring; common (A.E.E.)

PERLIDÆ (continued)

Nemoura cinerea, Oliv., Morton. Very common in the *Ashbourne* district, especially in 'dumbles' (A.E.E.)

— *inconspicua*, Pict. ? Morton. A single male in the lane from *Sturston Hall* to *Bradley Wood*, *Ashbourne* (A.E.E.)

EPHEMERIDÆ

Ephemera vulgata, L. Common in south Derbyshire on the *Trent* (in coll. E. Brown)

— *danica*, Müll. The May fly of the *Dove*
Leptophlebia submarginata, Steph. (*helvipes*, Steph.; *geerii*, Pict.). *Dovedale*

— *cincta*, Retz.

Ephemerella ignita, Poda. The *Dove* and smaller streams

Cænis dimidiata, Steph. In the south of the county on the *Trent*

— *rivulorum*, Eaton. The *Dove* near *Mayfield*, *Ashbourne*. Abundant in June (A.E.E.)

— *halterata*, Fab. In the south of the county

Baëtis scambus, Eaton. The *Henmoor Brook*, *Ashbourne*, and the *Dove* near *Ashbourne* and *Norbury* (A.E.E.)

— *vernus*, Curt. Streams and rivulets

— *rhodani*, Pict. The *Dove*, etc., ascending to upwards of 1,000 feet above the sea in Derbyshire

— *tenax*, Eaton. Small streamlets, *Ashbourne Green* (A.E.E.)

— *pumilus*, Burmeist. Common near *Ashbourne*, in *Henmoor Brook*, etc. (A.E.E.)

Centroptilum luteolum, Müll. Generally common

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EPHEMERIDÆ (continued)

- Centroptilum pennulatum*, Eaton. The *Manifold, Ilam* (A.E.E.)
Cloëon dipterum, L. Once taken in the fields between *Ashbourne* and *Sandybrook* (A.E.E.)
 — *rufulum*, Müll. Common in clean ponds and ornamental lakes or in slow weedy streams (A.E.E.)
Rhithrogena semicolorata, Curt. Swift parts of the *Dove* near *Ashbourne*, etc. (A.E.E.)
Heptagenia sulphurea, Müll. *Mappleton*. Needs confirmation
Ecdyurus venosus, Fb. The *Dove* near *Thorpe* (A.E.E.)
 — *insignis*, Eaton. Near *Mappleton*. Needs confirmation

ODONATA

ANISOPTERIDES

LIBELLULIDÆ

- Sympetrum striolatum*, Charp. Near *Little Eaton* (G.P.)
 — *scoticum*, Don. Near *Little Eaton* (G.P.)
 [L. *flaveola* of E. Brown is probably *S. striolatum*, Charp., and not *S. flaveolum*, L.]
Libellula depressa, L. 'Frequently to be seen.' *Burton* district (E.B.); twice *Sinfin Moor* (G.P.); occasional in *Dove Valley* (F.J.); and has been seen as high as *Alstonfield* (W. H. Purchas)
 — *quadrifasciata*, L. Not uncommon in *Seal Wood* on the *Leicestershire* border (E.B.); *Willington* (G.P.)

ÆSCHNIDÆ

- Cordulegaster annulatus*, Lat. Canal near *Derby* (G.P.)
Æschna juncea, L. *Willington* (G.P.)
 — *cyanea*, Müll. Very common, *Burton* district (E.B.)
 — *grandis*, L. Very common, *Burton* district (E.B.); common near *Derby* (G.P.); not uncommon in *Dove Valley* (F.J.)

ZYGOPTERIDES

AGRIONIDÆ

- Calopteryx virgo*, L. Near *Bretby Mill* (E.B.); banks of the *Derwent* (G.P.)

AGRIONIDÆ (continued)

- Calopteryx splendens*, Harr. Common on banks of *Trent* (E.B.); four taken near *Derby* (G.P.)
Lestes sponsa, Hans. Common, banks of canal near *Derby* (G.P.)
Platycnemis pennipes, Pall. Canal near *Derby* (G.P.)
Pyrrhosoma nymphula, Sulz. (minium, Harr.). Common near *Trent* (E.B.); canal near *Derby* (G.P.)
Ischnura elegans, Lind. Common near *Trent* (E.B.); canal near *Derby* (G.P.)
Agrion puella, L. Common near *Trent* (E.B.); canal near *Derby* (G.P.)

PLANIPENNIA

SIALIDÆ

- Sialis lutaria*, L. Common on the banks of ponds and rivers; *Trent* and *Dove*, common (E.B.); *Derwent* near *Derby* (G.P.)
 — *fuliginosa*, Pict. *Dove* near *Mappleton* (A.E.E.)
Rhaphidia notata, Fb. (ophiopsis, Curt.). *Repton Shrubs* (E.B.); not uncommon in the *Little Eaton* and *Derby* districts (G.P.)

HEMEROBIIDÆ

- Osmylus fulvicephalus*, Scop. (chrysops, auct.). Meadows below *Repton Shrubs* (E.B.); occasionally in *Little Eaton* district (G.P.); near *Mappleton* (A.E.E.)
Sisyra fuscata, Fb. Common (A.E.E.)
Micromus variegatus, Fb. Common (A.E.E.)
Hemerobius
 [The *Derbyshire* species have not been worked out.]

CONIOPTERYGIDÆ

- Coniopteryx tineiformis*, Curt. Common (A.E.E.)

CHRYSOPIDÆ

- Chrysopa vulgaris*, Schneid. *Little Eaton* (G.P.)
 — *vittata*, Wesm. 'Common in our woods,' *Burton* district (E.B.)

PANORPIDÆ

- Panorpa communis*, L. Very common, *Burton* (E.B.); *Little Eaton*, common (G.P.)

INSECTS

TRICHOPTERA

Caddis-flies have received little attention in Derbyshire and have consequently been seldom recorded. Hydroptilidæ were first revised on modern lines at Ashbourne in the year 1872.

E.B. = Edwin Brown McL. = R. MacLachlan G.P. = G. Pullen A.E.E. = A. E. Eaton

PHRYGANEIDÆ

Phryganea grandis, Roesel. Canal near Derby, not uncommon (G.P.)

LIMNOPHILIDÆ

Limnophilus fuscicornis, Ramb. (*fumigatus*, Hag.). *Burton-on-Trent* (McL.)

Metanæa (*Halesus*) *flavipennis*, Pict. (*gut-tatipennis*, McL.). Probably taken by Mr. Edwin Brown near *Burton-on-Trent* (McL.)

SERICOSTOMATIDÆ

Lasiocephala (*Mormonia*) *basalis*, Kol. *Dovedale* (A.E.E.)

LEPTOCERIDÆ

Leptocerus alboguttatus, Hag. (*bimaculatus*, Steph.). *Burton-on-Trent* (McL.)

— *annulicornis*, Steph. ” ”

Triænodes conspersa, Ramb. *Dovedale* (B. Cooke in Dale's mus.)

— *commutatus*, McL. *Dovedale* (McL.)

HYDROPSYCHIDÆ

Tinodes unicolor, Pict. *Miller's Dale* (McL.)

— *dives*, Pict. *Miller's Dale*, (E.B., McL.)

RHYACOPHILIDÆ

Glossoma boltoni, Curt. Near *Ashbourne* (A.E.E.)

HYDROPTILIDÆ

Hydroptila (*Phrixocoma*, Etn.) *sparsa*, Curt. *Burton-on-Trent*, abundant (A.E.E.)

— *forcipata*, Eaton. *The Dove, Norbury* and *Ashbourne* (A.E.E.)

— *occulta*, Eaton. *The Dove, Mappleton* (A.E.E.)

— *femoralis*, Eaton (*longispina*, McL., 1884). *The Dove, Mappleton* (A.E.E.)

Ithytrichia lamellaris, Eaton. *The Sandybrook, near Ashbourne* (A.E.E.)

HYMENOPTERA

Hymenoptera are somewhat fully treated by Mr. E. Brown (*Nat. Hist. of Tutbury*, pp. 175-85). Some eighty-two species of Aculeata and seventy-seven of Phytophaga are mentioned as occurring in the Burton district, and though exact localities are seldom given, probably most of them are found in Derbyshire.

A good deal of doubt must always attend the identification of many species from an old list like that referred to, where the specimens themselves are not available for examination, and several species have been omitted from the following list in consequence. Of late years Mr. G. Pullen appears to be the only observer who has paid any attention to the Phytophaga. Most of his specimens have been taken in the vicinity of Little Eaton and Derby.

Where Burton is given as the locality and no initials are appended Mr. E. Brown is understood to be the authority.

The Entomophaga remain still unworked. A few species from the Little Eaton district have been determined by Mr. Claude Morley and are marked thus (*).

Specimens of those species marked † have been determined by Mr. E. Saunders (Aculeata) and the Rev. F. D. Morice (Phytophaga). Abbreviations used :—

E.B. = Edwin Brown (Burton)

F.G. = F. Greenwood (Chesterfield)

J.H. = J. Hill (Little Eaton)

F.J. = F. C. R. Jourdain (Ashbourne)

G.P. = G. Pullen (Little Eaton, Derby)

E.S. = E. Saunders (Buxton)

B.T. = B. Tomlin (Darley Dale)

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ACULEATE HYMENOPTERA

HETEROGYNA

FORMICIDÆ

- Formica rufa*, L. Rather local, in woods;
Little Eaton (G.P.), etc.
— *fusca*, Latr. Common
Lasius fuliginosus, Ltr. Rare
— *flavus*, DeG. Common. Near *Derby*
(G.P.)
— *niger*, L. Common in gardens

MYRMICIDÆ

- Myrmica rubra*, L. Common. var. *scabrinodis*, Nyl. Near *Burton* (E.B.)

FOSSORES

SAPYRIDÆ

- Sapyga quinquepunctata*, Fb. *Burton*
— *clavicornis*, L. 'Burton, but not common' (one in collection of P. B. Mason, but without data). Since the publication of Saunders' *Monograph* several have been taken near *Burton* by P. B. Mason (A. H. Martineau)

POMPIDIDÆ

- Pompilus viaticus*, L. (*fuscus*, Sm.). *Burton*
— *gibbus*, Fb. Near *Burton*; *Little Eaton*
(J.H.)
Salius exaltatus, Fb. *Burton*

SPHEGIDÆ

- Trypoxylon figulus*, L. *Burton*
Pemphredon lugubris, Ltr. *Willington*
(G.P.), *Little Eaton* (J.H.), *Seal Wood*, etc. (E.B.)
— *shuckardi*, Moraw. (*Cemonus unicolor*, Smith, pars.). *Burton*; *Little Eaton*
(J.H.)

- Diodontus minutus*, Fb. *Burton*; *Little Eaton* (J.H.)

- *tristis*, V. de L. *Burton*

- Psen pallipes*, Pz. "

- Gorytes mystaceus*, L. *Little Eaton*
(J.H.)

- Mellinus arvensis*, L. Near *Burton*

- Cerceris arenaria*, L. *Repton Shrubs* (E.B.)

- † *Crabro clavipes*, L. *Breadsall Moor*, 1886
(G.P.)

- *podagricus*, V. de L. *Little Eaton*
(J.H.)

- *chrysostoma*, St. F. *Burton*; *Little Eaton*
(J.H.)

- *cribrarius*, L. *Repton Shrubs* and *Burton*
district; *Little Eaton* (J.H.), *Shirley* (F.J.)

- *cephalotes*, Pz. *Chesterfield* (F.G.),
Little Eaton (J.H.)

- *peltarius*, Schr. (*patellatus*, Pz.). *Burton*;
scarcer than *C. cribrarius*

DIPLOPTERA

VESPIDÆ

- Vespa crabro*, L. One nest at *Stapenhill*,
very rare in *Burton* district (E.B.),
has occurred at *Osmaston-by-Ashbourne*
and *Clifton* (F.J.), near *Calke* (H.H.C.),
a nest at *Egginton*, 1902 (G.P.)

- † — *vulgaris*, L. Generally distributed;
very common in dry autumns

- † — *germanica*, Fb. Also common (*Burton*,
Dove Valley, *Little Eaton*, *Chesterfield*,
etc.)

- † — *rufa*, L. Not uncommon; *Dovedale*
(E.B.), *Little Eaton* (G.P.), *Chesterfield*,
frequent (F.G.)

- † — *sylvestris*, Scop. Rather scarce, *Burton*,
Ashbourne, etc.; frequent, *Chesterfield*
(F.G.) and *Derwent* (F.J.)

- *norvegica*, Fb. Not uncommon, *Burton*;
Ashbourne (F.J.); near *Derby*
(G.P.)

EUMENIDÆ

- Odynerus spinipes*, L. *Burton*; *Willington*
(G.P.)

- † — *parietum*, L. Common, *Burton*; *Willington*
(G.P.); *Little Eaton*, fairly
common (G.P., J.H.); *Clifton* (F.J.)

- † — *pictus*, Curt. *Little Eaton* (G.P., J.H.)

- † — *trimarginatus*, Zett. *Clifton* (F.J.),
Little Eaton (G.P., J.H.)

- † — *trifasciatus*, Oliv. *Little Eaton* (G.P.,
J.H.)

- *antilope*, Pz. *Little Eaton* (J.H.)

OBTUSILINGUES

COLLETIDÆ

- Colletes daviesanus*, Smith. *Burton*

- Prosopis communis*, Nyl. *Burton*; *Little Eaton* (J.H.)

ACUTILINGUES

ANDRENIDÆ

- Sphecodes gibbus*, L. Near *Burton*

- *pilifrons*, Thoms. (?) *Burton*; *Little Eaton* (J.H.)

- † *Halictus rubicundus*, Chr. *Burton*; *Clifton*
(F.J.)

- *quadrinotatus*, Kirb. *Burton*

- † — *cylindricus*, Fb. *Burton*; *Willington*
(G.P.)

- *albipes*, Kirb. *Burton*

- *longulus*, Smith. (?) *Burton*

- † — *subfasciatus*, Nyl. *Little Eaton*, 1882
(G.P.)

- *morio*, Fb. *Burton*

- † *Andrena albicans*, Kirb. *Burton*; *Little Eaton*,
common (G.P., J.H.); *Buxton* (E.S.),
Chesterfield (F.G.)

INSECTS

ANDRENIDÆ (continued)

- † *Andrena rosæ*, Pz. var. *trimmerana*, Kirb.
Little Eaton (G.P.)
— *nitida*, Fourc. *Burton*; *Little Eaton*,
common (G.P.); *Chesterfield* (F.G.)
— *cineraria*, L. *Burton*; *Chesterfield*
(F.G.)
— *fulva*, Schr. *Burton*; *Little Eaton*,
common (G.P.); *Chesterfield* (F.G.)
† — *clarkella*, Kirb. *Little Eaton* (G.P.)
— *nigro-ænea*, Kirb. *Little Eaton* (J.H.)
† — *angustior*, Kirb. *Little Eaton* (G.P.)
† — *fucata*, Smith. *Buxton* (E.S.)
— *fulvicrus*, Kirb. *Burton*
† — *albicus*, Kirb. *Burton*; *Little Eaton*
(G.P.)
— *minutula*, Kirb. *Buxton* (E.S.)
Nomada sexfasciata, Pz. *Breadsall Moors*,
1886 (G.P.)
— *succincta*, Pz. Near *Burton*; *Little*
Eaton (J.H.); not uncommon (G.P.)
† — *alternata*, Kirb. *Repton Shrubs*, etc.
(E.B.); *Little Eaton* (G.P., J.H.)
† — *ruficornis*. *Buxton* (E.S.)
† — *bifida*, Thoms. *Little Eaton* (G.P.)
— *ochrostoma*, Kirb. *Burton*
— *ferruginata*, Kirb. (*germanica*, Smith).
Burton
— *fabriciana*, L. *Burton*; *Little Eaton*
(J.H.)
† — *flavoguttata*, Kirb. *Burton*; *Buxton*
(E.S.)

APIDÆ

- Chelostoma florisomne*, L. *Burton*
Cœlixys elongata, St. F. (*simplex*, Nyl.).
Burton
† *Megachile willughbiella*, Kirb. *Burton*;
Little Eaton (G.P.), *Clifton* (F.J.)
† — *centuncularis*, L. *Burton*; *Little Eaton*
(G.P., J.H.), *Asbbourne* (F.J.)?
Osmia rufa, L. *Burton*; *Little Eaton*
(G.P.)

APIDÆ (continued)

- Osmia bicolor*, Schk. *Burton*; one near
Asbbourne (F.J.)
Anthidium manicatum, L. *Burton*
Eucera longicornis, L. *Scalpcliff Hill* near
Burton (E.B.)
Melecta armata, Pz. *Burton*
Anthophora pilipes, Fb. (*acervorum*, Smith).
Burton; *Little Eaton* (J.H.)
Psithyrus rupestris, Fb. *Little Eaton* (G.P.)
— *vestalis*, Fourc. *Burton*; *Little Eaton*
(G.P.)
† — *campestris*, Pz. *Burton*; *Little Eaton*
(G.P.)
— *quadricolor*, St. F. (*barbutellus*, Sm.).
Burton
† *Bombus venustus*, Smith. *Burton*; *Little*
Eaton (G.P.)
† — *agrorum*, Fb. Common; *Little Eaton*
(G.P.), *Clifton* (F.J.), *Chesterfield*
(F.G.)
† — *latreillellus*, Kirb. *Burton*; *Little Eaton*
(G.P.)
† var. *distinguendus*, Mor. *Breadsall*
Moor (G.P.)
† — *hortorum*, L. *Burton*; *Little Eaton*
(G.P.)
— *sylvarum*, L. *Burton*
† — *derhamellus*, Kirb. *Burton*; *Breadsall*
Moors and near *Derby* occasionally
(G.P.)
† — *lapidarius*, L. Common
† — *pratorum*, L. *Burton*; occasionally
Little Eaton (G.P.), *Clifton* (F.J.),
Willington (G.P.)
† — *terrestris*, L. Common
† var. *virginialis*, Kirb. *Breadsall*
Moor (G.P.)
Apis mellifica, L. Occasionally found in
a wild state
var. *ligustica*, introduced into *Derby-*
shire about 1860

PHYTOPHAGOUS HYMENOPTERA

TENTHREDINIDÆ

TENTHREDINA

- Tenthredo livida*, L. *Burton*; scarce,
Little Eaton, Derby (G.P.)
* — *colon*, Klug. *Matlock*, 4, vii. 1900 (B.T.)
— *solitaria*, Scop. *Burton*
† — *rufiventris*, Pz. *Burton*; not uncom-
mon, *Little Eaton*, etc. (G.P.)
† — *balteata*, Klug. Common near *Derby*
(G.P.)
† — *atra*, L. *Little Eaton, Derby* (G.P.)
— *maculata*, Fourc. (*zonata*, Pz.). *Burton*
† — *mesomela*, L. *Little Eaton, Derby* (G.P.)
— *punctulata*, Klug. Common, *Little*
Eaton (G.P.)

TENTHREDINA (continued)

- Tenthredo viridis*, L. *Burton*; common,
Little Eaton, Derby (G.P.)
— *lateralis*, Fb. Common, *Little Eaton*
(G.P.)
— *gibbosa*, Fall. (*aucupariæ*, Klug.). *Bur-*
ton; common, *Little Eaton, Derby*
(G.P.)
Tenthredopsis cordata, Fourc. *Little Eaton*
(G.P.)
— *nigricollis*, St. F. *Burton*
— *scutellaris*, Fb. "
— *nassata*, L. (*melanorrhæa*, Gmel.). *Burton*
† *Pachyprotasis rapæ*, L. *Burton*; *Little*
Eaton, common (G.P.)

A HISTORY OF DERBYSHIRE

TENTHREDINA (continued)

- Macrophya blanda*, Fb. *Burton*; *Little Eaton*, scarce (G.P.)
 — *neglecta*, Klug. *Burton*; common, *Little Eaton*, etc. (G.P.)
 — *albicincta*, Schr. *Burton*; common, *Derby*, etc. (G.P.)
 — *ribis*, Schr. *Burton*; rare, *Little Eaton* (G.P.)
 — *rustica*, L. Occasionally near *Derby* (G.P.)
 — *punctum album*, L. (*punctum*, Fb.). *Burton*
 † *Allantus scrophulariæ*, L. *Burton*; not uncommon, *Little Eaton*, *Derby* (G.P.)
 — *tricinctus*, Fb. (*vespiformis*, Ltr.). *Burton*
 — *marginellus*, Fb. (*viennensis*, Pz.). *Burton*
 † — *arcuatus*, Forst. *Burton*; common, *Little Eaton*, etc. (G.P.)
Dolerus lateritius, Klug. Near *Derby*, common (G.P.)
 — *gonagra*, Fb. *Burton*; common, *Little Eaton*, etc. (G.P.)
 † — *hæmatodis*, Schr. *Burton*; common, *Little Eaton*, etc. (G.P.)
 — *coracinus*, Klug. *Burton*; rare, *Little Eaton* (G.P.)
 — *niger*, L. *Burton*
 † — *æneus*, Htg. Not uncommon, *Little Eaton*, *Derby* (G.P.)
Strongylogaster cingulatus, Fb. *Burton*
 — *delicatulus*, Fall. (*eborinus*, Klug.). *Burton*; scarce, *Little Eaton* (G.P.)
Selandria serva, Fb. *Burton*
 — *stramineipes*, Klug. *Burton*; *Little Eaton*, on ferns (G.P.)
Taxonus glabratus, Fall. (*rufipes*, St. F.). *Burton*; common, *Little Eaton*, *Derby* (G.P.)
Pœcilosoma submuticum, Thoms. Common, *Derby* (G.P.)
Eriocampa varipes, Klug. Larvæ near *Derby* (G.P.)
 — *limacina*, Rtz. *Burton*; *Dove Valley* (F.J.)
 — *rosæ*, Harris. Common, *Little Eaton*, *Derby* (G.P.)
Blennocampa albipes, Gmel. *Burton*
 — *bipunctata*, Klug.
 — *fuscipennis*, Fall. (*luteiventris*, Klug.). *Burton*; common, *Little Eaton*, etc. (G.P.)
 — *fuliginosa*, Schr. *Burton*
 — *pusilla*, Klug. *Burton*; common on wild rose (G.P.)
 † *Emphytus calceatus*, Klug. *Little Eaton* (G.P.)
 — *serotinus*, Klug. *Little Eaton*, in woods (G.P.)

TENTHREDINA (continued)

- Phyllotoma vagans*, Fall. *Little Eaton*, near alders, common (G.P.)
Fenusa melanopoda, Cam. Library grounds, *Derby*, common (G.P.)
 — *ulmi*, Sund. Common, *Little Eaton* (G.P.)
Athalia spinarum, Fb. Turnip fields; common near *Derby* (G.P.)
 — *rosæ*, L. Common, *Derby* (G.P.)
 NEMATINA
Hemichroa alni, L. Near *Derby*, common (G.P.)
Dineura stilata, Klug. (*bicolor*, Steph.). *Burton*
Cladius pectinicornis, Fourc. (*difformis*, Pz.). Common, *Burton*; common, *Little Eaton*, *Derby* (G.P.)
 — *viminalis*, Fall. (*grandis*, St. F.). *Burton*; *Derby*, very common (G.P.)
 — *rufipes*, St. F. Near *Derby*, common (G.P.)
 — *eradiatus*, Htg. (*morio*, St. F.). *Burton*, common
Nematus appendiculatus, Htg. (*pallipes*, St. F.). *Burton*
 — *lucidus*, Pz. *Burton*; not common, *Little Eaton* (G.P.)
 — *hæmorrhoidalis*, Spin. *Burton*
 — *miliaris*, Pz. *Burton*; common, *Little Eaton*, *Derby* (G.P.)
 † — *myosotidis*, Fb. *Burton*; common, *Little Eaton*, *Derby* (G.P.)
 — *croceus*, Fall. (*dorsalis*, St. F.). *Burton*
 — *abdominalis*, Pz. Not common, *Little Eaton* (G.P.)
 — *salicis*, L. (*capræ*, F.). Destructive to osiers, *Burton*; common, *Little Eaton*, etc. (G.P.)
 — *ribesii*, Scop. (*trimaculatus*, St. F.). *Burton*, common; very common (G.P.), general (F.J.)
 CIMBICINA
Cimbex lutea, L. (*femorata*, L.). Near *Burton*, rare; *Little Eaton*, rare (G.P.)
Trichiosoma lucorum, L. Common in early spring (E.B.), not common, *Little Eaton*, etc. (G.P.), *Ashbourne* district (F. J.)
Abia sericea, L. *Repton Shrubs*, rare (E.B.)
 HYLATOMINA
Hylatoma ustulata, L. On willows near *Derby*, common (G.P.)
 — *rosæ*, L. Rose trees, *Burton*; not uncommon, *Little Eaton*, etc. (G.P.)
 — *cyaneocrocea*, Forst. *Burton*
 LOPHYRINA
Lophyrus pini, L. ♀ *Derbyshire* (Curtis); larvæ in profusion on Austrian pine

INSECTS

LOPHYRINA (*continued*)

at *Asbbourne* about 1884 (F.J.); imago in pine woods, *Little Eaton* (G.P.)

PAMPHILINA

Pamphilus sylvaticus, L. *Burton*

CEPHIDÆ

Cephus phthisticus, Fb. (pallipes, Htg.).

Burton

— *tabidus*, Fb. *Burton*

— *pygmæus*, L. „

SIRICIDÆ

Sirex gigas, L. ♀ Not common, but occasionally occurs in some numbers; *Drakelow*, *Gresley*, 1861 (E.B.); *Asbbourne* and *Dove Valley* (F.J.); *Darley Dale* (B. T.); *Derby*, *Little Eaton*, not common, ♂ very rare (G.P.); near *Calke* (H. H. Crewe)

SIRICIDÆ (*continued*)

Sirex juvenicus, L. Has occurred near *Calke* (H. H. Crewe); once in *Derby* about 1887 (G.P.); three taken in 1898 near *Little Eaton* (J.H.)

CYNIPIDÆ

Rhodites rosæ, L. Hedgerows everywhere

Andricus fecundatrix, Htg. On oaks, *Little Eaton* (G.P.)

— *corticis*, Htg. On oaks, *Willington* (G.P.)

Cynips kollari, Htg. (lignicola, Marsh.). Common; already naturalized in 1863 (E.B.)

Biorhiza terminalis, Fb. Very common (F.J.); bred from galls, *Willington* (G.P.)

Neuroterus numismatis, Oliv. On oaks, *Willington* (G.P.)

HYMENOPTERA ENTOMOPHAGA

[Mr. Edwin Brown (*Nat. Hist. of Tutbury*, p. 179) mentions five species of Chrysididæ, but gives no account of the Ichneumonidæ or Braconidæ.]

CHRYSIDIDÆ

Cleptes pallipes, St. F. (semiaurata, L.).

Burton

Elampus (hedychrum) auratus, L. *Burton*

Chrysis cyanea, L. „

— *viridula*, L. „

— *ignita*, L. *Burton*; *Little Eaton*, common (G.P.); *Asbbourne* and *Dove Valley* (F.J.)

ICHNEUMONIDÆ

* *Ichneumon fabricator*, Fb. *Little Eaton* (G.P.)

* — *annulator*, Fb. *Little Eaton* (G.P.)

* *Trogus lutorius*, Fb. „ „

* *Dicælotus pumilus*, Grav. *Darley Dale*, 1900 (B.T.)

* *Paniscus cephalotes*, Holmgr. *Little Eaton*, bred from *Dicranura vinula*, L. (G.P.)

ICHNEUMONIDÆ (*continued*)

* *Campoplex* sp. (?) *Little Eaton* (G.P.)

* *Exetastes osculatorius*, Fb. „ „

* *Banchus pictus*, Fb. „ „

* *Pimpla flavonotata*, Holmg. „ „

* *Lissonota* sp. (?) „ „

* — *bellator*, Grav. *Darley Dale*, 1900 (B.T.)

* *Meniscus murinus*, Grav. *Little Eaton* (G.P.)

BRACONIDÆ

* *Rhogas irregularis*, Wesm. *Darley Dale*, 1900 (B.T.)

Microgaster glomeratus. *Burton*

* *Zele testaceator*, Curt. *Little Eaton* (G.P.)

COLEOPTERA

The beetles of Derbyshire have been so little worked that it is impossible to generalize in any way from the subsequent list by the light of our present knowledge. By far the best work has been done in the Repton district—by the late Mr. W. Garneys and Canon Fowler—and embodied in *Contributions to the Flora and Fauna of Repton and Neighbourhood* (Bemrose & Sons), 1881, for the guidance of naturalists at Repton School. There are also many valuable records in Fowler's *British Coleoptera*. Then there is a list in *Fauna of the Neighbourhood of Burton-on-*

A HISTORY OF DERBYSHIRE

Trent by Mr. Edwin Brown, pp. 140–163 of *The Natural History of Tutbury*, by Sir O. Mosley; together with *The Fauna and Flora of the District surrounding Tutbury and Burton-on-Trent*, by E. Brown (J. van Voorst), 1863. I have been able to supplement this a little from a list of ‘Coleoptera collected in the Neighbourhood of Burton,’ by H. W. Bates, in the *Zoologist*, 1848, p. 1997. I fancy that in many cases the Burton and Repton records overlap, and even in some cases refer to identical captures. The only other localities that have been much worked are Little Eaton by Mr. J. Hill and Mr. G. Pullen, the Matlock district by Canon Fowler and myself, and the Derby district by Mr. G. Pullen. I am glad to say that Mr. J. Kidson Taylor of Buxton is just beginning to collect vigorously in his district, and I am already able to add a few species to the list on his authority.

The following abbreviations have been used: *R.* = *Repton*, *E.* or *L.* = *Little Eaton*, *B.* = *Burton*, *M.* = *Matlock*, *D.* = *Derby*. Where no authority for the record is given, it is to be understood that it stands on the authority of Mr. Garneys (*R.*), Mr. Hill (*L.*), Mr. Pullen (*E.* and *D.*), Mr. Brown (*B.*), or myself (*M.*). Otherwise the author’s name is invariably given. Species whose occurrence in the county seems, for various reasons, to need confirmation are enclosed in square brackets []. Absence of locality points to general distribution in the case of any particular species. Finally I may note that Derbyshire is so far the only known British habitat of at least two species, viz. *Euplectus minutissimus*, and *Macronychus 4-tuberculatus*.

CICINDELIDÆ

Cicindela campestris, L. Scarce, *M.*, *R.*,
L.

CARABIDÆ

Cychnus rostratus, L.
Carabus granulatus, L.
— *monilis*, F. *R.*, *L.*, *B.*, *D.*
— *catenulatus*, Scop.
— *arvensis*, F. *Derbyshire moors* (Fowler)
— *nemoralis*, Müll.
— *glabratus*, Payk. *E.*
— *violaceus*, L.
Notiophilus biguttatus, F.
— *substriatus*, Wat. Rare, *R.*
— *aquaticus*, L.
— *palustris*, Duft. *R.*, *E.*
Leistus spinibarbis, F.
— *fulvibarbis*, Dej.
— *ferrugineus*, L.
— *rufescens*, F.
Nebria brevicollis, F.
— *gyllenhalli*, Sch. *L.*, *M.* (Ellis)
Pelophila borealis, Payk. Very rare, *R.*
Blethisa multipunctata, L. *R.*
Elaphrus riparius, L.
— *cupreus*, Duft.
— *uliginosus*, F. *R.*

CARABIDÆ (continued)

Loricera pilicornis, F.
Clivina fossor, L.
— *collaris*, Herbst. *R.*, *L.*, *B.*
Dyschirius globosus, Herbst.
Miscodera arctica, Payk. *Derbyshire* (Fowler)
Brosicus cephalotes, L. ‘Once in *Repton* street’
Badister bipustulatus, F.
— *sodalis*, Duft. *R.*, rare
Licinus depressus, Payk. *Dovedale* (Brown)
Chlænius vestitus, Payk.
— *nigricornis*, F. *R.*, *Doveside* and *Egginton* (Brown)
[— *holosericeus*, F. *R.*, one doubtful specimen]
Oodes helopioides, F. *R.*, *B.*, *E.*
Acupalpus exiguus, Dej. *R.*, *E.*
var. *luridus*, Dej. *R.*
— *meridianus*, L. *R.*, *E.*
— *dorsalis*, F. *E.*
Bradycellus placidus, Gyll. *L.*
— *cognatus*, Gyll. *M.*, *L.*
— *distinctus*, Dej. *R.*
— *verbasci*, Duft. *R.*
— *harpalinus*, Dej.
— *similis*, Dej. *E.*

INSECTS

CARABIDÆ (continued)

- Harpalus rupicola*, St. B. (Fowler)
 — *puncticollis*, Payk. R., L.
 — *ruficornis*, F.
 — *æneus*, F.
 — *consentaneus*, Dej. R., D.
 — *latus*, L.
 — *tardus*, Panz.
Anisodactylus binotatus, F. B., D.
Stomis pumicatus, Panz. R., B., *Willington* (Pullen)
Platyderus ruficollis, Marsh. R., B., *Derby and Belper* (Fowler)
Pterostichus cupreus, L.
 — *versicolor*, St.
 — *madidus*, F.
 — *oblongopunctatus*, F. R., *Buxton* (Ellis)
 — *vitreus*, Dej. *Buxton* (Fowler)
 — *niger*, Sch.
 — *vulgaris*, L.
 — *anthracinus*, Ill. R., rare
 — *nigrita*, F.
 — *gracilis*, Dej. R., B. (Fowler)
 — *minor*, Gyll. R., rare
 — *strenuus*, Panz.
 — *diligens*, St.
 — *picimanus*, Duft. R., very rare
 — *vernalis*, Gyll. R., B., E.
 — *striola*, F.
Amara apricaria, St. R., E.
 — *consularis*, Duft. R., very rare
 — *aulica*, Panz.
 — *livida*, F. 'Once in R.'
 — *ovata*, F. R. B.
 — *similata*, Gyll. R., B., E.
 — *acuminata*, Payk. R. B.
 — *tibialis*, Payk. M., B.
 — *lunicollis*, Schi. R., B.
 — *curta*, Dej. One specimen in 1877 in a garden at *Repton* (Fowler), one in 1901 in *Darley Dale* (Tomlin); no other locality is known for this beetle between *Deal* and the *Forth* district
 — *familiaris*, Duft.
 — *trivialis*, Gyll.
 — *communis*, Panz.
 [— *strenua*, Zimm. 'Once in *Repton* street,' probably an error]
 — *plebeia*, Gyll. M., R., E.
Calathus cisteloides, Panz.
 — *melanocephalus*, L.
 — *piceus*, Marsh. E., *Foremark* (Garneys); *Drakelow* (Brown)
Taphria nivalis, Panz. R., B.
Pristonychus terricola, Hbst. R., B.
Sphodrus leucophthalmus, L. Once in R.; B., D.
Anchomenus angusticollis, F.
 — *dorsalis*, Müll.

CARABIDÆ (continued)

- Anchomenus albipes*, F.
 — *marginatus*, L.
 — *parumpunctatus*, F.
 — *atratus*, Duft. R.
 — *viduus*, Panz., and var. *moestus*, Duft. R., B.
 — *versutus*, Gyll. R.
 — *micans*, Nic. Banks of the *Soar* (Brown). R., D.
 — *scitulus*, Dej. R., very rare
 — *fuliginosus*, Panz.
 — *gracilis*, Gyll. R., rare
 — *piceus*, L. R., B., E.
 — *thoreyi*, Dej. R., rare
 — *puellus*, Dej. R., in osier beds
Olisthopus rotundatus, Payk.
Bembidium rufescens, Guér.
 — *quinquestriatum*, Gyll. R., B. (Fowler), E.
 — *obtusum*, St.
 — *guttula*, F.
 — *mannerheimi*, Sahl. R.
 — *biguttatum*, F.
 — *æneum*, Germ. R., E.
 — *articulatum*, Panz. R., B.
 — *gilvipes*, St. R., *Egginton* (Brown)
 — *minimum*, F. E.
 — *lampros*, Hbst.
 var. *velox*, Er. *Egginton* (Brown)
 — *tibiale*, Duft. R., *Egginton* (Brown), L.
 — *atrocæruleum*, Steph. R., E., B. (Bates)
 — *decorum*, Panz. *Egginton* (Garneys and Brown), B. (Bates)
 — *nitidulum*, Marsh. M., R.
 — *affine*, Steph. R.
 — *monticola*, St. B., *Egginton* (Garneys)
 — *quadriguttatum*, F.
 — *quadrimaculatum*, Gyll.
 [— *quadripustulatum*, Dej. R., one specimen]
 — *lunatum*, Duft. L., D.
 — *femoratum*, St.
 — *bruxellense*, Wes. L., R.
 — *littorale*, Ol.
 — *fluviatile*, Dej. *Draycott* (Fowler), R., B., D.
 — *punctulatum*, Drap. R., B.
 — *flammulatum*, Cl. By the *Trent* and *Dove* (Garneys and Gorham), D.
 — *obliquum*, St. Near B., one specimen (Fowler)
 — *paludosum*, Panz. L., M. (Fowler)
Tachypus flavipes, L.
Trechus discus, F. Rare, by *Trent* and *Dove* (Garneys); *Draycott* (Fowler)
 — *micros*, Hbst. M. (Fowler), R.
 — *rubens*, F. R. (Fowler), *Egginton* (Garneys)

A HISTORY OF DERBYSHIRE

CARABIDÆ (continued)

- [*Trechus longicornis*, St. *Egginton* (Brown)]
 — *minutus*, F.
 var. *obtusus*, Er.
 — *secalis*, Payk. *R.*, *B.*
Patrobis excavatus, Payk.
 — *assimilis*, Ch. *M.* and *Hathersage Moor* (Fowler)
Cymindis vaporariorum, L. *L.*, one specimen
Lebia chlorocephala, Hoff. *R.*, *B.*
Demetrias atricapillus, L.
Dromius linearis, Ol.
 — *meridionalis*, Dej. *R.*, *E.*
 — *agilis*, F. *M.*, *R.*, *B.*
 — *quadrinotatus*, L.
 — *quadrinotatus*, Panz.
 — *melanocephalus*, Dej. *R.*, *B.*, *E.*
Metabletus foveola, Gyll. *R.*, *B.*

HALIPLIDÆ

- Brychius elevatus*, Panz. *R.*, *Egginton* (Garneys)
Haliplus obliquus, F. *Findern* (Garneys)
 — *mucronatus*, Steph. *B.*, very rare (Garneys)
 — *fulvus*, F. *R.*
 — *cinereus*, Aubé. *R.*, *Egginton* (Fowler), *Twyford* (Garneys)
 — *flavicollis*, St. *B.* (Bates)
 — *ruficollis*, DeG.
 — *fluviatilis*, Aubé. *R.*
 — *variegatus*, St. *B.*
 — *lineatocollis*, Marsh.

PELOBIIDÆ

- Pelobius tardus*, Hbst. *Twyford* (Garneys)

DYTISCIDÆ

- Noterus clavicornis*, DeG. *R.*, *B.*
 — *sparsus*, Marsh. Very common (Garneys), *D.*; 'I have never found it in Derbyshire' (Fowler)
Laccophilus interruptus, Panz.
 — *obscurus*, Panz.
Hyphydrus ovatus, L.
Cœlambus versicolor, Sch. *R.*
 — *inæqualis*, F.
 — *quinquelineatus*, Z. *R.*, rare
 — [*parallelogrammus*, Ahr. *B.*]
Deronectes depressus, F. *M.*, *B.*, *D.*
 — *duodecimpustulatus*, F. *M.*, *R.*
 — *assimilis*, Pk. One at *B.* (Bates)
Hydroporus pictus, F.
 — *dorsalis*, F. *R.*, *E.*
 — *rivalis*, Gyll. *B.*
 — *tristis*, Payk. *R.*
 — *lineatus*, F. *R.*, *D.*, *M.*
 — *angustatus*, St. *R.*
 — *palustris*, L.
 — *erythrocephalus*, L.
 — *memnonius*, Nic. *M.*, *R.*, *D.*
 — *nigrita*, F. *M.*, *R.*, *D.*

DYTISCIDÆ (continued)

- Hydroporus pubescens*, Gyll.
 — *planus*, F.
 — *lituratus*, F.
 — *marginatus*, Duft. *Twyford* and *Egginton* (Fowler), *D.*
Agabus guttatus, Payk. *M.*, *R.*, *D.*
 — *paludosus*, F. *R.*, *B.*, *D.*
 — *didymus*, Ol. *M.*, *R.*, *D.*
 — *nebulosus*, Forst. *R.*
 — *sturmii*, Gyll.
 — *chalconotus*, Panz. *R.*, *B.*
 — *striolatus*, Gyll. *D.*
 — *bipustulatus*, L.
 — *uliginosus*, L. *D.*
Platambus maculatus, L.
Ilybius fuliginosus, F.
 — *fenestratus*, F. *R.*, *L.*, *B.* (Bates)
 — *ater*, DeG.
 — *obscurus*, Marsh. *R.*, *B.*
Rhantus exoletus, Forst. } *Willington*
 — *pulverosus*, Steph. } (Garneys)
 — *bistriatus*, Berg. *B.* (Fowler)
Colymbetes fuscus, L.
Dytiscus marginalis, L.
 — *punctulatus*, F. *B.*, *L.*
Acilius sulcatus, L.

GYRINIDÆ

- Gyrinus natator*, Scop.
 — *marinus*, Gyll. *R.*, *D.*
Orectochilus villosus, Müll. *R.*, *B.*

HYDROPHILIDÆ

- Hydrophilus piceus*, L. *R.* (Brown)
Hydrobius fuscipes, L.
Philhydrus nigricans, Z. *R.*, *D.*
 — *melanocephalus*, Ol. *R.*
 — *minutus*, F. *D.*
 — *coarctatus*, Gred. *Willington* (Garneys)
Cymbiodyta ovalis, Th. " "
Enochrus bicolor, Gyll. *Findern* (Fowler)
Anacæna globulus, Payk.
 — *limbata*, F.
Helochares lividus, Forst.
 — *punctatus*, Sharp. *R.*
Laccobius minutus, L. *B.*
 — *bipunctatus*, F. *R.* (Fowler)
 — *sinuatus*, Mots. *R.*
Berosus luridus, L. *B.*
 — *affinis*, Br. *D.*
Limnebius truncatellus, Th.
 — *papposus*, Muls. *R.*
Chætarthria seminulum, Hbst. *Willington* (Garneys)
Helophorus aquaticus, L.
 var. *æqualis*, Th. *R.*
 — *rugosus*, Ol. *R.*, *B.* (Bates)
 — *nubilus*, F. *R.*, *D.*
 — *æneipennis*, Th.
 — *multisanti*, Rye. *R.*
 — *brevipalpis*, Bed.

INSECTS

HYDROPHILIDÆ (continued)

- Hydrochus elongatus, Sch. *Twyford* (Garneys)
 — angustatus, Germ. *R.*
 Henicocerus exsculptus, Germ. *Egginton*, very rare (Fowler); *B.* (Bates)
 Ochthebius bicolon, Germ. *Wensley* (Tomlin)
 Hydræna riparia, Kug. *R.*
 — nigrita, Germ. *R.*
 — gracilis, Germ. *M.*, *R.*
 — pulchella, Germ. *Dove* near *Burton* (Fowler)
 Cyclonotum orbiculare, F. *R.*
 Sphæridium scarabæoides, F.
 — bipustulatum, F.
 var. marginatum, F.
 Cercyon hæmorrhous, Gyll.
 — hæmorrhoidalis, Hbst.
 — obsoletus, Gyll. *M.*, *R.*
 — flavipes, F.
 — lateralis, Marsh.
 — melanocephalus, L.
 — unipunctatus, L.
 — quisquilius, L.
 — nigriceps, Marsh. *R.*
 — pygmæus, Ill. *R.*, *B.*
 — terminatus, Marsh. *R.*
 — analis, Payk.
 — lugubris, Payk. *R.*, *E.*
 — granarius, Th. *R.*
 — minutus, F. *R.*
 Megasternum boletophagum, Marsh.
 Cryptopleurum atomarium, Muls.

STAPHYLINIDÆ

- Aleochara ruficornis, Gr. *R.*
 — fuscipes, F.
 — bipunctata, Ol.
 — brevipennis, Gr. *R.*
 — lanuginosa, Gr.
 — moesta, Gr.
 — nitida, Gr.
 var. bilineata, Gyll.
 — moerens, Gyll. *B.* (Fowler)
 Oxypoda lividipennis, Mann.
 — vittata, Märk. *R.*
 — opaca, Gr.
 — alternans, Gr.
 — longiuscula, Er. *R.*
 Ocyusa incrassata, Kr. *Foremark* (Fowler)
 Ischnoglossa prolixa, Gr. *B.* (Fowler)
 — corticina, Er. *R.* (Fowler)
 Phlæopora reptans, Gr. *R.*, *M.*
 — corticalis, Gr. *R.*
 Ocalea castanea, Er. *R.*, *M.*
 — latipennis, Sharp. *R.*
 — badia, Er. *R.*
 Chilopora longitarsis, Er.
 Astilbus canaliculatus, F.
 Thamiaræa hospita, Märk. *R.*

STAPHYLINIDÆ (continued)

- Thamiaræa cinnamomea, Gr. *R.*
 Homalota insecta, Th. *M.* (Fowler)
 — pavens, Er. *M.* (Fowler)
 — gregaria, Er.
 — vicina, Steph.
 — graminicola, Gyll.
 — æquata, Er. *R.*
 — angustula, Gyll. *R.*
 — debilis, Er. *R.*
 — circellaris, Gr.
 — cuspidata, Er.
 — analis, Gr.
 — depressa, Gyll. *R.*
 — euryptera, Steph. *M.*
 — trinotata, Kr.
 — triangulum, Kr. *R.*
 — fungicola, Th.
 — boletobia, Th. *R.*, *E.*
 — coriaria, Kr. *R.*
 — palustris, Kies. *R.*
 — sericea, Muls.
 — atricolor, Sharp. *M.*
 — nigra, Kr. *M.*
 — villosula, Kr. *R.* (Fowler)
 — marcida, Er. *R.*
 — longicornis, Gr.
 — sordida, Marsh.
 — aterrima, Gr. *R.*
 — pygmæa, Gr. *R.*
 — laticollis, Steph. *R.*
 — fungi, Gr.
 Gnypeta labilis, Er. *M.*
 Tachyusa constricta, Er. *R.*
 — flavitarsis, Sahl. *M.*, *R.*
 — atra, Gr. *R.*
 Falagria sulcata, Payk.
 — obscura, Gr. *R.*
 Autalia impressa, Ol.
 — rivularis, Gr.
 Encephalus complicans, Westw. *Wensley* (Tomlin); *R.*
 Gyrophæna affinis, Mann. *M.*, *R.*
 — gentilis, Er. *R.*
 — nana, Payk. *R.*
 — fasciata, Marsh. *R.*
 — minima, Er. *M.*, *R.*
 — lævipennis, Kr. *M.*, *R.*
 — manca, Er. *R.*
 Agaricochara lævicollis, Er. *M.*, *R.*, *E.*
 Placusa infima, Er. *R.* (Fowler)
 Epipeda plana, Gyll. *R.* (Fowler), *M.*
 Silusa rubiginosa, Er. *Ockbrook* (Fowler), *M.*
 Leptusa fumida, Er. *M.*
 Sipalia ruficollis, Er. *R.* (Fowler)
 Bolitochara lucida, Gr. *Wensley* (Tomlin)
 — obliqua, Er. " "
 — bella, Märk. *R.*
 Hygronoma dimidiata, Gr. *R.*

A HISTORY OF DERBYSHIRE

STAPHYLINIDÆ (continued)

- Oligota inflata, Mann.
 — pusillima, Gr. *R.*
 — punctulata, Heer. *R.*
 Gymnusa variegata, Kies. *Derbyshire*
 (Fowler)
 — brevicollis, Pk. *E.*
 Hypocyptus longicornis, Payk.
 — ovulum, Heer. *M.*
 — apicalis, Bris. *M.*
 Conosoma littoreum, L. *R.*
 — pubescens, Gr.
 — lividum, Er.
 Tachyporus obtusus, L.
 — pallidus, Sharp. *R.*
 — chrysomelinus, L.
 — humerosus, Er.
 — tersus, Er. *R.*
 — pusillus, Gr. *M., E.*
 — hypnorum, F.
 — brunneus, F.
 — transversalis, Gr. *R.*
 Lamprinus saginatus, Gr. *Egginton*, very
 rare in flood refuse (Garneys)
 Cilea silphoides, L.
 Tachinus humeralis, Gr.
 [— pallipes, Gr. *Egginton* (Garneys)]
 — scapularis, Steph. *R.*
 — bipustulatus, F. *R.*
 — rufipes, L.
 — subterraneus, L.
 — marginellus, F.
 — laticollis, Gr. *R.*
 — collaris, Gr. *M., R.*
 — elongatus, Gyll. *E.*
 Megacronus inclinans, Gr. *R.*
 — cingulatus, Mann. *R.*
 — analis, F. *R.*
 Bolitobius lunulatus, F.
 — trinotatus, Er.
 — pygmæus, F.
 — exoletus, Er.
 Mycetoporus lucidus, Er. *R.*
 — splendens, Marsh. *R., E.*
 — punctus, Gyll. *R.*
 — lepidus, Gr. *R.*
 — longulus, Mann. *M., R.*
 — clavicornis, Steph. *R.*
 — splendidus, Gr. *R.*
 — longicornis, Gr. *R.*
 Habrocerus capillaricornis, Gr. *R.*
 Heterothops prævia, Er. *R.*
 Quedius longicornis, Kr. *R.* (Fowler)
 — mesomelinus var. fagei, Th. *Wensley*
 (Tomlin)
 — fulgidus, F. *R., B.*
 — cruentus, Ol. *R., M.*
 — impressus, Panz.
 — fuliginosus, Gr.
 — tristis, Gr.

STAPHYLINIDÆ (continued)

- Quedius molochinus, Gr.
 — picipes, Mann. *R., M.*
 — fumatus, Steph. *R.*
 — nigriceps, Kr. *B.*
 — maurorufus, Gr. *R.*
 — umbrinus, Er. *R.*
 — suturalis, Kies. *R.*
 — rufipes, Gr.
 — attenuatus, Gyll. *R., B.*
 — auricomus, Kies. *M.* (Fowler)
 — fulvicollis, Steph. *R.*
 — boops, Gr.
 Creophilus maxillosus, L.
 Leistrophus nebulosus, F.
 — murinus, L. *B., R.*
 Staphylinus pubescens, DeG. *B., R.,*
L.
 — fulvipes, Scop. *E.*
 — erythropterus, L. *B., R.*
 — stercorarius, Ol. *B., R.* (Fowler)
 — latebricola, Gr. *B.*
 Ocypus olens, Müll.
 — brunnipes, F. *R., L.*
 — cupreus, Rossi
 — ater, Gr. *L., D.*
 — compressus, Marsh. *L., B.*
 — similis, F. *B.*
 Philonthus splendens, F.
 — intermedius, Boisd.
 — laminatus, Cr.
 — æneus, Rossi
 — proximus, Kr. *R., M.*
 — addendus, Sharp. *R.*
 — carbonarius, Gyll. *R., M.*
 — decorus, Gr.
 — politus, F.
 — varius, Gyll.
 — marginatus, F.
 — umbratilis, Gr. *R.*
 — albipes, Gr. *R.*
 — cephalotes, Gr. *R.*
 — fimetarius, Gr.
 — sordidus, Gr.
 — ebeninus, Gr. *R.*
 — debilis, Gr. *R.*
 — sanguinolentus, Gr. *R., B.*
 — cruentatus, Gmel.
 — longicornis, Steph. *R., M.*
 — varians, Payk.
 — agilis, Gr. *R.*
 — ventralis, Gr. *R.*
 — discoideus, Gr.
 — thermarum, Aubé. *R.*
 [— nigrifulus, Nord. *R.* This is such a
 critical species that the record re-
 quires confirmation]
 — trossulus, Nord.
 — fulvipes, F. *B.* (Fowler)
 — puella, Nord. *R., M.*

INSECTS

STAPHYLINIDÆ (continued)

- Cafius xantholoma*, Gr. D. Probably
 accidentally introduced
Actobius procerulus, Gr. R.
Xantholinus fulgidus, F. R. (Fowler)
 — *glabratus*, Gr.
 — *punctulatus*, Payk.
 — *tricolor*, F. L., D.
 — *ochraceus*, Gyll. R.
 — *linearis*, Ol.
 — *longiventris*, Heer
Leptacinus parumpunctatus, Gyll. R.
 — *batychnus*, Gyll. R.
 — *linearis*, Gr.
Baptolinus alternans, Gr.
Othius fulvipennis, F.
 — *melanocephalus*, Gr. R.
 — *læviusculus*, Steph. R.
Lathrobium elongatum, L.
 — *boreale*, Hoch. R., E.
 — *fulvipenne*. Gr.
 — *brunnipes*, F.
 — *longulum*, Gr. R., B.
 — *terminatum*, Gr. *Willington* (Garneys)
 — *multipunctum*, Gr. *Willington* (Gar-
 neys), B.
Achenium humile, Nic. R.
Cryptobium glaberrimum, Hbst. R.
Stilicus rufipes, Germ.
 — *orbiculatus*, Er. M., R., B.
 — *affinis*, Er.
Medon propinquus, Bris.
 — *melanocephalus*, F.
 — *obsoletus*, Nord. B. (Harris)
Lithocharis ochracea, Gr. B.
Sunius angustatus, Payk.
Pæderus littoralis, Gr.
 — *riparius*, L. B.
 — *fuscipes*, Curt. E.
Dianous cœrulescens, Gyll. R., D., *Dove*
Dale (Fowler)
Stenus bipunctatus, Er. R.
 — *guttula*, Müll. R., B. (Fowler)
 — *bimaculatus*, Gyll. R.
 — *biguttatus*, L. B.
 — *juno*, F.
 — *guynemeri*, Duv. *Matlock and Buxton*
 (Fowler)
 — *speculator*, Er.
 — *providus* var. *rogeri*, Kr.
 — *buphthalmus*, Gr.
 — *incrassatus*, Er. R.
 — *melanarius*, Steph. R.
 — *melanopus*, Marsh. R.
 — *atratus*, Er. R.
 — *canaliculatus*, Gyll. R.
 — *nitens*, Steph. R.
 — *pusillus*, Er. R.
 — *exiguus*, Er. R. (Fowler)
 — *circularis*, Gr. R.

STAPHYLINIDÆ (continued)

- Stenus declaratus*, Er.
 — *carbonarius*, Gyll. R.
 — *argus*, Gr. R.
 — *crassus*, Steph. R.
 — *brunnipes*, Steph.
 — *nigritulus*, Gyll. R. (Fowler)
 — *subæneus*, Er.
 — *ossium*, Steph. R.
 — *impressus*, Germ.
 — *ærosus*, Er. R.
 — *erichsoni*, Rye. R.
 — *pallipes*, Gr. R.
 — *flavipes*, Steph.
 — *pubescens*, Steph.
 — *binotatus*, Lj. R.
 — *pallitarsis*, Steph. R.
 — *bifoveolatus*, Gyll. R.
 — *nitidiusculus*, Steph. R., M.
 — *picipennis*, Er. R.
 — *picipes*, Steph. R., M., D.
 — *foveicollis*, Kr. R.
 — *cicindeloides*, Gr.
 — *similis*, Hbst.
 — *solutus*, Er. L.
 — *tarsalis*, Lj.
 — *paganus*, Er. R.
 — *latifrons*, Er. M.
Oxyporus rufus, L. R., E.
Bledius subterraneus, Er. M. (Fowler), R.
 — *atricapillus*, Germ. E.
 — *fracticornis*, Payk. M., R.
Platystethus arenarius, Fourc.
 — *cornutus*, Gyll. R.
Oxytelus rugosus, Gr.
 — *insecatus*, Gr. *Latbkill Dale* (Tomlin)
 — *sculptus*, Gr.
 — *laqueatus*, Marsh.
 — *inustus*, Gr. M., R.
 — *sculpturatus*, Gr.
 — *nitidulus*, Gr.
 — *complanatus*, Er.
 — *clypeonitens*, Pand. R.
 — *tetracarinatus*, Block.
Haploderus cælatulus, Gr. R.
Trogophlœus arcuatus, Steph. R.
 — *bilineatus*, Steph. R.
 — *rivularis*, Mots. R., M.
 — *elongatulus*, Er. R.
 — *fuliginosus*, Gr. R.
 — *corticinus*, Gr. R.
 — *pusillus*, Gr. R.
Syntomium æneum, Müll. R., M.
Coprophilus striatulus, F. *Miller's Dale*
 (Tomlin), R.
Deleaster dichrous, Gr. R., very rare
Lesteva longælytrata, Goe.
 — *pubescens*, Mann. M. (Fowler), R.
 — *sicula*, Er. R.
Olophrum piceum, Gyll.

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STAPHYLINIDÆ (continued)

- Olophrum fuscum, Gr. *M.* (Blatch)
 Lathrimæum unicolor, Steph.
 — atrocephalum, Gyll.
 Deliphrum tectum, Payk. *Wensley* (Tomlin)
 Coryphium angusticollis, Steph. *Foremark* (Fowler)
 Homalium rivulare, Payk.
 — oxyacanthæ, Gr. *M., R., B.*
 — excavatum, Steph.
 — cæsum, Gr.
 — nigriceps, Kies. *M.*
 — pusillum, Gr.
 — vile, Er.
 — iopterum, Steph. *M., R.*
 — planum, Payk. *M.*
 — concinnum, Marsh.
 var. fuliginosum, Heer. *M.*
 — rufipes, Fourc. *R.*
 — deplanatum, Gyll. *R.*
 — striatum, Gr. *M.*
 Hapalaræa pygmæa, Gyll. *R.*
 Eusphalerum primulæ, Steph. *R.*
 Anthobium minutum, F. *M.*, very common in marshy ground
 — ophthalmicum, Payk.
 — torquatum, Marsh.
 — sorbi, Gyll. *M.*, in protusion on May blossom
 Proteinus ovalis, Steph.
 — brachypterus, F.
 Megarthrus denticollis, Beck. *M., R.*
 — affinis, Mill.
 — depressus, Payk.
 — sinuaticollis, Lac. *M., R.*
 Phlæobium clypeatum, Müll. *R.*
 Prognatha quadricornis, Lac. *R.*, *Elvaston* (Gorham)

SILPHIDÆ

- Calyptomerus dubius, Marsh. *M., R.*
 Clambus pubescens, Redt. *R.*
 — armadillo, DeG. *M., R., D.*
 Agathidium nigripenne, F. *R.*, *Wensley* (Tomlin)
 — atrum, Payk. *R.*
 — seminulum, L. *R.*
 — lævigatum, Er. *M.*
 — varians, Beck. *R.*
 — globosum, Muls. *R.* (Fowler)
 — nigrinum, St. *M.*
 Amphicyllis globus, F. *Wensley* (Tomlin), *R., B.*
 Liodes humeralis, Kug.
 — glabra, Kug. *E.*
 Cyrtusa pauxilla, Schm. *Birchover* (Tomlin)
 Anisotoma oblonga, Er. *R.*
 — dubia, Kug. *R.*
 — calcarata, Er. *M., R.*

SILPHIDÆ (continued)

- Anisotoma badia, St. *R., E.*
 — punctulata, Gyll. *B.* (Harris)
 Colenis dentipes, Gyll. *R.*
 Necrophorus humator, Goeze
 — mortuorum, F.
 — ruspator, Er.
 — vespillo, L.
 — vestigator, Her. *B.*
 Necrodes littoralis, L. *B.*
 Silpha tristis, Ill. *R., E.*
 — nigrita, Cr. *B., R., M.* (Fowler), *E.*
 — obscura, L. *B.*
 — opaca, L. *B.*
 — thoracica, L.
 — quadripunctata, L. *R.* (Bates)
 — rugosa, L.
 — sinuata, F.
 — dispar, Hbst. *R.*, very rare
 — lævigata, F. *B., R., E.*
 — atrata, L.
 Choleva angustata, F. *B., R.*
 — spadicea, St. *R.*
 — agilis, Ill.
 — velox, Sp.
 — wilkini, Sp. *R.*
 — anisotomoides, Sp. *M., R., Wensley* (Tomlin)
 — fusca, Panz. *R.*
 — nigricans, Sp. *R.*
 — morio, F. *R., E.*
 — grandicollis, Er.
 — nigrita, Er.
 — tristis, Panz.
 — kirbyi, Sp. *R.*
 — chrysomeloides, Panz.
 — fumata, Panz.
 — watsoni, Sp.
 Catops sericeus, F.
 Colon brunneum, Lat.
 [— rufescens, Kr. *D.*]

SCYDMÆNIDÆ

- Neuraphes elongatulus, Müll. *R.*
 — angulatus, Müll. *R.*
 — sparshalli, Den. *R.*
 Scydmaenus scutellaris, Müll. *R.*
 — collaris, Müll. *R.*
 — exilis, Er. *M.*
 Euconnus denticornis, Müll. *M.*, one specimen
 — fimetarius, Ch. *R.*
 Eumicrus tarsatus, Müll.
 Euthia schaumii, Kies. *R.*
 — scydmaenoides, Steph. *R.*
 Cephennium thoracicum, Müll. *R.*

PSELAPHIDÆ

- Pselaphus heisei, Hbst.
 Tychus niger, Payk.
 Bythinus puncticollis, Den.

INSECTS

PSELAPHIDÆ (continued)

- Bythinus bulbifer, Reich. R.
 — curtisii, Den. R.
 — securiger, Reich. R.
 — validus, Aubé. R. (Fowler)
 — burrellii, Den. R.
 Bryaxis fossulata, Reich. R.
 — hæmatica, Reich. R., B. (Bates)
 — juncorum, Leach. R.
 Trichonyx mærkeli, Aubé. *Wensley*, one
 by sweeping (Tomlin)
 Euplectus punctatus, Muls. M., R.
 — signatus, Reich. R.
 — sanguineus, Den. R.
 — karsteni, Reich. R.
 — minutissimus, Aubé. R., in flood refuse
 from the *Trent*; only British local-
 ity

TRICHOPTERYGIDÆ

- Pteryx suturalis, Heer. R.
 Ptinella maria, Matth. *Bakewell* (Mat-
 thews); only one other specimen
 known
 Trichopteryx thoracica, W. R.
 — atomaria, DeG.
 — cantiana, Matth. R.
 — lætitia, Matth. R.
 — longula, Matth. R.
 — anthracina, Matth. R.
 — fascicularis, Hbst. R.
 — lata, Mots. R.
 — grandicollis, Mann. R.
 — convexa, Mat. E.
 — sericans, Heer. R.
 — bovina, Mots. R.
 — montandonii, All. R.
 — brevis, Mots. R. (Fowler)
 Actidium coarctatum, Hal. E.
 Ptilium spencei, All. M., R.
 Millidium trisulcatum, Aubé. R.
 Nossidium pilosellum, Marsh. *Wensley*
 (Tomlin)
 Ptenidium nitidum, Heer.
 — evanescens, Marsh.

CORYLOPHIDÆ

- Orthoperus atomus, Gyll. R.
 Sericoderus lateralis, Gyll. R.

PHALACRIDÆ

- Phalacrus corruscus, Payk. R.
 Olibrus corticalis, Panz. R.
 — æneus, F. R.
 Stilbus testaceus, Panz.

COCCINELLIDÆ

- Anisosticta 19-punctata, L. *Willington*
 (Garneys)
 Hippodamia variegata, Goeze. M., B.
 Adalia oblitterata, L.
 — bipunctata, L.
 Mysia oblongoguttata, L. L., *Goyt Valley*
 (Taylor)

COCCINELLIDÆ (continued)

- Anatis ocellata, L. B., L., *Goyt Valley*
 (Taylor), *Breadsall* (Brown)
 Subcoccinella 24-punctata, L. B., L.
 Coccinella 10-punctata, L. A perfectly
 black variety at *Wensley* (Tomlin)
 — 5-punctata, L. E.
 — hieroglyphica, L. L.
 — 11-punctata, L. B.
 — 7-punctata, L.
 Halyzia 14-guttata, L.
 — 18-guttata, L.
 — conglobata, L.
 — 22-punctata, L.
 Micraspis 16-punctata, L. B.
 Scymnus nigrinus, Kug. R.
 — testaceus, Mots. R.
 — suturalis, Th.
 — capitatus, F. R.
 — hæmorrhoidalis, Hbst. M.
 Chilocorus similis, Rossi. B.
 — bipustulatus, L. B., M.
 Exochomus quadripustulatus, L. B.
 Rhizobius litura, F.
 Coccidula rufa, Hbst.
 — scutellata, Hbst. R.

ENDOMYCHIDÆ

- Mycetæa hirta, Marsh. M., D.
 Alexia pilifera, Mull. R.

EROTYLIDÆ

- Dacne humeralis, F. R.
 — ruffrons, F. *Wensley* (Tomlin), R., B.
 Triplax russica, L. R.

COLYDIIDÆ

- Cerylon histeroides, F. M., R.

HISTERIDÆ

- Hister unicolor, L.
 — merdarius, Hoff. *Foremark* (Garneys),
 E.
 — cadaverinus, E.H.
 — succicola, Th. M., *Foremark* (Gar-
 neys), *Wensley* (Tomlin)
 — purpurascens, Hbst. B.
 — carbonarius, Ill.
 — 12-striatus, Sch.
 — bimaculatus, L. R., L.
 — neglectus, Germ. *Foremark* (Garneys)
 Carcinops minima, Aubé. R.
 Gnathoncus nannetensis, Mars. R.
 Saprinus nitidulus, Payk. R.
 — maritimus, Steph. D. Probably acci-
 dentally introduced
 Abræus globosus, E.H. R.
 Acritus minutus, Hbst. R.
 — nigricornis, Hoff. R.
 Onthophilus striatus, F.

MICROPEPLIDÆ

- Micropeplus porcatus, Payk.
 — staphylinoides, Marsh.
 — margaritæ, Duv.

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NITIDULIDÆ

- Brachypterus gravidus, Ill. *Twyford* (Garneys)
 — pubescens, Er.
 — urticæ, Kug.
 Cercus pedicularius, L. *R.*
 — bipustulatus, Payk. *R., E.*
 Epuræa æstiva, L.
 — melina, Er. *R.*
 — deleta, Er.
 — obsoleta, F.
 — florea, Er. *R., E.*
 — pusilla, Hbst. *E.*
 Omosiphora limbata, F. *R.*
 Micrurula melanocephala, Marsh. *R.*
 Nitidula bipustulata, L.
 — rufipes, L. *L.*
 Soronia punctatissima, Ill. *R., B.*
 — grisea, L. *R., E.*
 Amphotis marginata, F. *E.*
 Omosita colon, L.
 — discoidea, F.
 Pocadius ferrugineus, F. *R., B.*
 Meligethes rufipes, Gyll.
 — lumbaris, St. *M., E.*
 — æneus, F.
 — viridescens, F.
 — kunzei, Er. *R.*
 — memnonius, Er. *R.*
 — picipes, F.
 — murinus, Er. *R.*
 — erythropus, Gyll.
 — umbrosus, St. *E.*
 Cydramus luteus, F. *B., R., E.*
 Cryptarcha strigata, F. *M., R.*
 Ips quadripunctata, Hbst. *R.*
 — quadriguttata, F. *Goyt Valley* (Taylor)
 Rhizophagus cribratus, Gyll. *R.*
 — depressus, F. *R.*
 — perforatus, Er.
 — ferrugineus, Payk.
 — nitidulus, F. *M.*
 — dispar, Gyll.
 — cœruleipennis, Sahl. *Lovers' Walk, Matlock*, very rare (Fowler)

TROGOSITIDÆ

- Thymalus limbatus, F. *E.*

MONOTOMIDÆ

- Monotoma spinicollis, Aubé. *R.*
 — brevicollis, Aubé. *R.*
 — picipes, Hbst.
 — quadricollis, Aubé. *R.*
 — longicollis, Gyll. *R.*

LATHRIDIIDÆ

- Lathridius lardarius, DeG.
 — angulatus, Humm. *R., E.*
 Coninomus nodifer, Westw.
 [— constrictus, Humm. Recorded doubtfully by Fowler from *Burton*]
 Enicmus minutus, L.

LATHRIDIIDÆ (continued)

- Enicmus transversus, Ol.
 Cartodere ruficollis, Marsh.
 — filum, Aubé. *B.* (Fowler)
 Corticaria pubescens, Gyll.
 — crenulata, Gyll. *R.*
 — denticulata, Gyll. *R.*
 — serrata, Payk. *R.*
 — elongata, Humm.
 Melanophthalma gibbosa, Hbst.
 — fuscula, Humm.

CUCUJIDÆ

- Læmophlœus ferrugineus, Steph. *M.*
 Nausibius dentatus, Marsh. *R.*

BYTURIDÆ

- Byturus tomentosus, F.
 — sambuci, Scop. *R.*

CRYPTOPHAGIDÆ

- Telmatophilus caricis, Ol.
 — sparganii, Ahr. *D.*
 — typhæ, Fall. *D.*
 Antherophagus nigricornis, F. *R.*
 — pallens, Gyll. *R.*
 Cryptophagus lycoperdi, Hbst.
 — ruficornis, Steph. *Ockbrook* (Gorham)
 — saginatus, St. *R.*
 — scanicus, L.
 — dentatus, Hbst.
 — acutangulus, Gyll.
 — cellaris, Scop. *R.*
 — umbratus, Er. *E.*
 — affinis, St. *R.*
 Micrambe vini, Panz.
 Paramecosoma melanocephalum, Hbst. *R.*
 Atomaria fimetarii, Hbst. *R., E.*
 — diluta, Er. One at *M.*; only recorded from Scotland
 — umbrina, Er. *R.*
 — fumata, Er. *Birchover* (Tomlin)
 — linearis, Steph. *M.*
 — nigriventris, Steph. *R.*
 — nigripennis, Payk. *B.* (Harris)
 — fuscata, Sch.
 — pusilla, Payk.
 — atricapilla, Steph.
 — berlinensis, Kr. *R.*
 — basalis, Er. *R., B., E.*
 — mesomelas, Hbst. *R., B.* (Bates)
 — apicalis, Er. *R., D.*
 — analis, Er.
 — ruficornis, Marsh.
 — versicolor, Er. *R., D.*
 Ephistemus globosus, Wal. *M., R., Egginton* (Brown)
 — gyrinoides, Marsh.
 vars. dimidiata, St., and dubia, Fowler. *M.*

SCAPHIDIIDÆ

- Scaphidium quadrimaculatum, Ol. *Wensley* (Tomlin)

INSECTS

SCAPHIDIIDÆ (*continued*)

- Scaphisoma agaricinum, L.
— boleti, Panz.

MYCETOPHAGIDÆ

- Typhæa fumata, L.
Triphyllus punctatus, F. R., B.
— suturalis, F. R.
Mycetophagus quadripustulatus, L.
— multipunctatus, Hel. R.
— piceus, F. B.
— atomarius, F. B.
— populi, F. E.

DERMESTIDÆ

- Dermestes lardarius, L.
— murinus, L. R., D.
Attagenus pello, L.
Megatoma undata, F. B.
Anthrenus musæorum, L. R., B.
Trinodes hirtus, F. E.

BYRRHIDÆ

- Byrrhus pilula, L.
— dorsalis, F. L.
Cytillus varius, F.
Simplocaria semistriata, F.
Aspidiphorus orbiculatus, Gyll. *Wensley*
(Tomlin)

PARNIDÆ

- Elmis æneus, Müll. M., B.
— volkmari, Panz. M., R.
— subviolaceus, Müll. R. (Fowler)
— parallelopedus, Müll. R., D.
Limnius tuberculatus, Müll.
Macronychus quadrituberculatus, Müll.
In the *Dove* near *Willington* (Harris);
the only known British locality
Parnus auriculatus, Panz.
— prolifericornis, F.

HETERO CERIDÆ

- Heterocerus marginatus, F. M.
[— fuscus, Kies. R.]

LUCANIDÆ

- Lucanus cervus, L. *Chellaston* (Pullen in
Journ. D. A. and N. H. S. 1899),
Derwent in 1870 (Jourdain), south
of the *Trent* (H. H. Crewe and
H. F. Gibson), *Calke* (Garneys), R.
(Jourdain)

- Dorcus parallelopedus, L. R., B., M.
Sinodendron cylindricum, L. R., B., L.

SCARABÆIDÆ

- Onthophagus ovatus, L. R., *Scalpcliff*
Hill (Brown)
— cænobita, Hbst. R.
— vacca, L. E.
— ovatus, L. B. (Bates)
Aphodius erraticus, L. R., B., E.
— subterraneus, L.
— fossor, L.
— hæmorrhoidalis, L.
— fœtens, F.

SCARABÆIDÆ (*continued*)

- Aphodius fimetarius, L.
— scybalarius, F.
— ater, DeG.
— constans, Duft. *Wensley* (Tomlin), E.
— granarius, L.
— fœtidus, F. E.
— putridus, Cr. E.
— sordidus, F. B.
— rufescens, F. M., B.
— pusillus, Hbst.
— merdarius, F.
— conspurcatus, L. *Bakewell* (Taylor)
— inquinatus, F. R., E.
— sticticus, Panz. M., B.
— punctatosulcatus, St.
— prodromus, Br.
— contaminatus, Hbst.
— luridus, F. R., B.
var. nigripes, F. B. (Bates)
— rufipes, L.
— depressus, Kug.
Plagiogonus arenarius, Ol. E.
Oxyomus porcatus, F. R.
Ammœcius brevis, Er. M. (Blatch in
E.M.M. xix. 117)
Psammobius sulcicollis, Ill. R.
Ægialia sabuleti, Payk. M. (Fowler)
Geotrupes typhœus, L. *Breadsall Moor*
(Brown), L.
— stercorarius, L.
— spiniger, Marsh.
— mutator, Marsh. *Dovedale* (Brown)
— vernalis, L. R. (Brown), L.
— sylvaticus, Panz. L.
Trox sabulosus, L. B., E.
Serica brunnea, L.
Melolontha vulgaris, F.
— hippocastani, F. *Darley Dale* (Tomlin
teste Champion)
Phyllopertha horticola, L.
Hoplia philanthus, Füss. L.

BUPRESTIDÆ

- Agrilus viridis, L. R. (Brown), B. (Bates)
— angustulus, Ill. R., E.
— laticornis, Ill. R.
Trachys pygmæus, F. E.

THROSCIDÆ

- Throscus dermestoides, L. *Grange Wood*
(Brown), M.

EUCNEMIDÆ

- Melasis buprestoides, L. R., D.

ELATERIDÆ

- Lacon murinus, L.
Elater balteatus, L. E.
[— sanguineus, L. E.]
Megapenthes sanguinicollis, Pz. E.
Cryptohypnus riparius, F.
— quadripustulatus, F. R., B.
— dermestoides, Hbst. R.

A HISTORY OF DERBYSHIRE

ELATERIDÆ (*continued*)

- Melanotus rufipes, Hbst. R., B.
 — niger, F. E.
 Athous niger, L.
 — vittatus, F. M., R., B.
 — hæmorrhoidalis, F.
 — longicollis, Ol. M., R., B., E.
 Limonius minutus, L. R., B.
 Adrastus limbatus, F.
 Agriotes sputator, L.
 — obscurus, L.
 — lineatus, L.
 — sobrinus, Kies.
 — pallidulus, Ill.
 Dolopius marginatus, L.
 Sericosomus brunneus, L. *Goyt Valley*,
 one sp. (Taylor)
 Corymbites cupreus, F. R., B.
 — tessellatus, F. R., B., E.
 — quercus, Gyll.
 var. ochropterus, Steph., also occurs
 — holosericeus, F. M., R., B.
 — pectinicornis, L. B., D.
 — æneus, L. B., L.
 — metallicus, Pk. E.
 — bipustulatus, L. E.
 Campylus linearis, L.

DASCILLIDÆ

- Dascillus cervinus, L. M. (Fowler), B.
 Helodes minuta, L.
 — marginata, F.
 Microcara livida, F.
 Cyphon coarctatus, Payk. M., B., R.
 — nitidulus, Th. M.
 — variabilis, Th.
 — pallidulus, B.
 — padi, L. R.
 Prionocyphon serricornis, Müll. R.
 Scirtes hemisphæricus, L. R., D.

LAMPYRIDÆ

- Lampyris noctiluca, L. M., L.; *Dales of the High Peak* (Jourdain)

TELEPHORIDÆ

- Podabrus alpinus, Payk.
 Ancistrioncha abdominalis, F. *Miller's Dale* (Chappell and Taylor)
 Telephorus rusticus, Fall.
 — fuscus, L. D., L.
 — lividus, L.
 — obscurus, L. *Chatsworth*, one sp. (Taylor)
 — pellucidus, F.
 — nigricans, Müll. The var. discoideus, Steph., is commoner than the type
 — lituratus, Fall.
 — figuratus, Mann. R.
 — bicolor, F.
 — hæmorrhoidalis, F. M., B.

TELEPHORIDÆ (*continued*)

- Telephorus paludosus, Fall. *Glossop* (Chappell), *Goyt Valley* (Taylor)
 — flavilabris, Fall.
 — thoracicus, Ol. R., B.
 Rhagonycha unicolor, Curt. M., R.
 — fuscicornis, Ol. R.
 — fulva, Scop.
 — testacea, L.
 — limbata, Th.
 — pallida, F.
 Malthinus punctatus, Fourc.
 — fasciatus, Ol. M., R.; *Miller's Dale* (Taylor)
 — balteatus, Suffr. R.; *Miller's Dale* (Taylor)
 — frontalis, Marsh. R., D.
 Malthodes marginatus, Latr.
 — mysticus, Kies. M.; *Glossop* (Fowler)
 — flavoguttatus, Kies. R.
 — guttifer, Kies. M.
 — dispar, Germ. M., R.
 — pellucidus, Kies. *Lathkill Dale* and *Birchover* (Tomlin)
 — minimus, L.
 — fibulatus, Kies. M., R.
 — misellus, Kies. M., R.; *Glossop* (Fowler)
 — atomus, Th. M., common.

MELYRIDÆ

- Malachius æneus, L. R.
 — bipustulatus, L.
 Axinotarsus ruficollis, Ol. B. (Bates)
 Anthocomus fasciatus, L. R., D.
 Dasytes flavipes, F. R.
 — ærosus, Kies. R., B.
 Haplocnemus impressus, Marsh. R. (Bates)

CLERIDÆ

- Tillus elongatus, L. R., one spec.; E.
 Necrobia ruficollis, F. R., B.
 — violacea, L. R.
 — rufipes, F. D.
 Corynetes cœruleus, DeG. R., B., D.

PTINIDÆ

- Ptinus fur, L.
 — lichenum, Marsh. B.
 — sex-punctatus, Panz. R.
 — latro, F. D.
 — subpilosus, Müll. R.
 Niptus hololeucus, Fald.
 — crenatus, F. *Miller's Dale* (Tomlin), R., B.
 Mezium affine, Bois. D.
 Hedobia imperialis, L. R., B.

ANOBIIDÆ

- Dryophilus pusillus, Gyll. M.
 Priobium castaneum, F.
 Anobium domesticum, Fourc.
 — paniceum, L. R., B.
 Xestobium tessellatum, F.

INSECTS

ANOBIIDÆ (continued)

- Ptilinus pectinicornis*, L. *Haddon Hall*
(Tomlin), R., B., D.
Ernobius mollis, L. B.
Ochina hederæ, Müll. *Wensley* (Tomlin), R.
Xyletinus ater, Pz. B. (Bates)

BOSTRICHIDÆ

- Bostrichus capucinus*, L. B. (E. Brown
in coll. Power)

LYCTIDÆ

- Lyctus canaliculatus*, F. R.

CISSIDÆ

- Cis boleti*, Scop.
— *villosulus*, Marsh. R.
— *micans*, F. R.
— *hispidus*, Payk. R.
— *bidentatus*, Ol. R.
— *vestitus*, Mell. R.
— *pygmæus*, Marsh. B.
Octotemnus glabriculus, Gyll.
Ennearthron cornutum, Gyll. R. (Fowler)

CERAMBYCIDÆ

- Aromia moschata*, L. R., L.; *Willington*
(Pullen)
Callidium variabile, L. R.
— *violaceum*, L. R.
— *alni*, L. R.
Clytus arietis, L.
— *mysticus*, L. R., B., L.
Gracilia minuta, F. R., B., E.
Rhagium inquisitor, F. R.; *Goyt Valley*
(Taylor)

- [— *indagator*, Gyll. R.]

- *bifasciatum*, F. L., R.; *Scalpclyff Hill*
(Brown)

- Toxotus meridianus*, Panz. L., R.
Strangalia armata, L.
— *melanura*, L. R.
Leptura fulva, DeG. D.
Grammoptera ruficornis, F.
— *tabacicolor*, DeG. *Chatsworth* (Taylor)
— *analis*, Panz. M. (Fowler)

LAMIIDÆ

- Leiopus nebulosus*, L. M., R., B.
Acanthocinus ædilis, L. One at *Derby*
and one at *Denby* (J. Hill)
Pogonochærus fasciculatus, DeG. R.
— *dentatus*, Fourc. R.
Monochammus sartor, F. R. (Brown)
— *sutor*, L. Near *Derby* (Brown and
Hill), B.
Saperda scalaris, L. R., L.
— *populnea*, L. R., B. (Bates)
— *carcharias*, L. D.
Tetrops præusta, L. R., B.
Stenostola ferrea, Schr. M., R.
Phytœcia cylindrica, L. R.

BRUCHIDÆ

- Bruchus rufimanus*, Boh.
— *atomarius*, L. E.

EUPODA

- Orsodacna cerasi*, L. M. (Fowler)
— *lineola*, Panz.
Donacia crassipes, F. B.; *Willington*
(Pullen)
— *versicoloreæ*, Brahm. B.
— *sparganii*, Ahr. B.
— *dentipes*, F. R.; *Willington* (Pullen)
— *limbata*, Panz. R., B.
— *impressa*, Payk. R.
— *simplex*, F. R., B.
— *clavipes*, F. R.; *Willington* (Pullen)
— *semicuprea*, Panz. R., L.
— *sericea*, L. R., L., B.
— *affinis*, Kun. B.

- [*Hæmonia curtisi*, Lac. *Trentside* and B.
— probably should be succeeding
species]

- *appendiculata*, Panz. B. (Rev. C. F.
Thornewill)

- Zeugophora subspinosa*, F. R., B.

- Lema cyanella*, L.

- *lichenis*, Voet.

- Crioceris asparagi*, L. B., D.

CAMPTOSOMATA

- Cryptocephalus pusillus*, F. B., R.

- *aureolus*, Suff. *Dovedale* on *Hiera-*
cium (Fowler)

- *labiatus*, L.

CYCLICA

- Lamprosoma concolor*, St. M. (Fowler)

- Timarcha tenebricosa*, F.

- *violaceonigra*, DeG.

- Chrysomela staphylæa*, L.

- *polita*, L.

- *varians*, Sch. M. (Fowler), B. (Bates)

- *gœttingensis*, L. R., E.

- *banksi*, F. L.

- *orichalcia*, Müll. B.

- *graminis*, L. B.; *Bretby Park* (Bates)

- *menthrasti*, Suff. B., R.

- *fastuosa*, Scop. B., R.

- *didymata*, Scr. R.; B. (Bates)

- *hyperici*, Forst. R.

- Melasoma æneum*, L. R., E.; *Dovedale*
(Brown)

- Phytodecta rufipes*, DeG. B., R., E.

- *viminalis*, L. E.

- *olivacea*, Forst. *Stenson* (Garneys), L., B.

- *pallida*, L. B., R., E.

- Gastroidea viridula*, DeG. B., R., L.

- *polygoni*, L.

- Phædon tumidulus*, Germ.

- *armoraciæ*, L. B., R., L.

- *cochleariæ*, F.

- Phyllodecta vulgatissima*, L.

- *cavifrons*, Th. R.

- *vitellinæ*, L.

- Hydrothassa aucta*, F.

- *marginella*, L.

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CYCLICA (*continued*)

- Prasocuris junci, Br.
 — phellandrii, L.
 Luperus rufipes, Scop. *Breadsall* (Brown), R.
 — flavipes, L. R., E.
 — nigrofasciatus, Goe. E.
 Lochmæa capreæ, L. B., R., E.
 — cratægi, Forst. *Ingleby* (Garneys)
 Galerucella viburni, Payk. E., R., B.
 (Bates)
 — nymphææ, L. E.
 — sagittariæ, Gyll. B., R., E.
 — lineola, F. R., L.
 — tenella, L. B.
 Adimonia tanaceti, L. B.
 — suturalis, Th. *Goyt Valley* (Taylor)
 Sermyla halensis, L.

HALTICÆ

- Longitarsus holsaticus, L. R.
 — anchusæ, Pk. D.
 — luridus, Scop.
 — suturellus, Duft.
 var. fuscicollis, Steph.
 — atricillus, L.
 — melanocephalus, All.
 — suturalis, Marsh. R.
 — nasturtii, F. Near B. (Fowler)
 — piciceps, Steph. R.
 — membranaceus, Foudr. R.
 — flavicornis, Steph. R.
 — pusillus, Gyll.
 — ochroleucus, Marsh. R.
 — lævis, Duft. M., R.
 — jacobææ, Wat. L.
 — pellucidus, Foudr. R., D.
 Haltica ericeti, All. R. *Goyt Valley*
 (Taylor)
 — oleracea, L.
 Hermæophaga mercurialis, F. D.
 Phyllotreta nodicornis, Marsh. R.
 — consobrina, Curt. R.
 — punctulata, Marsh. R., E.
 — atra, Payk. M.
 — cruciferæ, Goe. M., R.
 — vittula, Redt. M., R.
 — undulata, Kuts.
 — nemorum, L.
 — ochripes, Curt. *Ockbrook* (Curtis' original loc.)
 — sinuata, Steph. R.
 — tetrastigma, Com. R. (Fowler)
 — exclamationis, Th. R.
 Apthona lutescens, Gyll. R.
 — nigriceps, Redt. *Egginton* (Harris)
 — nonstriata, Goe.
 — virescens, Foudr. M. (Fowler)
 Batophila rubi, Payk. *Findern* (Garneys), E.
 — ærata, Marsh. *Findern* (Garneys)
 Sphæroderma testaceum, F.
 — cardui, Gyll.

HALTICÆ (*continued*)

- Apteropeda orbiculata, Marsh. M., R.;
 Haddon (Taylor)
 — globosa, Ill. R.; *Haddon* (Taylor)
 Mantura rustica, L. R.
 — obtusata, Gyll. R.; *Wensley* (Tomlin)
 — matthewsi, Curt. M. (Blatch)
 Ochrosis salicariæ, Payk. D., R.
 Crepidodera transversa, Marsh.
 — ferruginea, Scop.
 — rufipes, L.
 — ventralis, Ill. R.
 — helxines, L. B.
 — chloris, Foudr. R., D.
 — aurata, Marsh.
 Hippuriphila modeeri, L.
 Epitrix atropæ, Foudr. D.
 Chætocnema hortensis, Fourc.
 Plectroscelis concinna, Marsh.
 Psylliodes chrysocephala, L. R., E.
 — cuprea, Koch. R.
 — napi, Koch. M., abundant
 — affinis, Payk.
 — picina, Marsh. R.
- ## CRYPTOSTOMATA
- Cassida sanguinolenta, F. R.
 — nobilis, L. R.
 — flaveola, Th. B., R.
 — equestris, F. B., R., D.
 — viridis, F.
 — hemisphærica, Hbst. B. (Harris)
- ## TENEBRIONIDÆ
- Blaps mortisaga, L. B., L.
 — mucronata, Latr.
 Helops striatus, Fourc.
 Scaphidema metallicum, F. R.; *Elvaston*
 (Gorham)
 Tenebrio molitor, L.
 Gnathoceras cornutus, F. M.
 Tribolium ferrugineum, F. R.
 — confusum, Duv. R.
- ## CISTELIDÆ
- Cistela luperus, Hbst. M.
 Eryx ater, F. E.
- ## MELANDRYIDÆ
- Tetratoma fungorum, F. R.
 Orchesia micans, Panz. B., R.
 Clinocara tetratoma, Th. R.
 Conopalpus testaceus, Ol. R.
 Melandrya caraboides, L. B., R.; *Egginton*
 (Brown)
- ## PYTHIDÆ
- Salpingus castaneus, Panz. R.
 — foveolatus, Lj. R.
 Lissodema quadripustulata, Marsh. B.,
 R.
 Rhinosimus ruficollis, L. M., R.; *Goyt Valley*
 (Taylor)
 — viridipennis, Steph. R.
 — planirostris, F.

INSECTS

CEDEMERIDÆ

Ischnomera cœrulea, L. R.

PYROCHROIDÆ

Pyrochroa serraticornis, Scop.

Scraptia fuscata, Müll. R. (Fowler)

MORDELLIDÆ

Anaspis frontalis, L.

— *pulicaria*, Costa

— *rufilabris*, Gyll. R.

— *geoffroyi*, Müll.

— *ruficollis*, F.

— *flava* var. *thoracica*, L. R.

— *substacea*, Steph.

— *maculata*, Fourc.

RHIPIDOPHORIDÆ

Metœcus paradoxus, L. R.

ANTHICIDÆ

Anthicus floralis, L.

— *antherinus*, L.

MELOIDÆ

Meloë proscarabæus, L.

— *rugosus*, Marsh. Two in *Miller's Dale* (Taylor)

— *violaceus*, Marsh. B., R., E.

— *brevicollis*, Pz. One in *Miller's Dale* (Taylor)

PLATYRRHINIDÆ

Brachytarsus fasciatus, Forst. B., R.

— *varius*, F. B., R.

Choragus sheppardi, Kirby. R.

CURCULIONIDÆ

Apoderus coryli, L. B., R.

Attelabus curculionoides, L. B., R.

Byctiscus betuleti, F. R., E.

Rhynchites æquatus, L. R.

— *æneovirens*, Marsh. B., R.

— *cœruleus*, DeG. B., R.

— *minutus*, Hbst.

— *interpunctatus*, Steph. B., R.

— *nanus*, Payk. R.

— *pubescens*, F. B., R.

Deporaus megacephalus, Germ. B., R.

— *betulæ*, L.

Apion pomonæ, F. B., R., D.

— *craccæ*, L. B.

— *ulicis*, Forst.

— *malvæ*, F. R., B., E.

— *hæmatodes*, Kirby. B.

— *miniatum*, Germ. B., R.

— *pallipes*, Kirby. R.

— *rufiostre*, F. R., B.

— *vicinæ*, Payk. R.

— *varipes*, Germ. B., R.

— *apricans*, Hbst.

— *assimile*, Kirby

— *trifolii*, L. R.

— *dichroum*, Bed.

— *nigritarse*, Kirby

— *æneum*, F.

— *radiolus*, Kirby

CURCULIONIDÆ (continued)

Apion onopordi, Kirby

— *carduorum*, Kirby

— *minimum*, Hbst. R.

— *virens*, Hbst.

— *punctigerum*, Payk

— *psi*, F.

— *æthiops*, Hbst. R.

— *ebeninum*, Kirby. R.

— *striatum*, Kirby. R., E.

— *ononis*, Kirby

— *spencei*, Kirby. R.

— *ervi*, Kirby

— *gyllenhalli*, Kirby. E.

— *vorax*, Hbst. B., R.

— *unicolor*, Kirby

— *meliloti*, Kirby

— *scutellare*, Kirby

— *loti*, Kirby

— *seniculum*, Kirby

— *simile*, Kirby. R.

— *marchicum*, Hbst.

— *violaceum*, Kirby

— *hydrolapathi*, Kirby

— *humile*, Germ.

Otiorrhynchus tenebricosus, Hbst. B.

— *ligneus*, Ol. R.; *Miller's Dale* (Tomlin)

— *picipes*, F.

— *sulcatus*, F.

— *ovatus*, L.

— *muscorum*, Bris. R.

— *ligustici*, L. One on *Masson Hill*, July, 1902 (Taylor)

Strophosomus coryli, F.

— *capitatus*, DeG.

— *retusus*, Marsh. R.

— *faber*, Hbst. R.

— *limbatus*, F. M.

Exomias araneiformis, Schr.

[*Trachyphlœus squamulatus*, Ol. B.]

Omius mollinus, Boh. B., R.

Brachysomus echinatus, Bousd. B., R.

Sciaphilus muricatus, F.

Tropiphorus tomentosus, Marsh. E., B., R.; *Lathkill Dale* (Tomlin)

Liophlœus nubilus, F. B., R., L.

Polydrosus micans, F. R., B. (Bates)

— *tereticollis*, DeG.

— *pterygomalis*, Boh.

— *cervinus*, L.

Phyllobius oblongus, L.

— *calcaratus*, F.

— *urticæ*, DeG.

— *pyri*, L.

— *argentatus*, L.

— *maculicornis*, Germ.

— *pomonæ*, Ol.

— *viridæris*, Laich.

— *viridicollis*, F. *Dovedale* and *M.* (Fowler), *Miller's Dale* (Taylor)

A HISTORY OF DERBYSHIRE

CURCULIONIDÆ (continued)

- Atactogenus exaratus, Marsh. *B.*
 Barynotus obscurus, F.
 — elevatus, Marsh. *R.*
 Alophus triguttatus, F. *B., R.*
 Sitones cambricus, Steph. *R., B. (Bates)*
 — regensteinensis, Hbst.
 — tibialis, Hbst.
 — brevicollis, Sch. *M. (Harris)*
 — hispidulus, F.
 — humeralis, Steph. *R., B., E.*
 — flavescens, Marsh. *R., B., E.*
 — puncticollis, Steph.
 — suturalis, Steph.
 — lineatus, L.
 — sulcifrons, Th.
 Limobius dissimilis, Hbst. *Lathkill Dale*
 (Tomlin)
 Hypera punctata, F.
 — rumicis, L.
 — suspiciosa, Hbst. *M., R., B.*
 — polygoni, L. *B.*
 — variabilis, Hbst.
 — plantaginis, DeG.
 — trilineata, Marsh. *B.*
 — nigrirostris, F.
 Cleonus sulcirostris, L. *B.*
 — nebulosus, L. *B.*
 Liosoma ovatum, Clair.
 — oblongulum, Boh. *M.*
 Liparus coronatus, Goe. *B.*
 Curculio abietis, L.
 Orchestes quercus, L.
 — alni, L.
 — ilicis, F. *R. ; B. (Bates)*
 — fagi, L.
 — rusci, Hbst. *M., R.*
 — avellanæ, Don. *B.*
 — stigma, Germ. *R.*
 — salicis, L. *R.*
 — saliceti, Payk. *R.*
 Rhamphus flavicornis, Cl.
 Orthochætes setiger, Beck. *M.*
 Grypidius equiseti, F.
 Erirrhinus bimaculatus, F. *R.*
 — acridulus, L.
 [— æthiops, F. *B. (Bates)*]
 Thryogenes nereis, Payk. *R.*
 Dorytomus vorax, F. *Newton (Brown), R.*
 — tortrix, L. *R. ; B. (Bates)*
 — pectoralis, Pz. *B. (Bates)*
 — maculatus, Marsh.
 var. costirostris, Gyll. *Wensley*
 (Tomlin)
 Tanysphyrus lemnae, F.
 Bagous diglyptus, Boh. *R. (see E. M. M.*
 xv. 235)
 [— frit, Hbst. *B.*]
 — tempestivus, Marsh. *R., B.*
 — petrosus, Hbst. *D.*

CURCULIONIDÆ (continued)

- Bagous alismatis, Marsh. *R.*
 Anoplus plantaris, Naez.
 Elleschus bipunctatus, L. *R., B. (Bates)*
 Tychius meliloti, Steph. *R., B.*
 — tomentosus, Hbst. *B., E.*
 Miccotrogus picirostris, F.
 Gymnetron villosulus, Germ. *R.*
 — beccabungæ, L. *M., R., E.*
 — pascuorum, Gyll. *R.*
 — antirrhini, Payk. *R.*
 Mecinus pyrastrer, Hbst.
 Anthonomus ulmi, DeG.
 — rosinæ, Des G. *R. (Fowler), Haddon*
 (Taylor)
 — pedicularius, L. *R., B.*
 — pomorum, L. *R.*
 — rubi, Hbst.
 Nanophyes lythri, F. *R.*
 Cionus scrophulariæ, L.
 — tuberculosus, Scop. *R.*
 — hortulanus, Marsh. *R., E.*
 — blattariæ, F.
 — pulchellus, Hbst.
 Orobitis cyaneus, L.
 Cryptorrhynchus lapathi, L. *R., B., L. ;*
 Willington (Pullen)
 Acalles roboris, Curt. *R.*
 — ptinoides, Marsh. *R., B.*
 — turbatus, Boh. *R., E.*
 Cœliodes quercus, F.
 — ruber, Marsh. *R., E.*
 — rubicundus, Hbst.
 — erythroleucus, Gmel. *R.*
 — quadrimaculatus, L.
 — cardui, Hbst. *R.*
 — geranii, Payk. *M.*
 Poöphagus sisymbrii, F. *R., B.*
 Ceuthorrhynchus assimilis, Payk.
 — cochleariæ, Gyll. *R., E.*
 — erysimi, F. *R., E.*
 — contractus, Marsh.
 — chalybæus, Germ. *M. ; Findern (Gar-*
 neys)
 — cyanipennis, Germ. *Findern (Garneys)*
 — quadridens, Panz.
 — pollinarius, Forst.
 — viduatus, Gyll. *R.*
 — pleurostigma, Marsh.
 — rugulosus, Hbst. *R.*
 — melanostictus, Marsh. *R.*
 — litura, F. *E.*
 — trimaculatus, F. *Ashbourne (Fowler)*
 Ceuthorrhynchidius floralis, Payk.
 — pyrrhorhynchus, Marsh. *R.*
 — nigrinus, Marsh. *R.*
 — melanarius, Steph. *R.*
 — terminatus, Hbst. *R.*
 — quercicola, Payk. *Foremark (Fowler), E.*
 — troglodytes, F.

INSECTS

CURCULIONIDÆ (*continued*)

- Ceuthorrhynchidius hepaticus, Gyll. R.
 Amalus hæmorrhous, Hbst. R.
 Rhinoncus pericarpus, L.
 — perpendicularis, Reich. R.; B. (Bates)
 — castor, F. R.
 Eubrychius velatus, Beck. R.
 Litodactylus leucogaster, Marsh. R.; B.
 (Bates)
 Limnobaris T-album, L. R.
 Balaninus venosus, Grav. R.
 — nucum, L. B., R., E.
 — turbatus, Gyll. R.
 — villosus, F. R.
 — salicivorus, Payk.
 — pyrrhoceras, Marsh.
 Calandra granaria, L.
 Magdalis cerasi, L. R.
 — pruni, L.

CURCULIONIDÆ (*continued*)

- Magdalis armigera, Fourc. B.

SCOLYTIDÆ

- Scolytus destructor, Ol.
 Hylastes palliatus, Gyll. M.
 — opacus, Er. R.
 — ater, Payk. R.
 Hylesinus crenatus, F. R., B.
 — oleiperda, F. M., R.
 — fraxini, Panz.
 — vittatus, F. R., B.
 Myelophilus piniperda, L. R., E.
 Cryphalus abietis, Ratz. R.
 Pityophthorus pubescens, Marsh. R., B.
 Xylocleptes bispinus, Duft. R.
 Dryocætes villosus, F. R.
 Tomicus laricis, F. R.
 — acuminatus, Gyll. R., D.
 Pityogenes bidentatus, Hbst. M., R.

LEPIDOPTERA

As indeed is usually the case, the Lepidoptera of Derbyshire have been more systematically worked out than any other order of insects. Perhaps this applies more particularly to the southern part of the county, which has never lacked observers for the last fifty years, for in the north entomologists are few and far between. One of the earliest lists we possess is that of Stephen Glover in his *History of the County of Derby* (1829), i. 174, who gives a list of twenty-five species. *Papilio machaon* is here mentioned, and may possibly have occurred on Sinfin Moor and the marshes of the Trent, but it is doubtful whether Glover can be relied upon, especially as he also mentions the 'Emperor Butterfly, *Papilio imperator*.' The first serious attempt at a local list was that of Mr. Edwin Brown, who contributed an account of the Fauna of Burton to the *Natural History of Tutbury* (1863), pp. 185-210. Here some 600 species are mentioned, but the district embraced is a wide one and includes parts of Staffordshire and Leicestershire as well as south Derbyshire. Fortunately in most cases localities are given. In 1866 the Rev. F. Spilsbury contributed a list of Lepidoptera of the Repton district to a small work entitled *Contributions to the Flora and Fauna of Repton and Neighbourhood*, and in the second edition of this work (1881) the list is reprinted with additions by Messrs. P. B. Mason and W. Garneys. Here again about 600 species are recorded, but in almost all cases from localities within the county boundaries. Little of importance was published subsequently until 1885, when the entomological section of the Burton-on-Trent Natural History Society compiled a catalogue of the Macro-Lepidoptera of Burton-on-Trent and neighbourhood, which was first published in the *Entomologist* for that year and was afterwards reprinted in the *Transactions of the Burton-on-Trent Natural History and Archæological Society* (1889), i. 114. The district included is from fifteen to twenty miles around Burton, but exact localities are given as well as observers' initials, so that

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in many cases it is possible to separate the Derbyshire records. A second instalment of this paper dealing with the Micro-Lepidoptera and compiled by Messrs. J. T. Harris and P. B. Mason was published in the *Transactions of the Burton-on-Trent Natural History and Archæological Society* (1892), ii. 1-14.

In 1895 Mr. F. W. G. Payne published a Catalogue of the Macro-Lepidoptera of Derbyshire in the *Entomologist* (pp. 49, 117, 170). A fair proportion of the records in this list are from the northern part of the county, which hitherto had been altogether neglected. Unfortunately entire dependence cannot be placed upon this list as several species have undoubtedly been included in error.¹ A paper on the Rhopalocera of Derbyshire by the present writer was published in the *Journal of the Derbyshire Archæological and Natural History Society* (1903), xxv.

Besides the above more important papers many short notes and records are to be found in various entomological periodicals, and Newman's work on British butterflies and moths contains many references to Derbyshire which were probably communicated by the Rev. H. Harpur Crewe and Joseph Greene.

It must however be admitted that Derbyshire is not rich in Rhopalocera. Although forty species have been recorded from the county, only about fourteen or fifteen can be described as at all common. Several species which were formerly numerous locally have now disappeared. Others are absent from the greater part of the county and only occur in limited areas, while a large proportion are merely rare accidental visitors. On the other hand the Heterocera are much better represented, and in the south and near Derby have been well worked, although a good deal still remains to be done among the Micro-Lepidoptera, more especially the Tineæ.

In conclusion I must express my thanks to all who have assisted in the compilation of the present list, more especially Messrs. Hugo Harpur Crewe, J. Hill, E. A. Cockayne and G. Pullen; the Rev. C. F. Thornehill, R. H. Fuller and W. H. Purchas, and also Miss Crewe, who kindly placed some notebooks of the late Rev. H. Harpur Crewe at my service. The exigences of space have prevented the publication of authorities in many cases; as a general rule those mentioned in the *Natural History of Tutbury, Wild Flowers, etc., of Repton*, Mr. F. W. G. Payne's list and those published by the Burton-on-Trent Natural History Society have not been repeated (with one or two exceptions), while those given are either published for the first time or have been taken from scattered papers, or else have been overlooked by later compilers.

The total number of species treated of in the following list amounts to 914, composed as follows:—

¹ e.g. *Syrictthus malvæ*, L., *Acidalia immutata*, L., and *Agrotis puta*, Hb.

INSECTS

Rhopalocera	40
Heterocera : Sphinges	21
Bombyces	58
Noctuæ	183
Geometræ	174
Pyralides	34
Pterophori	11
Crambi	21
Tortrices	143
Tineæ	229
	874
Total	914

Abbreviations used :—

- Newm. = E. Newman
- H.C. = The Rev. H. Harpur Crewe (Breadsall district, etc.)
- E.B. = Edwin Brown (Burton-on-Trent)
- W.G. = The Rev. F. Spilsbury and W. Garneys (Repton)
- W.H.P. = The Rev. W. H. Purchas (Alstonfield)
- C.F.T. = The Rev. C. F. Thornewill (Bakewell and Burton)
- W.G.S. = W. G. Sheldon (Little Eaton, Repton, etc.)
- J.H. = J. Hill (Little Eaton, etc.)
- H.H.C. = Hugo Harpur Crewe (Melbourne)
- R.H.F. = The Rev. R. H. Fuller (Bakewell and Kirk Langley)
- E.A.R. = E. A. Rhodes (Ashbourne and Heanor)
- B.T. = B. Tomlin (Darley Dale)
- E.W.B. = E. W. H. Blagg (Dovedale, etc.)
- E.A.C. = E. A. Cockayne (Ashopton, Bamford and Baslow)
- G.W.W. = G. W. Wynn (Chesterfield)
- G.P. = G. Pullen (Little Eaton and Derby)
- F.J. = The Rev. F. C. R. Jourdain (Ashbourne).

RHOPALOCERA

PAPILIONIDÆ

[*Papilio machaon*, L. Included by Glover in his list (*Hist. of the County of Derby*, i. 175). Two taken near *Matlock* (T. Lighton), where however hundreds were turned out by J. Wolley in 1843 and 1844]

PIERIDÆ

- Aporia cratægi*, L. Larvæ once found at *Barrow-on-Trent* (F. Spilsbury)
- Pieris brassicæ*, L. Common
- *rapæ*, L. " "
- *napi*, L. " "
- Euchlœe cardamines*, L. Common in valleys except in High Peak
- Colias hyale*, L. One in *Via Gellia* (J. Wolley); two said to have been taken in 1859 near *Melbourne*, one in 1901 (H.H.C.)
- *edusa*, Fb. Occasional in south and south-east *Derbyshire*; plentiful in 1877 at *Little Eaton* and *Melbourne*; one *Kirk Langley* and one *Bradley* in 1900 (R.H.F. and E.A.R.), etc.
- var. *helice*, Hb. *Repton* (W.G.)

PIERIDÆ (*continued*)

Gonopteryx rhamni, L. Scarce, but has been taken in many localities in the southern half of the county

NYMPHALIDÆ

- Argynnis selene*, Schiff. Formerly common, *Repton Shrubs*; *Dovedale*
- *euphrosyne*, L. Formerly *Repton Shrubs* and *Seal Wood*; one in 1865 (H.H.C.)
- *aglaia*, L. Formerly *Dovedale*
- *adippe*, L. '*Breadsall, Dovedale, Matlock* and *Cromford*' (H.C.); one near *Melbourne* in 1894 or 1895 (H.H.C.)
- *paphia*, L. Formerly *Repton Shrubs* and *Seal Wood*; wasted specimens occasionally near *Melbourne* (H.H.C.); one seen *Burnaston*, 1901 (R.H.F.)
- Melitæa aurinia*, Rott. *Cromford* (H.C.); one at *Burton*
- Vanessa c-album*, L. Scarce; occurs occasionally south of the *Trent*, also *Little Eaton*, 1858 (J.H. and H.C.); one near *Eckington* (1893)
- *polychloros*, L. Scarce; *Ashbourne, Dovedale, Burton, Barrow, Hartshorne, Calke, Little Eaton* and *Breadsall*

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NYMPHALIDÆ (continued)

- Vanessa urticæ*, L. Common everywhere
 — *io*, L. Much less common than formerly; now almost rare
 — *antiopa*, L. One at *Milton* near *Repton*, another at *Melbourne Hall* (1872); one seen at *Stanton-by-Bridge* in 1872; altogether ten taken in *Derbyshire* in 1872 (C. G. Barrett); one seen in *Little Eaton Park* in 1886 (J.H.), and another in *Derby* in 1899 (H.H.C.)
 — *atalanta*, L. Common, especially in certain seasons
 — *cardui*, L. Occasionally almost everywhere, but most common on moors and high pastures
Pararge egeria, L. *Seal Wood* and *Repton Shrubs*, scarce; once at *Calke* (H.H.C.); one seen *Lathkill Dale* (R.H.F.)
 — *megæra*, L. Very variable in numbers, but still occasionally common locally south of the *Trent*; some years abundant, *Melbourne* (H.H.C.); three seen, one taken (R.H.F.)
Satyrus semele, L. *Dovedale*, scarce
Epinephele ianira, L. Generally distributed over the southern half of the county as far north as *Matlock*
 — *tithonus*, L. Occurs south of the *Trent*; once *Allestree* (J.H.)
 — *hyperanthes*, L. In the woods of the south-west (*Burton*, *Repton*, *Melbourne*, etc.)
 [Cœnonympha typhon, Rott. Is said to occur on the moors near the 'Cat and Fiddle,' *Buxton*]
 — *pamphilus*, L. Generally distributed

LYCÆNIDÆ

- Thecla w-album*, Knoch. *Repton* district, common; *Darley* (H.C.); one, *Cubley* (J. Greene)
 [— *pruni*, L. One said to have been found among insects from *Chesterfield* district (*Intelligencer*, ix. 27)]
 — *quercus*, L. Common in *Melbourne* district and sometimes abundant (H.H.C.)
 — *rubi*, L. *Dovedale*, fairly common; *Alderwasley* (J.H.), *Breadsall Moor* in 1902, but not previously (G.P.)
Polyommatus phloœas, L. Generally distributed and common in south, scarcer towards north
Lycæna astrarche, Bgstr. A dale-haunting species; *Monsal*, *Miller's*, *Lathkill Dales* and *Dovedale*
 — *icarus*, Rott. Common except in *High Peak*
 — *argiolus*, L. Near *Repton*, etc., scarce; *Kirk Langley*, 1901 (R.H.F.)
 — *minima*, Fuesl. *Dovedale* and *Middleton Dale*

ERYCINIDÆ

- Nemeobius lucina*, L. Once *Via Gellia* (H.C.)

HESPERIIDÆ

- Nisoniades tages*, L. Common in the dales of mid-*Derbyshire* (*Dovedale*, *Lathkill Dale*, etc.), *Longstone Edge* (J.H.)
Hesperia thauamas, Hufn. *Burton* district
 — *sylvanus*, Esp. Scarce; *Melbourne* district (H.H.C.); near *Burton*

HETEROCERA

SPHINGES

SPHINGIDÆ

- Acherontia atropos*, L. Occasional in south *Derbyshire*, and is sometimes abundant in the *Repton* and *Burton* districts, as in 1885 and 1901; has occurred at *Hope*, 1901, and *Bakewell*, 1902 (W. Storrs Fox)
Sphinx convolvuli, L. Occurs not uncommonly south of the *Trent*; also near *Ashbourne* (E.A.R.), *Darley Dale* (B.T.), *Breadsall*, 1846 and 1863 (H.C.), near *Derby* (G.P.), *Mickleover* twice (*Ent.* 1889), two at *Bakewell*, 1901 (W. Boulsover); one 1901, another 1902, *Bakewell* (W. Storrs Fox)
 — *ligustri*, L. Not uncommon south of the *Trent*

SPHINGIDÆ (continued)

- Deilephila galii*, Schiff. Four at *Breadsall* in 1868 (H. A. Stowell), *Derby* (*E.M.M.* 1870, v.); two at *Mickleover*, 1888 (R. C. Bindley)
Chærocampa celerio,¹ L. One at *Matlock*, 1860 (F. Tearle); one at *Eckington*
 — *porcellus*, L. Occurs regularly south of the *Trent*; *Breadsall* (H.C.), once near *Alstonfield* (W.H.P.), one, *Kirk Langley*, 1902 (R.H.F.)
 — *elpenor*, L. Not uncommon in *Trent Valley*; *Little Eaton* (J.H. and G.P.)
Smerinthus ocellatus, L. Tolerably common, south *Derbyshire*; twice, *Staveley*; *Kirk Langley* (R.H.F.); *Little Eaton* (J.H.), etc.

¹ *Chærocampa nerii*, L., has occurred at *Burton-on-Trent* (1888).

INSECTS

SPHINGIDÆ (*continued*)

- Smerinthus populi*, L. Common all over south *Derbyshire*, occasional in north
 — *tiliæ*, L. *Cubley* (prior to 1863); one pupa (G.P.)
Macroglossa stellatarum, L. Sometimes in large numbers in the *Dove* and *Trent Valleys*, occasionally everywhere except the High Peak

SESIIDÆ

- Trochilium apiformis*, Clerck. *Repton* and *Willington* in osier beds
 — *crabroniformis*, Lewin. *Trent Valley*, *Little Eaton*
Sesia sphegiformis, Fb. *Repton Shrubs*
 — *tipuliformis*, Clerck. Common in gardens of central and southern *Derbyshire*
 — *asiliformis*, Rott. *Repton Shrubs*
 — *culciformis*, L. *Repton Wood*, *Seal Wood*

ZYGÆNIDÆ

- Ino stactices*, L. Common in meadows; *Trent* and *Dove Valleys*
 — *geryon*, Hb. *Monsal*, *Lathkill*, *Middleton* and *Dove Dales*, *Little Eaton*
Zygæna loniceræ, Esp. *Repton*
 — *filipendulæ*, L. *Trent Valley*, *Dovedale*, *Middleton Dale*, common; *Little Eaton*, etc.

BOMBYCES

NYCTEOLIDÆ

- Hylophila prasinana*, L. Fairly common south *Derbyshire*, especially south of the *Trent*; also reported from *Lathkill Dale* (R.H.F.); one, *Bakewell*, 1900 (W. Storrs Fox)

NOLIDÆ

- Nola cucullatella*, L. Common in the low-lying parts of the county
 — *confusalis*, H.S. *Burton* and *Repton*

LITHOSIIDÆ

- Nudaria mundana*, L. Not found north of *Bakewell*; occurs in valleys of the south
Lithosia lurideola, Zinck. *Trent Valley*, etc.
Gnophria quadra, L. Once at *Little Eaton* (J.H.)

EUCHELIDÆ

- Deiopeia pulchella*, L. A wing found near *Repton* in 1863 (H.H.C.); also said to have occurred at *Repton* in 1874 (*Ent.* xvii. 141)
Euchelia jacobææ, L. On hillsides between *Whatstandwell* and *Little Eaton* (J.H.); one, *Calke* (H.H.C.)

CHELONIIDÆ

- Nemeophila plantaginis*, L. *Dovedale*, *Monsal* and *Lathkill Dales*; *Ambergate* (G.P.)

CHELONIIDÆ (*continued*)

- Arctia caia*, L. Fairly common in all parts
Spilosoma fuliginosa, L. Has occurred in almost every part of the county, but not common
 — *mendica*, Clerck. One, *Middleton Dale* (C.F.T.); larva once, *Little Eaton* (J.H.); two larvæ, *Milldale* (H.H.C.)
 — *lubricipeda*, Esp. Common from north to south
 — *menthrasti*, Esp. Common from north to south
 — *urticæ*, Esp. Larvæ once near *Burton*

HEPIALIDÆ

- Hepialus humuli*, L. Common and generally distributed
 — *sylvanus*, L. Generally distributed. Common in *Trent* and *Lower Derwent Valleys*; *Bakewell* district (R.H.F.)
 — *velleda*, Hb. Common south of the *Trent*; also *Ashopton* to *Baslow* (E.A.C.), *Bakewell* district (R.H.F.), etc.
 var. *gallicus*, *Bretby*
 — *lupulinus*, L. Common all over county
 — *hectus*, L. Common

COSSIDÆ

- Cossus ligniperda*, Fb. Common in valleys of south
Zeuzera pyrina, L. Occasional in mid and south *Derbyshire*

LIPARIDÆ

- Porthesia chrysoorrhea*, L. *Willington*, common (G.P.)
 — *similis*, Fuesl. Very common and generally distributed
Leucoma salicis, L. Common south of *Trent*; *Little Eaton*
Dasychira pudibunda, L. *Melbourne* district, fairly common (H.H.C.); *Trent Valley*, scarce
Orgyia antiqua, L. Common and generally distributed

BOMBYCIDÆ

- Trichiura cratægi*, L. Scarce; *Trent Valley*
Pœcilocampa populi, L. Occasional; *Burton*, *Repton*; *Ashbourne* (F.J.), *Darley Dale* (B.T.), *Derby* (G.P.), etc.
Eriogaster lanestrus, L. Common in *Trent Valley*; also *Lower Derwent Valley*
Bombyx rubi, L. *Dovedale*; *Ashopton* to *Baslow* (E.A.C.)
 — *quercus*, L. Occasional in central and southern *Derbyshire*
 var. *callunæ*. *Upper Derwent Valley* (E.A.C.)
Odonestis potatoria, L. Common

A HISTORY OF DERBYSHIRE

SATURNIIDÆ

Saturnia pavonia, L. Moors from *Ashopton* to *Baslow* (E.A.C.), *Longstone Moor* (J.H.), moors of *Upper Dove Valley* (F.J., W.H.P.), formerly *Breadsall Moor* (J.H.)

DREPANULIDÆ

Drepana lacertinaria, L. Recorded from the *Leicester* border
 — *falcataria*, L. Fairly common near *Leicester* border (H.H.C.), *Breadsall Moor* (W.G.S.)

Cilix glaucata, Scop. Commonly distributed

DICRANURIDÆ

Dicranura bicuspis, Bork. *Egginton*, rare; *Burton*, etc. (Newm.); *Bakewell*, once (R.H.F.)
 — *furcula*, L. *Trent Valley*
 — *bifida*, Hb. *Breadsall Moor*, 1853 (H.C.); fairly common in south
 — *vinula*, L. Common except on the high ground of the north-west

NOTODONTIDÆ

Pterostoma palpina, L. *Breadsall Moor*, 1853 (H.C.); also from the *Trent* to the *Leicestershire* border
Lophopteryx camelina, L. Common
Notodonta dictæa, L. Generally distributed from *Buxton* (C.F.T.) to *Seal Wood*
 — *dictæoides*, Esp. *Breadsall Moor* (H.C.), *Derby* (G.P., etc.); probably widely distributed
 — *dromedarius*, L. Reported *Lathkill Dale* (R.H.F.), *Breadsall Moor*, *Derby*, *Repton*, *Willington*, etc.
 — *ziczac*, L. Reported *Lathkill Dale* (R.H.F.), *Osmaston-by-Asbourne* (H.C.), *Repton*, *Barrow*, *Seal Wood*, *Derby*
 — *chaonia*, Hb. *Repton Shrubs*
 — *trimacula*, Esp. *Repton Shrubs*, *Seal Wood*

PYGÆRIDÆ

Phalera bucephala, L. Common in southern half of county
Pygæra curta, L. *Burton*

CYMATOPHORIDÆ

Thyatira derasa, L. Fairly common in south; *Dovedale* (E.W.B.), *Little Eaton* (G.P.), etc.
 — *batis*, L. Tolerably common and general
Cymatophora octogesima, Hb. *Darley Dale* (B.T.)
 — *or*, Fb. *Breadsall Moors*, 1853 (H.C.); *Asbourne* (E.A.R.)
 — *duplaris*, L. Near *Calke* (H.H.C.); *Little Eaton*, darker than southern form (J.H.)
Asphalia diluta, Fb. *Ingleby*
 — *flavicornis*, L. Occurs in most places

NOCTUÆ

BRYOPHILIDÆ

Bryophila perla, Fb. Common and generally distributed

BOMBYCOIDÆ

Moma orion, Esp. *Calke* (J.H.)
Demas coryli, L. *Dovedale*, *Lathkill Dale*; *Little Eaton* (G.P.); larvæ formerly near *Calke* (H.H.C.)
Acronycta tridens, Schiff. *Trent Valley*; one larva, *Calke* (H.H.C.); *Breadsall Moors* (H.C., etc.)
 — *psi*, L. Common in all parts
 — *leporina*, L. Has occurred in *Trent Valley* and the south
 — *aceris*, L. *Darley Dale* (B.T.)
 — *megacephala*, Fb. Fairly common on low ground
 — *alni*, L. *Burton*, *Repton* (3), *Egginton* (2), *Hartshorne* (1), *Willington*, etc.; also *Kirk Langley* (R.H.F.); *Little Eaton* (G.P.); *Melbourne* district, five occurrences, three taken (H.H.C.); *West Hallam*, one larva, 1902 (J.W. Carr)
 — *ligustri*, Fb. Scarce, *Repton Shrubs*; empty cocoons (H.H.C.)
 — *rumicis*, L. Generally distributed
 — *menyanthidis*, View. *Ashopton* district (E.A.C.)
Diloba cœruleocephala, L. Common in south

LEUCANIIDÆ

Leucania conigera, Fb. *Burton*, *Bretby*, *Barrow*; *Bakewell*, 1895 (R.H.F.); *Miller's Dale* and *Little Eaton* (J.H.)
 — *lithargyria*, Esp. *Bakewell* (R.H.F.); *Little Eaton* (G.P.); also district south of the *Trent*
 — *comma*, L. Common in central and southern parts
 — *impura*, Hb. Common
 — *pallens*, L. "
Cœnobia rufa, Haw. *Repton*; *Little Eaton* (G.B.)
Tapinostola fulva, Hb. *Burton*, *Repton*, *Bretby*, *Chellaston*, etc.
Nonagria arundinis, Fb. Common, south; also occurs where food plant is found, *Kirk Langley*, etc. (R.H.F.)
 — *lutosa*, Hb. *Burton*, *Willington*

APAMEIDÆ

Gortyna ochracea, Hb. Tolerably common
Hydroœcia nictitans, Bork. *Little Eaton*, common (G.P.); *Burton*, *Bretby*, etc.
 — *petasitis*, Dbl. *Newton Road*, *Burton*; once, *Little Eaton* (J.H.)
 — *micacea*, Esp. Generally distributed; *Ashopton* (E.A.C.), *Bakewell* (R.H.F.), *Little Eaton* (G.P.) and *Trent Valley*

INSECTS

APAMEIDÆ (continued)

- Axylia putris*, L. Common in south and south-east
- Xylophasia rurea*, Fb. Generally distributed
var. *combusta*, Dup. *Breadsall Moor* (J.H.), *Bakewell* (R.H.F.)
- *lithoxylea*, Fb. Common in mid and south *Derbyshire*
- *sublustris*, Esp. One, *Willington*; occurs frequently near *Melbourne*, but not common (H.H.C.)
- *monoglypha*, Hufn. Common everywhere; dark form occurs in north
- *hepatica*, L. *Trent Valley* and south
- *scolopacina*, Esp. *Bretby*, *Ingleby*, etc.; also *Ashopton* (E.A.C.)
- Neuria reticulata*, Vill. *Repton Shrubs*, *Barrow* (once), *Ghellaston*
- Neuronia popularis*, Fb. Generally distributed and common from *Bakewell* (R.H.F.) to southern border.
- Charœas graminis*, L. Common and general
- Cerigo matura*, Hufn. *Barrow*, one; *Bakewell*, one (R.H.F.)
- Luperina testacea*, Hb. Widely distributed, though not very common
- Mamestra sordida*, Bork. *Trent Valley*, *Little Eaton*
- *furva*, Hb. *Derbyshire* (Newm.); one, *Bakewell* (R.H.F.)
- *brassicæ*, L. Common.
- *persicariæ*, L. Common, mid and south *Derbyshire*
- Apamea basilinea*, Fb. Common
- *gemina*, Hb. Common and general
- *unanimis*, Tr. Common, *Trent Valley*; *Little Eaton*; *Ashopton* (E.A.C.)
- *didyma*, Esp. Common and general
- Miana strigilis*, Clerck. Common in most parts
- *fasciuncula*, Haw. Generally distributed
- *literosa*, Haw. *Bakewell*, *Little Eaton*, *Derby* and county south of the *Trent*
- *arcuosa*, Haw. *Bakewell*; *Dovedale* (E.W.B., etc.) and south of the *Trent*
- Celæna haworthii*, Curt. *Ashopton* district (E.A.C.)

CARADRINIDÆ

- Grammesia trigrammica*, Hufn. Lower part of *Dove* and *Derwent Valleys* and *Trent Valley*
var. *bilinea*, Hb. *Repton*, *Derby*
- Stilbia anomala*, Haw. Once, *Findern*
- Caradrina morpheus*, Hufn. Common in greater part of county
- *alsines*, Brahm. *Bakewell*, *Barrow*, *Little Eaton*

CARADRINIDÆ (continued)

- Caradrina taraxaci*, Hb. *Little Eaton*, *Derby*, *Barrow*, *Bretby*
- *quadripunctata*, Fb. Common in greater part of county
- Rusina tenebrosa*, Hb. Once, *Repton Shrubs*; *Little Eaton*

NOCTUIDÆ

- Agrotis suffusa*,¹ Hb. *Little Eaton*, *Derby*; occurs sometimes commonly south of the *Trent*
- *saucia*, Hb. Rare, *Somershall*; *Willington*, *Burton*, etc.
- *segetum*, Schiff. Common
- *exclamationis*, L. „
- *cortica*, Hb. *Ghellaston*, common
- *nigricans*, L. *Derby*, *Barrow*; twice, *Bretby*
- *tritici*, L. *Barrow*
- *aquilina*, Hb. One, *Repton*; one, *Bretby*
- *obelisca*, Hb. Larvæ at *Derby*; once, *Derby* (J.H.)
- *agathina*, Dup. *Breadsall Moors*
- *strigula*, Thnb. *Ashopton* to *Baslow* (E.A.C.); *Bakewell*, frequent; *Breadsall Moors*
- *obscura*, Brahm. Scarce, *Burton*, *Barrow*
- *simulans*, Hufn. *Somershall*, rare
- Noctua glareosa*, Esp. *Bakewell*, three or four times (R.H.F.); *Little Eaton*, fairly common (J.H., etc.)
- *augur*, Fb. Common
- *plecta*, L. Common and widely distributed
- *c-nigrum*, L. Also common
- *ditrapezium*, Bork. *Little Eaton* (G.P.)
- *triangulum*, Hufn. *Bakewell*, *Little Eaton*, *Repton*; once, *Bretby*
- *stigmatica*, Hb. *Bakewell* (R.H.F.)
- *brunnea*, Fb. Common in greater part of county
- *festiva*, Hb. Common, mid and south *Derbyshire*
- *dahlii*, Hb. *Derbyshire* (Newm.); one, *Bakewell*, 1894 (R.H.F.)
- *subrosea*, St. *Little Eaton*, twice
- *rubi*, View. Common in south and south-east
- *umbrosa*, Hb. Common and generally distributed
- *baia*, Fb. Tolerably common, *Ashbourne*, *Little Eaton*, *Trent Valley*, etc.
- *castanea*, Esp. *Baslow* district (E.A.C.)
var. *neglecta*, Hb. Also near *Baslow* (E.A.C.)

¹ *Agrotis fennica*, Tausch. One specimen is stated by Mr. H. T. Stainton to have occurred in *Derbyshire*.

A HISTORY OF DERBYSHIRE

NOCTUIDÆ (continued)

- Noctua xanthographa, Fb. Very common everywhere
- Triphæna ianthina, Esp. Widely distributed; *Chesterfield* (G.W.W.), *Ashbourne*, *Little Eaton*, *Derby*, and fairly common south of the *Trent*
- fimbria, L. *Little Eaton*, *Trent Valley* and the country south of the river
- interjecta, Hb. Scarce; *Monsal Dale*, one; *Little Eaton* and the *Trent Valley*
- orbona, Hufn. *Derbyshire* (Newm.)
- comes, Hb. Common all over county
- pronuba, L. Very common everywhere

AMPHIPYRIDÆ

- Amphipyra pyramidea, L. *Burton*, *Repton*, *Little Eaton*
- tragopogonis, L. Common
- Mania typica, L. Common and generally distributed
- maura, L. *Haddon Hall* (E.A.C.), *Darley Dale* (B.T.); *Little Eaton*, *Ashbourne* and the south, very common

ORTHOSEIDÆ

- Panolis piniperda, Panz. *Breadsall Moors* (H.C., etc.); one, *Bakewell*, 1895 (R.H.F.)
- Pachnobia rubricosa, Fb. Common (*Little Eaton*, *Trent Valley*, etc.)
- Tæniocampa gothica, L. Common and general
- incerta, Hufn. Also common
- populeti, Fb. *Little Eaton* and the country south of the *Trent*
- stabilis, View. Common
- gracilis, Fb. *Trent Valley*, *Little Eaton*, *Derby*, *Chellaston*
- munda, Esp. Fairly common near *Melbourne* (H.H.C.); also near *Repton*; several, *Bakewell*, 1896 (R.H.F.)
- pulverulenta, Esp. Common in most parts of the county
- Orthosia suspecta, Hb. *Ashton* (E.A.C.), *Bakewell* (R.H.F.); *Little Eaton*, common about 1890 (J.H.)
- upsilon, Bork. Banks of the *Trent* and *Little Eaton*
- lota, Clerck. *Trent Valley*, *Bretby*, *Chellaston*, etc.
- macilenta, Hb. *Little Eaton*, on ivy (J.H., G.P.)
- Anchocelis rufina, L. *Ashton* (E.A.C.), *Chesterfield* (G.W.W.), *Little Eaton* (J.H., G.P.)
- pistacina, Fb. Generally distributed
- lunosa, Haw. *Barrow*; several, *Little Eaton* (J.H.)

ORTHOSEIDÆ (continued)

- Anchocelis litura, L. *Lower Dove* and *Derwent Valleys* and south of county; also plentiful, *Bakewell*, 1896 (R.H.F.)
- Cerastis vacciniæ, L. Common and general
- spadicea, Hb. *Lower Derwent* and *Trent Valleys*
- Scopelosoma satellitia, L. Common and general
- Xanthia citrigo, L. *Little Eaton* and south of the *Trent*
- fulvago, Fb. Common
- var. flavescens, Esp. Occasionally in south-west
- flavago, Fb. Common
- aurago, Fb. One near *Chesterfield* (G.W.W.)
- gilvago, Esp. *Lathkill Dale* (W.G.S.); near *Derby*, abundant; also common in *Trent Valley* and south
- circellaris, Hufn. Common all over county
- Cirrhoedia xerampelina, Hb. Occurs in *Trent Valley* and south; also *Dove-dale*, *Kirk Langley* (one) and *Derby*

COSMIIDÆ

- Tethea subtusa, Fb. *Breadsall Moor*, *Barrow*, *Bretby*, etc.
- Cosmia paleacea, Esp. *Derbyshire* (Newm.); once near *Calke* (H.H.C.)
- Calymnia trapezina, L. *Dove* and *Derwent Valleys* and south
- pyralina, View. *Derbyshire* (Newm.)
- diffinis, L. Occasional; *Burton*, *Melbourne* (H.H.C.), *Etwell*
- affinis, L. *Trent Valley*, *Derby*; reported *Lathkill Dale* (R.H.F.)

HADENIDÆ

- Dianthocia capsicola, Hb. *Breadsall*, *Trent Valley*
- cucubali, Fues. *Bakewell*, three times (R.H.F.); *Breadsall* and *Osmaston-by-Ashbourne* (H.C., 1853); *Chellaston*, one; *Burton*, *Repton*
- carpophaga, Bork. *Breadsall*, *Osmaston-by-Ashbourne* (H.C., 1852); *Burton*, *Bretby*
- Polia chi, L. Occurs everywhere
- var. olivacea, St. In north (E.A.C.)
- flavicincta, Fb. Once, *Derby*; *Little Eaton* (G.P., J.H.)
- Dasypolia templi, Thnb. Once, *Derby*; *Milford*
- Cleoceris viminalis, Fb. Larvæ, *Lathkill Dale* (W.G.S.); *Little Eaton* (J.H., G.P.); (?) *Barrow*
- var. obscura, Stgr. (J.H.)
- Miselia oxyacanthæ, L. General
- var. capucina, Mill. Occasional

INSECTS

HADENIDÆ (continued)

- Agriopsis aprilina*, L. Occurs all over county; common, south
- Euplexia lucipara*, L. Generally distributed; *Ashton* to *Baslow* (E.A.C.), *Darley Dale* (B.T.), common towards south
- Phlogophora meticulosa*, L. Common over greater part of county
- Aplecta prasina*, Fb. *Bakewell*, several (R.H.F.); *Dovedale* (E.W.B., etc.); *Little Eaton*, common; and occurs throughout the south
- *occulta*, L. *Little Eaton* (J.H., etc.); once, *Drakelow*; three, *Bretby*; (?) *Barrow*
- *nebulosa*, Hufn. *Little Eaton* and throughout the south
- Hadena adusta*, Esp. *Ashton* to *Baslow* (E.A.C.), *Bakewell*, *Willington*, *Burton*
- *protea*, Bork. Tolerably common towards south
- *glauca*, Hb. *Ashton* and *Bamford* (E.A.C.), *Wirksworth* (J.H.), *Breadsall Moor* (W.G.S., etc.)
- *dentina*, Esp. Common and general except in High Peak north of *Bamford*
- *trifolii*, Rott. *Repton* and *Burton* district
- *dissimilis*, Knoch. *Little Eaton*; *Derby*, once; *Trent Valley*
- *oleracea*, L. *Ashton* to *Baslow* (E.A.C.); *Little Eaton*, south *Derbyshire*, common
- *pisi*, L. *Bamford* (E.A.C.); *Little Eaton*, common; *Repton*, *Bretby*
- *thalassina*, Rott. Common and general throughout southern half of county; *Bakewell*, common (R.H.F.)

XYLINIDÆ

- Xylocampa areola*, Esp. *Repton* and *Melbourne* districts
- Calocampa vetusta*, Hb. *Burton*; *Bretby*, once
- *exoleta*, L. One, *Bakewell*, 1896 (R.H.F.); *Breadsall Moors* (H.C., 1853); south of the *Trent*
- *solidaginis*, Hb. *Bamford*, *Ashton* (E.A.C.); *Longshaw*, once (C.F.T.); *Hathersage Moor* (R.H.F.), *Breadsall Moor* (J.H.)
- Asteroscopus sphinx*, Hufn. *Bakewell*, twice (R.H.F.); *Burton*, *Hartshorne*, *Calke*, *Bretby*
- Cucullia verbasci*, L. Near *Derby* and locally in the south
- *chamomillæ*, Schiff. (?) Larva at *Willington* once

XYLINIDÆ (continued)

- Cucullia umbratica*, L. Common everywhere except north

GONOPTERIDÆ

- Gonoptera libatrix*, L. Central and southern *Derbyshire*, common

PLUSIIDÆ

- Habrostola tripartita*, Hufn. Common and general
- *triplesia*, L. Occurs *Bakewell*, *Little Eaton*; common in south
- Plusia chrysitis*, L. Common and general
- *festucæ*, L. *Derby*, *Barrow* (once), *Burton* (once)
- *iota*, L. Common over greater part of county
- *pulchrina*, Haw. Common and general
- *gamma*, L. Very common everywhere
- *interrogationis*, L. *Derbyshire* (Newm.)

HELIOTHIDÆ

- Anarta myrtilis*, L. *Ashton* to *Baslow* (E.A.C.); *Breadsall Moors*, common
- Heliaca tenebrata*, Scop. *Trent Valley*, *Breadsall Moors*
- Heliothis dipsacea*, L. Once, *Breadsall Moors*
- Chariclea umbra*, Hufn. Once, *Breadsall Moors*

POAPHILIDÆ

- Phytometra viridaria*, Clerck. *Bakewell*; *Little Eaton*, common; *Derby*, *Bladon Hill*

EUCLIDIIDÆ

- Euclidia mi*, Clerck. *Dovedale*¹

HERMINIIDÆ

- Zanclognatha grisealis*, Hb. *Repton*, *Bretby*, *Little Eaton*
- *tarsipennalis*, Tr. *Repton Shrubs* (also by J.H.)
- Pechypogon barbalis*, Clerck. *Repton* (W.G.)

HYPENIDÆ

- Hypena proboscidiialis*, L. Common in south; also *Little Eaton*
- Hypenodes costæstrigalis*, St. *Little Eaton* (?) (J.H.)

BREPHIDES

- Brephos parthenias*, L. Seen near *Robin Hood's Stride* (R.H.F.); seen *Repton Shrubs*, 1882; *Melbourne* district, *Leicester* border, common (H.H.C.)

GEOMETRÆ

UROPTERYGIDÆ

- Uropteryx sambucaria*, L. Occurs over greater part of county; common in south

¹ CATOCALIDÆ

- [*Catocala fraxini*, L. Recorded from *Burton*, *Staffs*, in 1852]

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ENNOMIDÆ

Epione apicaria, Schiff. Scarce, *Little Eaton*, *Derby*, *Burton*, *Bretby* (once); *Repton*, *Barrow*

— *advenaria*, Hb. *Willington*

Rumia luteolata, L. Common and generally distributed

Venilia macularia, L. *Lathkill Dale*, *Has-sop*, common (C.F.T.); *Bakewell*, *Dovedale*, *Willington*

Angerona prunaria, L. *Darley Dale* (B.T.)

Metrocampa margaritaria, L. *Bakewell* (C.F.T.); *Little Eaton* (G.P.), and occurs throughout south

Ellopija prosapiaria, L. *Breadsall Moors*; *Melbourne*, not rare (H.H.C.)

Eurymene dolabraria, L. *Ashbourne*, *Little Eaton*, *Derby*, *Repton*, etc.

Pericallia syringaria, L. *Kirk Langley*, one (R.H.F.); *Derby* and district south of the *Trent*, but scarce

Selenia bilunaria, Esp. Common

var. *juliana*, Haw. *Barrow* (?)

— *lunaria*, Schiff. One, *Repton Shrubs*; *Derby*, *Little Eaton*; *Ashbourne* (H. F. Gibson); twice, *Bakewell* (R.H.F.)

— *tetralunaria*, Hufn. Once, *Osmaston-by-Derby*

Odontoptera bidentata, Clerck. Common

Crocallis elinguararia, L. Common and generally distributed

Eugonia alniaria, L. *Ashbourne*, (?) *Darley Dale* and south of the *Trent*

— *fuscantaria*, Haw. Occurs through county south of *Little Eaton*

— *erosaria*, Bork. *Little Eaton*, *Repton Shrubs*, *Burton*, etc.

— *quercinaria*, Hufn. Occasional through south

Himera pennaria, L. *Bakewell*; *Ashbourne* (H. F. Gibson); *Repton*, common; *Barrow*

AMPHIDASYDÆ

Phigalia pedaria, Fb. Generally distributed

Nyssia hispidaria, Fb. *Repton Shrubs*; near *Melbourne* (H.H.C.)

Amphidasys strataria, Hufn. District south of the *Trent*

— *betularia*, L. Not uncommon throughout the county

var. *doubledayaria*, Mill. Also throughout

BOARMIDÆ

Hemerophila abruptaria, Thnb. *Little Eaton*, *Osmaston-by-Derby* and south of the *Trent*

Cleora lichenaria, Hufn. Once at *Longshaw* (?), reported *Lathkill Dale*, 1902 (R.H.F.); *Repton*

BOARMIDÆ (continued)

Boarmia repandata, L. Tolerably common

— *gemmaria*, Brahm. Also common

var. *perfumaria*, Newm. *Barrow* (?)

Tephrosia crepuscularia, Hb. *Bakewell*, *Little Eaton*, *Repton Shrubs*, *Barrow*, *Seal Wood*

— *biundularia*, Bork. *Breadsall Moors*, common (W.G.S., etc.); also in south

— *punctularia*, Hb. *Little Eaton*; also south of the *Trent*

Gnophos obscuraria, Hb. *Little Eaton* (G.P.)

GEOMETRIDÆ

Pseudoterpna pruinata, Hufn. Once, *Willington*

Geometra papilionaria, L. *Breadsall Moor*, *Derby*, *Trent Valley* and the south

Phorodesma pustulata, Hufn. *Derbyshire* (Newm.); twice, *Calke* (H.H.C.)

Iodis lactearia, L. *Breadsall* (H.C.); common throughout south

Hemithea strigata, Mull. Near *Ashbourne*; *Repton*, formerly *Burton*

EPHYRIDÆ

Zonosoma punctaria, L. *Ashbourne*, *Repton Shrubs*; several, *Little Eaton* (J.H.)

— *linearia*, Hb. *Clifton*, twice (H. F. Gibson)

ACIDALIIDÆ

Asthena luteata, Schiff. *Little Eaton*, *Derby*, *Repton Shrubs*

— *candidata*, Schiff. *Little Eaton*, *Repton*, etc.

— *sylvata*, Hb. *Dovedale* (E.W.B.); twice near *Repton*

— *blomeri*, Curt. *Bakewell*, *Dovedale*; *Cubley*, once, 1863 (J.G.); *Repton*, once; sometimes common near *Hartsborne*

Eupisteria obliterata, Hufn. *Little Eaton*, *Repton* district, *Barrow*, *Seal Wood*

Venusia cambrica, Curt. Once near *Grindleford* (C.F.T.); reported *Lathkill Dale*, 1902 (R.H.F.)

Acidalia dimidiata, Hufn. Common

— *bisetata*, Hufn. *Little Eaton* and south of county

— *virgularia*, Hb. Occurs throughout the county from *Ashton* to the *Leicester* border

— *subsericeata*, Haw. *Dovedale*

— *remutaria*, Hb. *Repton Shrubs*; fairly common, *Little Eaton* (J.H.)

— *fumata*, St. *Ashton* and *Bamford* (E.A.C.); *Bakewell*, etc. (R.H.F.); *Dovedale*

— *imitaria*, Hb. Occurs in *Trent Valley*; once, *Derby*; also J.H.

INSECTS

ACIDALIIDÆ (continued)

- Acidalia aversata*, L. *Ashopton* to *Baslow* (E.A.C.), *Little Eaton*; common throughout south
 — *emarginata*, L. *Trent Valley*
Timandra amataria, L. Throughout south and south-west of county

CABERIDÆ

- Cabera pusaria*, L. Common all over county
 — *exanthemata*, Scop. Common and general
Bapta temerata, Hb. *Repton*, scarce

MACARIIDÆ

- Macaria liturata*, Clerck. *Breadsall Moors* and *Seal Wood*
Halia vauaria, L. Common everywhere

FIDONIIDÆ

- Strenia clathrata*, L. *Ghatsworth Park* (R.H.F.)
Panagra petraria, Hb. *Bakewell*; *Little Eaton*, common; and south of the *Trent*
Numeria pulveraria, L. Once, *Bakewell*, 1892 (R.H.F.); *Breadsall Moors*; once, *Bretby*
Scodionia belgiaria, Hb. Once, *Ashopton*; *Baslow* district (E.A.C.)
Ematurga atomaria, L. Common all over county
Bupalis piniaria, L. Common almost everywhere
 var. *flavescens*, White. *Breadsall*, common; *Bakewell* (R.H.F.)

ZERENIDÆ

- Abraxas grossulariata*, L. Common and general
 — *sylvata*, Scop. Generally distributed
Ligdia adustata, Schiff. *Barrow* (?)
Lomaspilis marginata, L. Common

HYBERNIIDÆ

- Hybernia rupicaprararia*, Hb. Common and general
 — *leucopheararia*, Schiff. Common and general
 — *aurantiaria*, Esp. Common and general
 — *marginaria*, Bork. Common everywhere
 — *defoliaria*, Clerck. Common everywhere
Anisopteryx æscularia, Schiff. General

LARENTIIDÆ

- Cheimatobia brumata*, L. Common everywhere
 — *boreata*, Hb. *Ashopton* to *Baslow* (E.A.C.); *Bakewell*, *Little Eaton*, *Repton*
Oporabia dilutata, Bork. Generally distributed

LARENTIIDÆ (continued)

- Oporabia filigrammaria*, H.S. *Ashopton* and *Bamford* (E.A.C.)
Larentia didymata, L. Common everywhere
 — *multistrigaria*, Haw. *Ashopton* (E.A.C.), *Bakewell*, *Breadsall Moors*
 — *cæsiata*, Lang. *Ashopton* to *Baslow* (E.A.C.); *Eyam Moors* (C.F.T.); also in north-east, common
 — *flavicinctata*, Hb. *Dovedale* (E.W.B.)
 — *salicata*, Hb. *Bamford* (E.A.C.); *Bakewell*, once
 — *olivata*, Bork. *Ashopton* (E.A.C.); once, *Dovedale*
 — *viridaria*, Fb. Common everywhere
Emmelesia affinitata, St. Common
 — *alchemillata*, L. *Little Eaton* and district south of the *Trent*
 — *albulata*, Schiff. Common in mid and south *Derbyshire*
 — *decolorata*, Hb. *Little Eaton* (G.P.) and the south
 — *tæniata*, St. *Dovedale*
Eupithecia venosata, St. *Bakewell*, *Little Eaton*, *Repton*, *Burton*
 — *linariata*, Fb. *Breadsall Moors*, *Barrow*, *Willington*
 — *pulchellata*, St. *Breadsall Moors*, *Derby*, *Dove* and *Trent Valleys*
 — *oblongata*, Thnb. *Burton*, *Repton*, *Derby*
 — *succenturiata*, L. *Little Eaton*
 — *subfulvata*, Haw. *Ashopton* to *Baslow* (E.A.C.), *Little Eaton*, *Trent Valley*
 — *plumbeolata*, Haw. *Repton* (?), *Little Eaton*
 — *isogrammaria*, H.S. Once, *Burton*; *Derby*, *Breadsall*
 — *pygmæata*, Hb. *Bakewell*, *Lathkill Dale*, *Wirksworth*
 — *castigata*, Hb. Occurs throughout southern half of county
 — *trisignaria*, H.S. *Larvæ*, *Little Eaton* (J.H.); *Repton*, *Barrow*
 — *virgaureata*, Dbl. *Ashbourne* (F.J.)
 — *fraxinata*, Crewe. Originally described from *Derbyshire* specimens. Once, *Bakewell*, 1895 (R.H.F.); once, *Monsal Dale*; *Trent Valley*, *Derby*
 — *pimpinellata*, Hb. *Derby*, *Little Eaton* (J.H.)
 — *valeriana*, Hb. *Kedleston*, *Derby*, *Egginton*, *Repton*, *Willington*, etc.
 — *innotata*, Hufn. *Repton* (W.G.)
 — *indigata*, Hb. *Bakewell*; *Breadsall Moors*, common
 — *nanata*, Hb. *Ashopton* to *Baslow* (E.A.C.); *Breadsall Moors*, common
 — *subnotata*, Hb. Common in southern half of county

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LARENTIIDÆ (continued)

- Eupithecia vulgata*, Haw. Common and general
- *albipunctata*, Haw. *Repton* and *Breadsall* districts
- *absinthiata*, Clerck. *Willington*, *Barrow*, *Breadsall*, etc.
- *minutata*, Gn. *Breadsall Moors*, common; *Repton*
- *assimilata*, Gn. Occurs over greater part of county
- *tenuiata*, Hb. *Dovedale* (H.C., 1853), *Breadsall Moors*; once, *Repton Shrubs*
- *lariciata*, Frr. Occurs in fair numbers throughout county
- *abbreviata*, St. *Burton* and *Repton* districts; *Ashbourne* (F.J.)
- *exiguata*, Hb. *Little Eaton* and south *Derbyshire* generally
- *sobrinata*, Hb. *Breadsall* (in 1853), *Derby*; *Melbourne* (abundant 1880, now absent, H.H.C.); *Burton*
- *pumilata*, Hb. *Breadsall Moor* (W.G.S.), *Derby*
- *rectangulata*, L. Common in southern half of county
- Collix sparsata*, Hb. *Willington* (G.P.)
- Lobophora halterata*, Hufn. *Repton Shrubs*
- Thera variata*, Schiff. *Bakewell*, 1893 (R.H.F.); *Breadsall Moors*, common; once, *Branstone Bridge*
- *firmata*, Hb. *Little Eaton* (J.H., G.P.), *Willington*
- Hypsipetes ruberata*, Frr. Once, *Hartsborn*; *Winshill Lane*
- *trifasciata*, Bork. *Breadsall*, *Trent Valley*
- *sordidata*, Fb. *Ashton*, black and striped var. (E.A.C.); *Ashbourne* (F.J.); *Little Eaton*, common throughout south
- Melanthia bicolorata*, Hufn. South of the *Trent*; *Kirk Langley* (R.H.F.); *Little Eaton*, local (J.H.)
- *ocellata*, L. *Bakewell* (R.H.F.); *Ashbourne*, *Little Eaton*, southern *Derbyshire*
- *albicillata*, L. *Ambergate*; reported *Lathkill Dale* (R.H.F.); *Ashbourne* and the south
- Melanippe hastata*, L. *Little Eaton*, *Seal Wood*
- *tristata*, L. *Ashton* (E.A.C.); *Bakewell* and *Eyam*, fairly common (C.F.T.)
- *sociata*, Bork. Common throughout
- *montanata*, Bork. Common in southern *Derbyshire*
- *galiata*, Hb. *Bamford* (E.A.C.); one, *Bakewell* (R. H. F.); *Dovedale* (E.W.B.), *Breadsall*

LARENTIIDÆ (continued)

- Melanippe fluctuata*, L. Common everywhere
- Anticlea rubidata*, Fb. *Barrow*
- *badiata*, Hb. Common mid and south *Derbyshire*
- *nigrofasciaria*, Göze. Generally distributed
- Coremia designata*, Hufn. Common in greater part of county
- *ferrugata*, Clerck. Occurs throughout the south
- *unidentaria*, Haw. Common in southern *Derbyshire*
- Camptogramma bilineata*, L. Common everywhere
- *fluviata*, Hb. *Willington*; *Derby* (Newm.)
- Phibalapteryx vittata*, Bork. Has occurred at *Little Eaton*, *Willington* and *Burton*
- Triphosa dubitata*, L. Common in south; also sparingly in limestone district
- Eucosmia certata*, Hb. *Bakewell*, *Kirk Langley*, common (R.H.F.); *Trent Valley*, fairly common
- Scotosia rhamnata*, Schiff. *Dovedale*
- Cidaria miata*, L. *Bakewell*, *Dovedale*, *Repton*, *Burton*
- *corylata*, Thnb. Common throughout southern *Derbyshire*
- *truncata*, Hufn. *Ashton* to *Baslow* (E.A.C.), *Little Eaton*, common throughout south
- *immanata*, Haw. Common in southern half of county
- *suffumata*, Hb. Occurs through south
- *silaceata*, Hb. *Dovedale* (E.W.B.); south of the *Trent*, common; also *Little Eaton* (J.H.)
- *prunata*, L. Occurs over greater part of county
- *testata*, L. *Ashton* to *Baslow* (E.A.C.), *Breadsall*, *Barrow*, etc.
- *populata*, L. Occurs everywhere
- *fulvata*, Forst. Also general
- *dotata*, L. *Bakewell*, common (R.H.F.); *Dovedale*, *Little Eaton* and the south
- *associata*, Bork. In gardens, especially in south; also *Bakewell* (R.H.F.)
- Pelurga comitata*, L. South and south-east

EUBOLIDÆ

- Eubolia cervinata*, Schiff. Not uncommon in south; twice, *Little Eaton* (J.H.)
- *limitata*, Scop. Generally distributed throughout county
- *plumbaria*, Fb. *Dovedale*, *Breadsall Moors*, *Barrow*, etc.
- *bipunctaria*, Schiff. *Bakewell*, *Dovedale*, *Little Eaton*

INSECTS

EUBOLIIDÆ (continued)

- Carsia paludata*, Thnb. *Dovedale*, scarce
Anaitis plagiata, L. Occurs throughout
the whole county
Chesias spartiata, Fues. *Trent Valley*
— *rufata*, Fb. Once, *Burton*

SIONIDÆ

- Tanagra atrata*, L. Generally distributed ;
common in south

PYRALIDES

PYRALIDÆ

- Aglossa pinguinalis*, L. Very common in
most stables
Pyralis glaucinalis, L. *Breadsall* (H.C.
1854); *Derby*, once; *Trent Valley*,
common
— *farinalis*, L. Common in nearly every
stable
Scoparia ambigualis, Tr. *Little Eaton*,
Ashbourne, south *Derbysbire*, common
— *cembræ*, Haw. *Bretby*, common ;
once near *Burton*
— *dubitalis*, Hb. *Bretby Park*, *Repton* ;
Dovedale, common (T. W. Daltry)
— *murana*, Curt. *Burton* ; *Little Eaton*,
rare (J.H.)
— *mercurella*, L. *Burton*, *Bretby*, *Rep-*
ton ; common, *Little Eaton* (J.H.)
— *ulmella*, Dale. *Repton Shrubs* ; twice
at *Little Eaton* (J.H.)
— *truncicolella*, Sta. (G. Baker)
— *pallida*, St. *Repton*
Nomophila noctuella, Schiff. Occurs
through *Trent Valley*, scarce ; *Little*
Eaton (J.H.)
Pyrausta aurata, Scop. *Dovedale* ; *Little*
Eaton, rare (J.H.)
— *purpuralis*, L. *Peak* district, common
(J.H.) ; *Dovedale* (E.W.B.)
— *ostrinalis*, Hb. *Peak* district, common
(J.H.)
Herbula cespitalis, Schiff. *Peak* district,
common (J.H.) ; *Hassop*, once
(C.F.T.) ; *Dovedale* (E.W.B.), *Rep-*
ton Park
Ennychia cingulata, L. *Peak* district,
rare (J.H.) ; *Lathkill Dale*, com-
mon (C.F.T.) ; *Dovedale* (E.W.B.)
— *nigrata*, Scop. *Peak* district, once (J.H.)
Endotricha flammealis, Schiff. Once, *Derby*

BOTYDÆ

- Eurrhyncha urticata*, L. Common, *Little*
Eaton, *Ashbourne* and throughout south
Scopula lutealis, Hb. Common, *Little*
Eaton and south
— *olivalis*, Schiff. Very common, *Little*
Eaton and south
— *prunalis*, Schiff. Very common, *Little*
Eaton and south

BOTYDÆ (continued)

- Scopula ferrugalis*, Hb. Once, *Willington*
Botys ruralis, Scop. Rare, *Little Eaton*
(J.H.) ; common through south
— *fuscalis*, Schiff. *Drakelow*, *Repton*, *Little*
Eaton, scarce ; *Derby*, common
Ebulea crocealis, Hb. *Breadsall* (H.C.
1854), *Drakelow*
— *sambucalis*, Schiff. Fairly common
through southern half of county
Pionea forficalis, L. Common throughout
greater part of county

HYDROCAMPIDÆ

- Cataclysta lemnata*, L. Common, *Little*
Eaton and south
Paraponyx stratiotata, L. Common, *Little*
Eaton, *Derby* and south
Hydrocampa nymphæata, L. Very common
— *stagnata*, Don. " "

ACENTROPODIDÆ

- Acentropus niveus*, Oliv. *Trent* (*Drake-*
low, *Burton*, *Willington*)

PTEROPHORI

PTEROPHORIDÆ

- Platyptilia ochrodactyla*, Hb. *Repton*
— *gonodactyla*, Schiff. *Burton* district,
Bretby, *Gresley*, etc.
Amblyptilia acanthodactyla, Hb. One,
Burton ; one, *Willington*
Mimæseoptilus bipunctidactylus, Haw.
Repton
— *pterodactylus*, L. *Burton*, *Repton*
CEdematophorus lithodactylus, Tr. *Drake-*
low, *Burton*
Pterophorus monodactylus, L. Common
Leioptilus tephrodactylus, Hb. *Breadsall*
Moors
Aciptilia tetradactyla, L. *Burton*
— *pentadactyla*, L. Very common and
general

ALUCITIDÆ

- Alucita hexadactyla*, L. Common and
general

CRAMBI

CHILIDÆ

- Schœnobius forficellus*, Thnb. *Burton*,
Willington
— *gigantellus*, Schiff. *Burton*, near *Repton*

CRAMBIDÆ

- Crambus falsellus*, Schiff. *Burton* ; *Little*
Eaton, rare (J.H.)
— *pratellus*, L. Common (*Burton*, *Rep-*
ton, *Little Eaton*, etc.)
— *pascuellus*, L. *Burton*, *Repton*
— *perlellus*, Scop. *Burton*, *Repton* ; *Mil-*
ler's Dale, fairly common (J.H.)
— *tristellus*, Fb. Common (*Burton*, *Rep-*
ton, *Ashbourne*, *Little Eaton*)

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CRAMBIDÆ (continued)

- Crambus geniculeus*, Haw. *Little Eaton*, rare (J.H.)
 — *culmellus*, L. Common (*Burton*, *Repton*, *Asbourne*, *Little Eaton*)
 — *hortuellus*, Hb. Common (*Burton*, *Repton*, *Little Eaton*)

PHYCIDÆ

- Ephestia elutella*, Hb. *Burton*; druggists' shops, *Derby*; once, *Derby* (J.H.)
Euzophera pinguis, Haw. Near *Derby*
 — *cinerosella*, Zell. *Etwall Hall* (W.G.)
Cryptoblabes bistriga, Haw. *Repton Shrubs*; *Little Eaton*, rare (J.H.)
Plodia interpunctella, Hb. Grocers' warehouses, *Derby*; twice at *Derby* (J.H.)
Phycis betulæ, Göze. *Little Eaton*, rare (J.H.)
 — *fusca*, Haw. *Little Eaton*, etc., common
Rhodophæa consociella, Hb. One, *Newhall*
Onocera ahenella, Zinck. *Dovedale*

GALLERIDÆ

- Aphomia sociella*, L. *Repton*; *Little Eaton*, rare
Achroæa grisella, Fb. *Burton*, *Ticknall*

TORTRICES

TORTRICIDÆ

- Tortrix podana*, Scop. Common; *Burton*, *Repton*, *Asbourne*, *Little Eaton*
 — *cratægana*, Hb. *Asbourne* (F.J.)
 — *xylostæana*, L. *Burton*, *Repton*, *Little Eaton*, common
 — *sorbiana*, Hb. *Burton*, *Little Eaton*
 — *rosana*, L. Common (*Burton*, *Repton*, *Little Eaton*, etc.)
 — *cinnamomeana*, Tr. Rare; near *Little Eaton* in two places (J.H.)
 — *heparana*, Schiff. *Little Eaton*, very common (J.H.)
 — *ribeana*, Hb. Common (*Burton*, *Repton*, *Little Eaton*)
 — *corylana*, Fb. *Burton*, *Repton*; *Little Eaton* (J.H.)
 — *unifasciana*, Dup. *Burton*; *Little Eaton* (J.H.)
 — *costana*, Fb. *Burton*, *Repton*; *Little Eaton* (J.H.)
 — *viburnana*, Fb. *Burton*, rare; moors between *Whatstandwell* and *Wirksworth*, common, also *Little Eaton* (J.H.)
 — *palleana*, Hb. *Burton*, rare; *Repton*
 — *viridana*, L. Very common, *Burton*, *Repton*, *Little Eaton*, *Ladybower Woods*, etc.
 — *ministrana*, L. Very common; *Drakelow*, *Burton*, *Repton*, *Little Eaton*, etc. var. *ferrugana*, Hb. Almost as common as type (J.H.)

TORTRICIDÆ (continued)

- Tortrix forsterana*, Fb. Common; *Burton*, *Repton*, *Asbourne*, *Little Eaton*
Amphisa gerningana, Schiff. *Wirksworth*, common (J.H.); *Little Eaton*, rare (J.H., G.P.)
 — *prodromana*, Hb. Near *Buxton*, fairly common (J.H.); *Little Eaton* (G.P.)
Leptogramma literana, L. *Burton*, rare
Peronea sponsana, Fb. *Drakelow*, *Repton*; *Little Eaton*, rare (J.H.)
 — *rufana*, Schiff. *Burton*
 — *schallerana*, L. *Burton*, *Repton*; *Little Eaton*, fairly common (J.H.)
 — *comparana*, Hb. *Repton*; *Little Eaton* (J.H.)
 — *variegana*, Schiff. Common; *Burton*, *Repton*, *Little Eaton*
 — *ferrugana*, Tr. *Burton*
 — *logiana*, Schiff. (?) *Repton*
Rhacodia caudana, Fb. *Burton*; *Little Eaton*, rare (J.H.)
Teras contaminana, Hb. Common, *Burton*, *Repton*; *Little Eaton* (J.H.)
Dictyopteryx loeflingiana, L. *Burton*, *Repton*; *Little Eaton*, rare (J.H.)
 — *holmiana*, L. *Burton*, *Repton*; *Little Eaton*, fairly common (J.H.)
 — *bergmanniana*, L. Common; *Burton*, *Repton*, *Little Eaton*, *Asbourne*, etc.
 — *forskaleana*, L. *Burton*, *Repton*; *Little Eaton*, rare (J.H.)
Argyrotoxa conwayana, Fb. Common, *Burton*, *Repton*, *Little Eaton*, etc.
Ptycholoma lecheana, L. *Seal Wood*, *Repton Shrubs*; *Little Eaton*, rare (J.H.)

PENTHINIDÆ

- Penthina corticana*, Hb. *Seal Wood*; *Little Eaton*, common (J.H., G.P.)
 — *betulætana*, Haw. *Burton*
 — *sororculana*, Zett. *Little Eaton*, common (J.H., G.P.)
 — *pruniana*, Hb. *Burton*, *Repton*; *Little Eaton*, rare (J.H.); *Asbourne* (F.J.)
 — *variegana*, Hb. *Burton*, *Repton*; *Little Eaton*, common (J.H.)
 — *sauciana*, Hb. Near *Wirksworth*, rare (J.H.); *Little Eaton* (G.P.)
 — *marginana*, Haw. *Burton*, rare
 — *fuligana*, Hb. " "
Antithesia salicella, L. *Little Eaton*, very rare (J.H., G.P.)

SPILONOTIDÆ

- Hedya ocellana*, Fb. Fairly common; *Burton*, *Repton*; *Little Eaton* (J.H.)
 — *dealbana*, Fröhl. *Seal Wood*, (?) *Repton*; *Little Eaton*, fairly common (J.H.)
 — *neglectana*, Dup. *Burton*, *Repton*
Spilonota trimaculana, Haw. *Burton*

INSECTS

SPILONOTIDÆ (continued)

- Spilonota rosæcolana*, Dbl. Common, *Burton*; *Little Eaton* (J.H.)
 — *roborana*, Tr. *Burton*, *Repton*; *Little Eaton* (J.H.)
Pardia tripunctana, Fb. Common; *Burton*, *Repton*; *Little Eaton*, common (J.H.)

SERICORIDÆ

- Aspis udmanniana*, L. *Burton*, *Repton*; *Little Eaton*, common (J.H.)
Sericoris rivulana, Scop. *Burton*
 — *urticana*, Hb. *Little Eaton*, common (J.H., G.P.)
 — *lacunana*, Dup. Common; *Burton*, *Repton*; *Little Eaton* (J.H.)
Roxana arcuana, St. *Seal Wood* (E.B.)
Euchromia muggindana, Schiff. Near *Wirksworth*, common; *Little Eaton*, rare (J.H.)
Orthotænia striana, Schiff. *Burton*, rare

SCIAPHILIDÆ

- Phtheochroa rugosana*, Hb. *Burton*, *Repton*
Cnephasia musculana, Hb. *Burton*, *Repton*; *Little Eaton*, very common (J.H.)
Sciaphila nubilana, Hb. *Burton*, *Repton*, common
 — *conspersana*, Dougl. *Little Eaton*, rare (J.H., G.P.)
 — *subjectana*, Gn. Common, *Burton*; *Little Eaton* (J.H.)
 — *virgaureana*, Tr. Common, *Burton*, *Repton*; *Little Eaton* (J.H.)
 — *chrysantheana*, Dup. *Repton* (W.G.)
 — *sinuana*, St. *Seal Wood*, *Repton Shrubs*
 — *hybridana*, Hb. *Burton*, *Repton*
 — *octomaculana*, Haw. *Little Eaton*, common (J.H.)
Sphaleroptera ictericana, Haw. *Repton*; *Little Eaton*, common (J.H.)
Capua favillaceana, Hb. *Repton Shrubs*, twice; *Little Eaton*, fairly common (J.H.)
Clepsia rusticana, Tr. *Little Eaton*, common (J.H., G.P.)

GRAPHOLITHIDÆ

- Bactra lanceolana*, Hb. *Drakelow*, *Repton*; *Little Eaton*, rare (J.H.)
Phoxopteryx biarcuana, St. *Willington*
 — *myrtillana*, Tr. *Little Eaton*, very common (J.H., G.P.)
 — *lundana*, Fb. *Burton*, common; *Repton*; *Little Eaton*, rare (J.H.)
 — *diminutana*, Haw. *Burton*, *Repton*
 — *mitterpacheriana*, Schiff. *Burton*, *Repton*
 — *lactana*, Fb. *Repton* (W.G.S.)
Grapholitha ramella, L. *Repton*; *Little Eaton*, fairly common (J.H.)
 — *nisella*, Clerck. *Burton*

GRAPHOLITHIDÆ (continued)

- Grapholitha nigromaculana*, Haw. *Little Eaton*, rare (J.H.)
 — *subocellana*, Don. *Burton*, *Repton*; *Little Eaton*, rare (J.H.)
 — *trimaculana*, Don. *Burton*, common; *Repton*; *Little Eaton*, rare (J.H.)
 — *penkleriana*, Fisch. (?) *Burton*; *Repton*; *Little Eaton*, fairly common (J.H.)
 — *obtusana*, Haw. *Repton*
 — *nævana*, Hb. "
 — *geminana*, St. *Breadsall Moor* (W.G.S., J.H.)
Phlæodes tetraquetra, Haw. *Burton*; *Little Eaton*, common (J.H.)
 — *immundana*, Fisch. *Repton*
Hypermezia cruciana, L. *Little Eaton*, rare (J.H., G.P.)
Batodes angustiorana, Haw. *Burton*, common; *Repton*; *Ashbourne* (F.J.)
Pœdisca bilunana, Haw. *Little Eaton*, common (J.H., G.P.)
 — *ratzeburghiana*, Sax. *Burton*
 — *corticana*, Hb. *Repton Shrubs*, etc.; *Little Eaton*, very common (J.H.)
 — *ophthalmicana*, Hb. *Repton Shrubs*; *Little Eaton*, rare (J.H.)
 — *occultana*, Dougl. *Little Eaton*, rare (J.H., G.P.)
 — *solandriana*, L. *Repton*; *Little Eaton*, very common (J.H., G.P.)
 — *sordidana*, Hb. *Repton*
Ephippiphora similana, Hb. *Repton*; *Little Eaton*, rare (J.H.)
 — *cirsiana*, Zell. *Burton*; *Little Eaton*, fairly common (J.H., G.P.)
 — *pflugiana*, Haw. *Burton*, *Repton*
 — *brünnichiana*, Fröl. *Burton*, *Repton*; common, *Little Eaton* (J.H.)
 — *nigricostana*, Haw. *Burton*, *Findern Covert*
 — *trigeminana*, St. Rare, *Little Eaton* (J.H., G.P.)
 — *tetragonana*, St. *Burton*
Olindia ulmana, Hb. *Repton Shrubs*; rare, *Little Eaton* (J.H.)
Semasia ianthinana, Dup. *Burton*
 — *rufillana*, Wilk. "
 — *wœberiana*, Schiff. *Burton*, *Repton*; once abundantly, *Little Eaton* (J.H.)
Coccyx argyrana, Hb. *Burton*, *Findern*; rare, *Little Eaton* (J.H.)
 — *tædella*, Clerck. Common, *Burton*, *Repton*; *Little Eaton* (W.G.S., J.H.)
 — *nanana*, Tr. *Burton*
Retinia buoliana, Schiff. *Burton*, *Bretby Park*; *Little Eaton*, rare (J.H.)
 — *pinicolana*, Dbl. Twice at *Little Eaton* (J.H.)

A HISTORY OF DERBYSHIRE

GRAPHOLITHIDÆ (continued)

- Retinia pinivorana, Zell. Between *Willington* and *Etwell*
 Carpocapsa pomonella, L. *Burton*; *Little Eaton* (J.H.)
 Endopisa nigricana, St. *Burton, Repton*
 Stigmonota perlepidana, Haw. *Burton, Repton*
 — nitidana, Fb. *Burton, Repton*
 — roseticolana, Zell. *Burton*
 Dicrorampha sequana, Hb. *Burton, Repton*
 — petiverella, L. *Burton*
 — plumbana, Scop. „
 — saturnana, Gn. *Burton* (?)
 — plumbagana, Tr. *Burton, Repton*
 — senectana, Gn. *Repton* (W.G.)
 Pyrodes rheediella, Clerck. *Repton*; not common, *Little Eaton* (J.H.)
 Catoptria ulicetana, Haw. *Burton, Repton*; very common, *Little Eaton* (J.H.)
 — juliana, Curt. Very rare, *Little Eaton* (J.H., G.P.)
 — hypericana, Hb. *Burton, Repton*
 — cana, Haw. *Repton*
 Trycheris aurana, Fb. *Burton, Repton*; a few at *Little Eaton* most years (J.H.)

PYRALOIDIDÆ

- Choreutes myllerana, Fb. *Bretby Park*; very common by canals, *Little Eaton* (J.H.)
 Symæthis oxyacanthella, L. Very common, *Burton, Repton, Little Eaton*

CONCHYLIDÆ

- Eupœcilia nana, Haw. Fairly common, *Little Eaton* (J.H., G.P.)
 — maculosana, Haw. *Repton Shrubs*; common, *Little Eaton* (J.H.)
 — angustana, Hb. *Repton*; common, *Little Eaton* (J.H., G.P.)
 — roseana, Haw. Near *Burton*; *Repton Shrubs, Findern* (?)
 Xanthosetia zoegana, L. *Burton, Bretby Park*; rare, *Little Eaton* (J.H.)
 — hamana, L. *Burton, Repton*; *Little Eaton*, rare (J.H.)
 Chrosis alcella, Schulz. Rare, *Lathkill Dale* (J.H.); *Little Eaton* (G.P.)
 Argyrolepis cnicana, Dbl. Rare, *Little Eaton* (J.H., G.P.)
 Conchylis straminea, Haw. *Repton* (?)

APHELIIDÆ

- Aphelia osseana, Scop. *Burton, Repton*; rare, *Little Eaton* (J.H.)
 Tortricodes hyemana, Hb. *Repton Shrubs, Findern*; very common, *Little Eaton* (J.H.)

TINEÆ

EPIGRAPHIIDÆ

- Lemnatophila phryganella, Hb. *Repton, Willington*
 Exapate congelatella, Clerck. *Repton*
 Diurnea fagella, Fb. *Burton, Repton Shrubs*
 Epigraphia steinkellneriana, Schiff. *Repton*

PSYCHIDÆ

- Psychoides verhuellella, Heyd. *Wirksworth*

TINEIDÆ

- Diplodoma marginepunctella, St. *Wirksworth*
 Ochsenheimeria birdella, Curt. *Repton*
 — vaculella, Fisch. „
 Scardia corticella, Curt. *Drakelow Park*
 — granella, L. *Burton*
 — cloacella, Haw. *Burton, Repton*
 Blabophanes rusticella, Hb. *Burton, Repton*
 Tinea fulvimitrella, Sodof. *Burton, Bretby*
 — tapetzella, L. *Burton*
 — pelliella, L. *Burton, Repton, etc.*, common
 — fuscipunctella, Haw. *Burton*
 — pallescentella, Sta. „
 — lapella, Hb. *Burton, Repton*
 — merdella, Zell. *Burton*
 — semifulvella, Haw. *Burton, Repton Shrubs*

- Phylloporia bistrigella, Haw. *Grange Wood*
 Lampronia luzella, Hb. *Burton*
 Incurvaria muscalella, Fb. *Repton*
 — œhlmanniella, Hb. „
 Micropteryx calthella, L. *Burton* (?); *Repton*
 — seppella, Fb. *Repton Shrubs* (W.G.)
 — aureatella, Scop. *Burton, Seal Wood; Repton Shrubs*, once
 — thumbergella, Fb. *Repton Shrubs* (W.G.)
 — fastuosella, Zell. *Burton, Repton Shrubs*
 — subpurpurella, Haw. *Burton, Repton Shrubs*
 Nemophora swammerdammella, L. *Burton, Repton*
 — schwarziella, Zell. *Burton, Repton*
 — metaxella, Hb. *Burton*

ADELIDÆ

- Adela fibulella, Fb. *Repton, Grange Wood*
 — rufimitrella, Scop. *Repton*
 — degeerella, L. *Repton Shrubs, Seal Wood, Stanton*
 — viridella, L. *Repton Shrubs*

HYPONOMEUTIDÆ

- Swammerdammia oxyacanthella, Dup. *Burton*
 — pyrella, Vill. *Burton*
 — spiniella, Hb. „
 Hyponomeuta padellus, L. Common, *Burton, Repton*
 — cagnagellus, Hb. *Burton* (?), *Repton*

INSECTS

PLUTELLIDÆ

- Plutella cruciferarum, Zell. *Burton*, common; *Repton*
 — porrectella, L. *Burton*, rare
 Cerostoma sequella, Clerck. *Bretby*, rare; near *Repton*
 — vittella, L. *Repton* (W.G.)
 — radiatella, Don. *Repton* *Sbrubs*
 — costella, Fb. " "
 — alpella, Schiff. *Ravenstone*
 Harpipteryx xylostella, L. *Repton* (W.G.)

GELECHIIDÆ

- Orthotelia sparganella, Thnb. *Burton*, near *Repton*
 Phibalocera quercana, Fb. *Burton*, *Repton*
 Depressaria costosa, Haw. " "
 — flavella, Hb. *Burton*, *Repton*
 — umbellana, St. *Repton*
 — assimilella, Tr. " "
 — arenella, Schiff. " (W.G.)
 — subpropinquella, Sta. "
 — alstroemeriana, Clerck. *Repton* (W.G.)
 — liturella, Hb. *Repton* (W.G.)
 — angelicella, Hb. " "
 — applana, Fb. *Burton*, common; *Repton*
 — chærophylli, Zell. *Repton*
 — ultimella, Sta. " "
 — heracleana, DeGeer. *Burton*, *Repton*
 Gelechia malvella, Hb. *Burton* (?)
 — ericetella, Hb. *Repton* (W.G.)
 — sororculella, Hb. *Burton*
 Brachmia mouffetella, Schiff. *Burton*, *Repton*
 Bryotropha terrella, Hb. *Burton*, common, *Repton*
 — senectella, Zell. *Burton*
 — affinis, Dougl. *Burton*, *Repton*
 — domestica, Haw. *Burton*
 Lita artemisiella, Tr. " "
 — viscariella, Logan. *Stapenhill*
 — maculea, Haw. *Burton*
 — tricolorella, Haw. *Seal Wood*
 — fraternella, Dougl. *Burton*
 — maculiferella, Dougl. *Burton* (?)
 — hübneri, Haw. *Burton*
 — atriplicella, Fisch. " "
 Teleia proximella, Hb. *Repton*
 — notatella, Hb. *Burton*
 — vulgella, Hb. *Burton*, *Repton*
 — luculella, Hb. *Repton* *Sbrubs*
 — fugitivella, Zell. *Burton* (?)
 Nannodia hermannella, Fb. *Repton* *Sbrubs*
 Ptocheuusa subocellea, St. *Burton*
 Doryphora lucidella, St. *Burton*, *Bretby* *Park*
 — lutulentella, Zell. *Repton*
 Monochroa tenebrella, Hb. *Burton*, *Repton*
 Lamprotes atrella, Haw. *Burton*

GELECHIIDÆ (continued)

- Anacampsis ligulella, Zell. *Burton*, *Bretby* *Park*
 — anthyllidella, Hb. *Burton*
 Tachyptilia populella, Clerck. *Repton*
 Brachycrossata cinerella, Clerck. *Burton*, *Repton*
 Ceratophora rufescens, Haw. *Burton*
 Chelaria hübnerella, Don. *Repton* (W.G.)
 Anarsia spartiella, Schr. *Railway* *cuttings* near *Willington*
 Hypsilophus schmidiellus, Heyd. *Willington*
 — marginellus, Fb. *Burton*
 Harpella geoffrella, Linn. "
 Dasycera sulphurella, Fb. *Burton*, common; *Repton*
 Cœcophora minutella, L. *Repton* (W.G.)
 — fuscescens, Haw. *Burton*
 — pseudospretella, Sta. *Burton*, *Repton*
 Cœcogenia quadripunctata, Haw. *Repton*
 Endrosis fenestrella, Scop. *Burton*, common; *Repton*
 Butalis fusco-cuprea, Haw. *Repton*
 — variella, St. *Repton*

GLYPHIPTERYGIDÆ

- Glyphipteryx fuscoviridella, Haw. *Burton*, *Repton*
 — thrasonella, Scop. *Repton* *Sbrubs* (?)
 — equitella, Scop. *Burton*
 — fischeriella, Zell. *Burton*, *Repton* *Sbrubs*
 Heliozele sericiella, Haw. *Repton* *Sbrubs*

ARGYRESTHIIDÆ

- Argyresthia ephippella, Fb. *Stapenhill*, etc.
 — nitidella, Fb. *Repton* (W.G.)
 — spiniella, Zell. *Burton*
 — albistria, Haw. *Repton* (W.G.)
 — retinella, Zell. *Burton*
 — dilectella, Zell. *Stapenhill*
 — curvella, L. *Repton*
 — gœdartella, L. " (W.G.)
 — brochella, Hb. " "
 Ocnerostoma pinariella, Zell. *Repton*
 Zelleria insignipennella, Sta. *Burton*, *Repton*

GRACILARIIDÆ

- Gracilaria alchimiella, Scop. *Repton* (W.G.)
 — stigmatella, Fb. *Repton* (W.G.)
 — elongella, L. *Burton*
 — tringipennella, Zell. *Repton*
 — syringella, Fb. *Repton* *Sbrubs*, *Burton*
 — auroguttella, St. *Repton* (W.G.)
 Ornix anglicella, Sta. *Burton*, *Repton*
 — torquillella, Sta. *Burton*
 — guttea, Haw. *Findern*

COLEOPHORIDÆ

- Coleophora fabriciella, Vill. *Drakelow*, *Repton*
 — alcyonipennella, Kol. *Repton*
 — paripennella, Zell. *Burton*, etc.
 — anatipennella, Hb. *Repton*

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COLEOPHORIDÆ (*continued*)

- Coleophora discordella, Zell. *Repton*
 — onosmella, Crahm. "
 — murinipennella, Fisch. *Burton (?)*
 — cæspititiella, Zell. *Burton, Repton*
 — laripennella, Zett. *Burton*
 — argentula, Zell. "
 — laricella, Hb. *Repton (?) (W.G.)*
 — albitarsella, Zell. *Burton*
 — nigriceella, St. *Burton (E.B.) ; Repton*
 (W.G.)
 — fuscadinella, Zell. *Burton, Repton*
 — gryhipennella, Bouché. *Burton*
 — viminetella, Heyd. *Burton, Repton*
 — badiipennella, Fisch. *Burton*

ELACHISTIDÆ

- Batrachedra præangusta, Haw. *Burton,*
 once near Newton
 Chauliodus illigerellus, Hb. *Burton*
 — chærophyllellus, Göze. *Repton*
 Laverna propinquella, Sta. *Burton (?)*,
 Repton
 — lacteella, St. *Burton (E.B.)*
 — epilobiella, Schr. *Burton, Repton*
 — ochraceella, Curt. *Repton*
 — decorella, St. *Burton*
 — vinolentella, H.S. *Burton, near Repton*
 — atra, Haw. *Burton, Repton*
 Chrysoclysta linneella, Clerck. *Repton*
 Shrubs, Bretby Park
 — schrankella, Hb. *Foremark*
 — aurifrontella, Hb. *Burton*
 Asychna terminella, Dale. *Repton Shrub,*
 near Burton
 Elachista magnificella, Tgstr. (?) *Burton*
 — albifrontella, Hb. *Burton, Repton*
 — atricomella, Sta. *Burton*
 — monticola, Wk. *Drakelow Mill*
 — cinereopunctella, Haw. *Repton*
 — nigrella, Hb. (?) *Burton*
 [— subnigrella, Dougl. *Burton (?)*]
 — humilis, Zell. (?) *Burton*
 — perplexella, Sta. *Burton*
 — obscurella, Sta. *Burton, Repton*
 — zonariella, Tgstr. *Burton*
 — megerlella, Zell. "
 — cerussella, Hb. *Burton, Repton*
 — paludum, Frey. *Drakelow Mill*
 — rufocinerea, Haw. *Burton, very com-*
 mon ; Repton
 — argentella, Clerck. *Repton (W.G.)*
 Tischeria complanella, Hb. *Repton Shrub,*
 Burton
 — marginea, Haw. *Burton*

LITHOCOLLETIDÆ

- Lithocolletis pomifoliella, Zell. *Burton,*
 Repton
 — coryli, Nicelli. *Burton*
 — faginella, Mann. *Burton, Repton*
 — salicicolella, Sircom. "
 "
 — ulmifoliella, Hb. *Burton*
 — spinolella, Dup. *Burton, Repton*
 — quercifoliella, Fisch. "
 "
 — messaniella, Zell. *Burton*
 — corylifoliella, Haw. *Burton, Repton*
 — viminiella, Sircom "
 "
 — alnifoliella, Hb. *Burton*
 — heegeriella, Zell. "
 — cramerella, Fb. *Burton, Repton*
 — sylvella, Haw. "
 "
 — emberizæpennella, Bouché. *Grange*
 Wood
 — nicellii, Zell. *Burton, common*
 — tristrigella, Haw. *Burton, Repton*
 — trifasciella, Haw. *Burton*

LYONETIIDÆ

- Lyonetia clerckella, L. *Burton*
 Phyllocnistis suffusella, Zell. *Repton*
 Cemiostoma spartifoliella, Hb. *Burton,*
 Repton
 — laburnella, Heyd. *Burton, common ;*
 Repton
 — scitella, Zell. *Burton, Repton*
 Bucculatrix cidarella, Tisch. *Repton*
 — ulmella, Mann. *Burton*
 — cratægi, Zell. *Burton, Repton*
 — boyerella, Dup. "
 — thoracella, Thnb. *Burton*

NEPTICULIDÆ

- Nepticula ruficapitella, Haw. *Burton,*
 Repton
 — anomalella, Göze. *Burton*
 — pygmæella, Haw. "
 — oxyacanthella, Sta. "
 — intimella, Zell. "
 — subbimaculella, Haw. "
 — trimaculella, Haw. "
 — floslactella, Haw. *Burton, Repton*
 — microtheriella, Wing. *Burton*
 — ignobilella, Sta. *Burton, Repton*
 — argentipedella, Zell. *Burton*
 — malella, Sta. *Burton*
 — angulifasciella, Sta. *Burton, near Repton*
 — graciosella, Sta. "
 "
 — marginicolella, Sta. *Burton*
 — aurella, Fb. *Burton*
 — splendidissima, H.S. *Burton, near*
 Repton

DIPTERA

The following list probably only represents a very small proportion of the Diptera which actually inhabit Derbyshire. It is based upon Mr.

INSECTS

E. Brown's list of the Diptera of the Burton district, published in 1863 in *The Natural History of Tutbury*. An asterisk (*) denotes that the specimen referred to is in the collection of the British Museum; (†) that specimens have been determined by Mr. E. E. Austen; (¶) by the Rev. A. Thornley.

- Br. Fl.* = Verrall, *British Flies*, vol. viii.
 G.H.V. = G. H. Verrall. Mr. Verrall's initials are appended in the case of species taken by him in Derbyshire and presented to the B.M. collection.
 G.P. = G. Pullen (Little Eaton and Derby).
 G.W.W. = G. W. Wynn (Chesterfield).
 F.J. = The Rev. F. C. R. Jourdain (Ashbourne).

ORTHORRHAPHA

NEMATOCERA

PULICIDÆ

- Pulex irritans*, L. Common
 — *canis*, Curt. On dogs
Trichopsylla sciurorum. Bouché. On squirrels
 — *gallinæ*, Schrk. In fowl houses
 — *hirundinis*, Curt. On the house martin (E.B.); *Derby*, rare (G.P.)
Ctenopsyllus musculi, Dugés. On the rat

CECIDOMYIDÆ

- Cecidomyia cratægi*, Winn. Common
 — *veronicæ*, Vall. *Burton*
Diplosis tritici, Kirb. In wheat ears

MYCETOPHILIDÆ

- Rhymosia fenestralis*, Mg. Common (E.B., G.P.)
Exechia fungorum, Deg. *Burton*
Allodia crassicornis, Stan. "
 [*Lasiosoma maura*, Wlk. (?) *Burton*]
Sciophila fasciata, Ztt. *Burton*
Platyura fasciata, Ltr. "
Macrocera lutea, Mg. "
 * — *centralis*, Mg. *Dovedale* (G. H. Verrall)

BIBIONIDÆ

- Scatopse notata*, L. Common about manure heaps

¶ Bibio marci, L. Common

- *leucopterus*, Mg. *Burton*
 — *hortulanus*, L. *Derby*, common (G.P.)
 — *ferruginatus*, Gmel. *Burton*
 — *venosus*, Mg. *Derby*, common (G.P.)
 — *laniger*, Mg. *Burton*
 — *clavipes*, Mg. "

SIMULIDÆ

- Simulium reptans*, L. Common.

CHIRONOMIDÆ

- Chironomus plumosus*, L. Generally distributed
 — *prasinus*, Mg. *Burton*
 — *tentans*, F. "

CHIRONOMIDÆ (continued)

- * *Chironomus pedellus*, DeG. Common, *Burton*; also *Dovedale* (G.H.V.)
 — *viridis*, Mcq. Very common, *Burton*, etc.
 * — *pictulus*, Mg. *Dovedale* (G.H.V.)
 * — *albimanus*, Mg. *Dovedale*, *Matlock* (G.H.V.)
 * — *nubeculosus*, Mg. *Matlock* (G.H.V.)
 * — *nubilus*, Mg. *Dovedale*, *Matlock* (G.H.V.)
 * *Cricotopus tremulus*, L. *Dovedale*, *Matlock* (G.H.V.)
 * *Orthocladus variabilis*, Stæg. *Dovedale*, *Miller's Dale* (G.H.V.)
 * *Tanytarsus flavipes*, Mg. *Matlock* (G.H.V.)
Tanypus varius, F. *Burton*
 — *nebulosus*, Mg. "
 * — *choreus*, Mg. *Monsal Dale* (G.H.V.)
 * — *trifascipennis*, Ztt. *Dovedale*, abundant (G.H.V. *E.M.M.* xxx. 79)
 [— *zonatus*, F. (?) *Burton*]
 * — *monilis*, L. *Matlock* (G.H.V.)
Ceratopogon pulicaris, L. Very common, *Burton*
 — *nitidus*, Mcq. Very common, *Burton*
 * — *flavipes*, Mg. *Monsal Dale* (G.H.V.)

PSYCHODIDÆ

- Pericoma nubila*, Mg. *Burton*
Psychoda phalænoides, L. Common, *Burton*
 — *sexpunctata*, Curt. *Derby*, common (G.P.)

CULICIDÆ

- Corethra plumicornis*, F. *Burton*
Culex annulatus, Schrk. Very common
 — *nemorosus*, Mg. " "
 — *piens*, L. " "

DIXIDÆ

- Dixa maculata*, Mg. *Derby* (G.P.)

PTYCHOPTERIDÆ

- * *Ptychoptera paludosa*, Mg. *Dovedale* (G.H.V.)

A HISTORY OF DERBYSHIRE

LIMNOBIDÆ

- Limnobia nubeculosa*, Mg. *Burton*
 — *tripunctata*, F. "
Dicranomyia modesta, Mg. "
Rhiphidia maculata, Mg. "
 * *Molophilus propinquus*, Egg. *Dovedale*
 (G.H.V.)
Rhypholophus lineatus, Mg. *Burton*
 * — *nodulosus*, Mcq. *Miller's Dale* (G.H.V.)
 * *Lipsothrix errans*, Wlk. *Dovedale* (G.H.V.)
 * *Dactylolabis frauenfeldi*, Egg. *Dovedale*,
 Miller's Dale (G.H.V.)
Trichocera hiemalis, DeG. Very common
Peronecera fuscipennis, Curt. Near *Derby*
 (G.P.)

TIPULIDÆ

- Pachyrrhina crocata*, L. *Burton*
 — *quadrifaria*, Mg. "
 — *annulicornis*, Mg. "
Tipula confusa, V. d. W. *Little Eaton*
 (G.P.)
 — *longicornis*, Schum. *Little Eaton* (G.P.)
 * — *varipennis*, Mg. *Dovedale* (G.H.V.)
 — *gigantea*, Schrk. Common, *Burton*,
 Ashbourne, etc.
 — *lutescens*, F. Common
 — *oleracea*, L. Very common
Ctenophora pectinicornis, L. *Repton*
 Shrubs

RHYPHIDÆ

- Rhyphus fenestralis*, Scop. Common in
 houses, *Derby* (G.P.)

BRACHYCERA

STRATIOMYIDÆ

- Oxycera pulchella*, Mg. (*rara*, Walk.).
 Burton; *Little Eaton* (G.P.)
Chrysonotus bipunctatus, Scop. *Burton*
Sargus flavipes, Mg. *Burton*
 ¶ — *cuprarius*, L. *Burton*; *Derby*, common,
 Little Eaton (G.P.)
 ¶ *Chloromyia formosa*, Scop. *Burton*; *Little*
 Eaton (G.P.)
Microchrysa polita, L. *Burton*
Beris clavipes, L. *Burton*
 — *chalybeata*, Forst. *Little Eaton* (G.P.)

TABANIDÆ

- Hæmatopota pluvialis*, L. Common
 (E.B., G.P., F.J.)
 — *italica*, Mg. *Little Eaton*, rare (G.P.)
Theriopectes tropicus, Mg. *Burton*
Tabanus bovinus, L. Described as 'a great
 plague to horses and men' by S.
 Glover in 1829; twice, *Little Eaton*
 (G.P.); once, south *Derbyshire* (H. F.
 Gibson)
 — *autumnalis*, L. *Grange Wood*
Chrysops cæcutiens, L. *Grange and Seal*
 Woods (E.B.)

LEPTIDÆ

- ¶ *Leptis scolopacea*, L. *Burton*; *Dove Valley*,
 etc. (F.J.); near *Derby*, common,
 Little Eaton (G.P.)
Chrysopilus aureus, Mg. *Burton*
Atherix ibis, F. *Burton*

ASILIDÆ

- Dioctria œlandica*, L. *Burton*
 ¶ — *rufipes*, Deg. *Burton*; *Little Eaton*
 (G.P.)
Asilus crabroniformis, L. Rare, *Burton*;
 one near *Chesterfield* (G.W.W.), rare
 (G.P.)

BOMBYLIDÆ

- [*Anthrax hottentota*, L. *Burton*]
Bombylius, Sp. (?) *Burton*

THEREVIDÆ

- Thereva annulata*, F. *Burton*

EMPIDÆ

- * *Rhamphomyia nigripes*, F. *Dovedale*
 (G.H.V.)
 — *sulcata*, Fln. *Burton*
Empis tessellata, F. "
 ¶ — *livida*, L. *Burton*; *Little Eaton* (G.P.)
 * — *bilineata*, Lw. *Dovedale* (G.H.V.)
 — *chioptera*, Fln. *Burton*
Hilara cilipes, Mg. "
 * — *maura*, F. *Dovedale* (G.H.V.)
 * *Tachydromia agilis*, Mg. " "

DOLICHOPODIDÆ

- Pœcilobothrus nobilitatus*, L. *Burton*
Argyra diaphana, F. *Grange Wood* (E.B.)
 * *Porphyrans prœrosa*, Lw. *Dovedale*
 (G.H.V.)
 * *Xiphandrium fissum*, Lw. *Miller's Dale*
 (G.H.V.)

LONCHOPTERIDÆ

- Lonchoptera punctum*, Mg. *Burton*
 — *tristis*, Mg. *Burton*

CYCLORRHAPHA

PROBOSCIDEA

SYRPHIDÆ

- Paragus tibialis*, Fln. (*obscurus*, Mg.).
 Burton
Pipizella flavitarsis, Mg. *Burton*
Pipiza noctiluca, L. "
 — *bimaculata*, Mg. (*guttata*, Mg.). *Burton*
Cnemodon vitripennis, Mg. "
Liogaster metallina, F. (*discicornis*, Mg.).
 Burton
Chrysogaster splendens, Mg. *Burton*
 [— *hirtella*, Lw. (? *viduata*, Fln.) " "]
 — *solstitialis*, Fln. (*fumipennis*, Steph.).
 Burton
Chilosia scutellata, Fln. *Burton*
 — *pulchripes*, Lw. *Dovedale* (*Br. Fl.*)
 — *variabilis*, Pz. *Burton*
 — *illustrata*, Harr. (*œstracea*, L.). *Burton*

INSECTS

SYRPHIDÆ (continued)

- Chilosia grossa, Fln. *Burton*
 ¶ — albitarsis, Mg. *Little Eaton* (G.P.)
 ¶† Platychirus manicatus, Mg. *Burton; Clifton* (F.J.); *Little Eaton* (G.P.)
 ¶ — scutatus, Mg. *Little Eaton* (G.P.)
 — clypeatus, Mg. *Burton*
 ¶ Pyrophæna granditarsa, Forst. *Burton*; one ♀, *Little Eaton* (G.P.)
 ¶ Melanostoma mellinum, L. *Burton; Little Eaton* (G.P.)
 — scalare, F. *Burton*
 ¶ Melangyna quadrimaculata, Verr. *Little Eaton* (G.P.)
 ¶ Leucozona lucorum, L. *Burton; Little Eaton* (G.P.); one, *Ashbourne* (F.J.)
 Ischyrosyrphus glaucius, L. *Burton*
 — laternarius, Müll. *Burton*
 ¶ Catabomba pyrastris, L. *Burton; Little Eaton* (G.P.); *Clifton* (F.J.)
 Syrphus albostriatus, Fln. *Burton*
 — torvus, O.-S. (topiarius, Mg.). *Burton*
 ¶† — ribesii, L. *Burton; Clifton* (F.J.); *Little Eaton* (G.P.)
 — vitripennis, Mg. *Burton*; common (G.P.)
 ¶ — corollæ, F. *Burton; Little Eaton* (G.P.)
 — bifasciatus, F. *Burton*
 ¶ — balteatus, DeG. *Burton; Little Eaton* (G.P.); *Clifton* (F.J.)
 — auricollis, Mg. *Burton*
 — umbellatarum, F. „
 Xanthogramma ornatum, Mg. *Burton*
 — citrofasciatum, Deg. „
 Baccha obscuripennis, Mg. „
 — elongata, F. „
 ¶ Sphegina clunipes, Fln. One, *Clifton*, 5, ix. 02 (F.J.)
 Ascia podagrica, F. *Burton*
 Brachyopa bicolor, Fln. „
 Rhingia rostrata, L. *Burton; Derby*, common (G.P.)
 ¶ — campestris, Mg. *Little Eaton* (G.P.); *Clifton* (F.J.)
 ¶ Volucella bombylans, L. *Burton; Little Eaton, Willington*, scarce (G.P.)
 — inflata, F. *Little Eaton*, rare (G.P.)
 † — pellucens, L. *Little Eaton*, common (G.P.); *Clifton*, common (F.J.)
 Eristalis sepulchralis, L. *Burton*
 ¶ — tenax, L. Common
 ¶† — intricarius, L. *Burton; Clifton* (F.J.)
 ¶† — arbustorum, L. *Burton; Clifton* (F.J.); *Little Eaton* (G.P.)
 † — nemorum, L. *Burton; Clifton* (F.J.)
 † — pertinax, Scop. *Clifton* (F.J.)
 — horticola, Deg. *Burton*
 Myiatropa florea, L. „

SYRPHIDÆ (continued)

- ¶ Helophilus pendulus, L. *Burton; Clifton* (F.J.)
 — lineatus, F. *Burton*
 Criorrhina asilica, Fln. „
 Xylota segnis, L. „
 — lenta, Mg. „
 — sylvarum, L. „
 ¶† Syritta pipiens, L. *Burton; Clifton* (F.J.)
 Eumerus strigatus, Fln. *Burton*
 Chrysochlamys cuprea, Scop. *Burton*; near *Chesterfield* (G.W.W.)
 Calliprobola speciosa, Rossi. *Burton* (?)
 Sericomyia borealis, Fln. *Burton*
 — lappona, L. *Burton*
 ¶ Chrysotoxum arcuatum, L. *Burton; Little Eaton* (G.P.)
 — octomaculatum, Curt. *Little Eaton* (G.P.)
 — bicinctum, L. *Burton*
 * Callicera ænea, F. *Derby* (W. C. Hewitson)
 CONOPIDÆ
 Conops quadrifasciata, Deg. *Burton*
 ¶ — flavipes, L. *Clifton* (F.J.); *Little Eaton* (G.P.)
 Oncomyia atra, F. *Burton*
 Sicus ferrugineus, L. „
 CÆSTRIDÆ
 Gastrophilus equi, F. *Burton; Little Eaton* (G.P.), *Dove Valley* (F.J.)
 Hypoderma bovis, Deg. Common, and does great damage to the hides of oxen; local name, 'gadbee.'
 Cæstrus ovis, L. *Repton*, etc.
 TACHINIDÆ
 Gonia capitata, DeG. *Little Eaton* (G.P.)
 Melanota volvulus, F. *Burton* (?)
 Thelaira nigripes, F. „
 ¶ Oliveria lateralis, F. *Burton; Clifton* (F.J.)
 Micropalpus vulpinus, Fln. *Burton*
 Echinomyia grossa, L. One near *Chesterfield* (G. W. Wynn)
 — fera, L. *Burton*
 Fabricia ferox, L. *Burton*
 ¶ Sarcophaga carnaria, L. Generally distributed
 ¶ var. similis, Meade. *Clifton* (F.J.)
 — melanura, Mg. *Burton*
 Miltogramma punctatum, Mg. *Breadsall Moor* (G.P.)
 Dexiosoma caninum, F. *Burton*
 Prosenia sybarita, F. „
 MUSCIDÆ
 Stomoxys calcitrans, L. *Burton*; rare in the *Dove Valley* (F.J.); *Little Eaton*, rare (G.P.)
 Pollenia vespillo, F. *Burton*
 — rudis, F. „
 Graphomyia maculata, Scop. *Burton* (?)

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MUSCIDÆ (continued)

- Musca domestica*, L. General and common
 — *corvina*, F. *Burton*; *Little Eaton*, etc., common
Cyrtoneura stabulans, Fln. *Burton*
 ¶ *Morellia hortorum*, Fln. *Burton*; *Little Eaton* (G.P.)
 ¶ *Mesembrina meridiana*, L. *Burton*, etc., common; *Little Eaton*, common (G.P.)
Pyrellia lasiophthalma, Mcq. *Burton*
 ¶ *Calliphora vomitoria*, L. Everywhere
Euphoria cornicina, F. *Burton*
 ¶ *Lucilia cæsar*, L. Common, *Burton*, *Little Eaton*, *Asbbourne*, etc.
 [— *illustris*, Mg. *Burton*]

ANTHOMYIDÆ

- Polietes lardaria*, F. *Burton*
Hyetodesia incana, W. „
 — *lucorum*, Fln. *Little Eaton*, not common (G.P.)
 — *signata*, Mg. *Burton*
 ¶ — *erratica*, Fln. *Burton*; *Little Eaton* (G.P.)
 ¶ — (?) *pallida*, F. *Little Eaton* (G.P.)
Mydæa angelicæ, Scop. *Burton*
 — *pagana*, F. „
 ¶ — *impuncta*, Fln. *Burton*; *Little Eaton* (G.P.)
 * *Spilogaster fratercula*, Ztt. *Matlock* (G.H.V.)
Hydrotæa ciliata, F. *Little Eaton* (G.P.)
 — *meteorica*, L. *Little Eaton*, common (G.P.)
Hydrophoria conica, W. *Burton*
Hylemyia præpotens, W. „
Anthomyia pluvialis, L. „
 — *radicum*, L. *Burton*, etc.
 * *Chortophila cinerella*, Fln. *Dovedale* (G.H.V.)
 — *sepia*, Mg. *Burton*
Phorbia cepetorum, Meade. *Burton*, etc.; common (G.P.)
Pegomyia betæ, Curt. Occasionally common
Homalomyia canicularis, L. *Burton*
 * — *aërea*, Ztt. (*carbonaria*, Meade). *Mon-sal Dale* (G.H.V.)
 — *kowarzi*, Verr. One between *Matlock* and *Matlock Bath* (G.H.V. in *E.M.M.* xxviii. 149)
Caricea tigrina, F. *Burton*

CORDYLURIDÆ

- Scatophaga lutaria*, F. *Burton*
 — *stercoraria*, L. Everywhere
 — *litorea*, Fln. *Little Eaton* (G.P.)

HELOMYZIDÆ

- Helomyza flava*, Mg. *Burton*
Blepharoptera serrata, L. „

SCIOMYZIDÆ

- Dryomyza flaveola*, F. *Burton*
 ¶ *Neuroctena anilis*, Fln. *Little Eaton* (G.P.)
Neottiophilum præustum, Mg. *Burton*
Sciomyza obtusa, Fln. „
 — *cinerella*, Fln. „
 — *albocostata*, Fln. „
 ¶ *Tetanocera elata*, F. *Little Eaton* (G.P.)
 — *ferruginea*, Fln. *Burton*
Limnia marginata, F. „
 — *rufifrons*, F. „
Elgiva cucularia, L. „

PSILIDÆ

- Psila fimetaria*, L. *Burton*
 — *pallida*, Fln. „
 — *rosæ*, F. *Dove Valley*, etc.

MICROPEZIDÆ

- Calobata adusta*, Lw. Four at *Miller's Dale* (G.H.V. in *E.M.M.* xxx. 145)
 — *trivialis*, Lw. *Dovedale* (G.H.V. in *E.M.M.* xxx. 145)

ORTALIDÆ

- Pteropæctria afflicta*, Mg. *Burton*
Anacampta urticæ, L. „
Platystoma seminationis, F. „
Seoptera vibrans, L. „

TRYPETIDÆ

- Acidia heraclei*, L. „
Spilographa artemisiæ, F. „
Rhagoletis cerasi, L. „
Trypeta cornuta, F. „
 — *serratulæ*, L. „
Urophora solstitialis, L. „
Carphotricha guttularis, Mg. „
Tephritis parietina, L. „
 — *leontodontis*, Deg. „
Urellia stellata, Fuessl. „

LONCHÆIDÆ

- Lonchæa vaginalis*, Fln. „
Palloptera saltuum, L. „
 — *ustulata*, Fln. „
 — *umbellatarum*, F. „
 — *arcuata*, Fln. „

SAPROMYZIDÆ

- Lauxania cylindricornis*, F. „
 — *ænea*, Fln. „

OPOMYZIDÆ

- Balioptera combinata*, L. „
Opomyza florum, F. „

SEPSIDÆ

- Nemopoda tarsalis*, Wlk. „

PIOPHILIDÆ

- Piophila casei*, L. Larvæ in cheese

EPHYDRIDÆ

- Notiphila cinerea*, Fln. *Burton*
Psilopa leucostoma, Mg. „
Ephydra riparia, Fln. „

CHLOROPIDÆ

- Meromyza variegata*, Mg. *Burton*

INSECTS

CHLOROPIDÆ (*continued*)

Chlorops cinctipes, Mg. *Burton*

PHYTOMYZIDÆ

Napomyza lateralis, Flin. *Burton*

BORBORIDÆ

Borborus nitidus, Mg. *Burton*

— pedestris, Mg. *Little Eaton (G.P.)*

— equinus, Flin. *Burton*

Sphærocera subsultans, F. *Burton*

Limosina sylvatica, Mg. „

— ochripes, Mg. „

— fungicola, Hal. „

PHORIDÆ

Phora rufipes, Mg. „

EPROBOSCIDEA

HIPPOBOSCIDÆ

[*Hippobosca equina*, L. Not found according to E. Brown (1863), but mentioned by S. Glover (1829)]

Ornithomyia avicularia, L. On owls, etc., at *Burton*

Stenopteryx hirundinis, L. On martins and swallows

Melophagus ovinus, L. Common on sheep

NYCTERIBIDÆ

Nycteribia (vespertilionis), L.(?) On lesser horseshoe bat at *Matlock (E.B.)*

HEMIPTERA

The following somewhat scanty notes are based upon Mr. E. Brown's list of the fauna of the Burton-on-Trent district (*Natural History of Tutbury*, pp. 165, 169). This list was published in 1863, and a few records from Mr. E. Saunders' monograph of the *Hemiptera Heteroptera of the British Islands* and Mr. J. Edwardes' work on the Hemiptera Homoptera have been added.

HEMIPTERA HETEROPTERA

GYMNOCERATA

HYDROMETRIDÆ

Mesovelia furcata, Muls. and Rey. One from the *River Trent*, near *Burton-on-Trent* (E. Brown); see *E.M.M.* iv. 5 (1867)

Hydrometra stagnorum, L. Common

Velia currens, Fb. On the *Trent*

Gerris paludum, Fb. Very common

— *costæ*, H. Schff. *Axe Edge, Buxton (W. W. Fowler)*

SALDIDÆ

Salda morio, Zett. On moors near *Buxton (E. Saunders)*

— *c-album*, Fieb. *Matlock (Blatch)*

— *cincta*, H. Schff. *Repton (W. W. Fowler)*

CIMICIDÆ

Cimex lectularius, L. In slums, etc.

Ceratocombus coleoptratus, Zett. *Matlock*, under bark (Blatch)

[*Piezostethus cursitans*, Flin. Has been recorded from *Needwood* and *Sherwood Forests (Blatch)*]

Anthocoris confusus, Reut. *Bakewell (E. Saunders)*

— *gallarum ulmi*, DeG. *Bakewell*, a small and brightly coloured variety (E. Saunders)

CAPSIDÆ

Phytocoris longipennis, Flor. *Matlock (Blatch)*

Calocoris sexguttatus, Fb. *Repton (W. W. Fowler)*

— *alpestris*, Mey. *Burton (Brown fide Saunders)*

CRYPTOCERATA

NAUCORIDÆ

Naucoris cimicoides, L. Locally on the *Trent*, etc.

NEPIDÆ

Nepa cinerea, L. Common

NOTONECTIDÆ

Notonecta glauca, L. Common

„ var. *furcata* and *maculata (E. Brown)*

CORIXIDÆ

Corixa geoffroyi, Leach. Not uncommon

— *atomaria*, Illig. (*affinis*, Leach). Common

— *coleoptrata*, Fb. *Old Trent, Burton, Repton (W. W. Fowler); Matlock (E. Saunders)*

Sigara minutissima, L. *Burton (W. W. Fowler)*; not uncommon in *Trent* at *Burton (E. Brown)*

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HEMIPTERA HOMOPTERA

CICADINA

MEMBRACIDÆ

Centrotus cornutus, L. Woods on *Leicestershire* borders (E.B.)

ISSIDÆ

Issus coleoptratus, Geoff. *Dovedale* (B. Cooke); near *Burton*, not common (E.B.)

CIXIIDÆ

Cixius pilosus, Ol., or *nervosus*, L. (?) (*cynosbatis*, Fb., of E.B.). *Burton* district

DELPHACIDÆ

[Several species said to be abundant in the *Burton* district by E. Brown. Mr. P. B. Mason of *Burton* has a speci-

men of *Stiroma borealis*, J. Sahl., in his collection, but without locality]

CERCOPIDÆ

Tricophora vulnerata, Illig. *Derbyshire* (W. W. Fowler); *Grange Wood* (E.B.)

Philænus spumarius, L. Common

LEDRIDÆ

Ledra aurita, L. Rare in woods (E.B.)

PSYLLINA

PSYLLIDÆ

Trichopsylla centranthi, Vall. On *Valeriana dentata* at *Bretby* (T. Gibbs), *E.M.M.* xxx. 231

APHIDES

Hardly any systematic observations have been made on this order with the exception of some articles by the late Sir O. Mosley in the early volumes of the *Gardener's Chronicle* and Mr. E. Brown's notes in his fauna of the *Burton-on-Trent* district (*Natural History of Tutbury*, p. 167).

Phorodon humuli, Schr. The hop aphid
Aphis amygdali, Fons.

Schizoneura lanigera, Hausm. (*Eriosoma mali*, Mosl.). American blight

Chermes abietis, L. On the spruce fir

— *laricis*, Htg. On the larch

COCCIDÆ

Aspidiotus sp. Scale insects; common in greenhouses

Lecanium persicæ, Burm. On plum and apricot trees near *Burton*

ALEYRODIDÆ

Aleyrodes proletella, Wlk. Often found flying in lanes

— *fragariæ*, Wlk. On the strawberry

— *phillyrææ*, Hal. 'Common on phillyreas'

A species of *Dactylopius* (mealy bug of gardeners) is occasionally destructive to vines

ARACHNIDA

Spiders, etc.

Thirty-one species of spiders only appear to have been recorded from this county, the majority of them by Mr. F. P. Smith. It should, judging from its physical characteristics, prove very wealthy in Arachnida.

ARANEÆ

ARACHNOMORPHÆ

1. *Harpactes hombergii* (Scopoli)
Derby (F. P. S.)

2. *Drassodes lapidosus* (Walckenaer)
Derby (F. P. S.)

3. *Drassodes cupreus* (Blackwall)
Matlock (T. R. R. Stebbing)

4. *Clubiona corticalis*, Walckenaer
Calke Abbey (F. O. P.-C.); Derby (F. P. S.)

SPIDERS

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|--|--|
| <p>5. <i>Clubiona terrestris</i>, Westring
Derby (F. P. S.)</p> <p>6. <i>Marpissa muscosa</i> (Clerck)
Calke Abbey (O. P.-C.)</p> <p>7. <i>Philodromus aureolus</i> (Clerck)
Derby (F. P. S.)</p> <p>8. <i>Lycosa terricola</i>, Thorell
Matlock (T. R. R. S.)</p> <p>9. <i>Lycosa ruricola</i> (De Geer)
Derby (F. P. S.)</p> <p>10. <i>Pardosa lugubris</i> (Walckenaer)
Derby (F. P. S.)</p> <p>11. <i>Pardosa pullata</i> (Clerck)
Derby (F. P. S.)</p> <p>12. <i>Pardosa palustris</i> (Linnæus)
Matlock (T. R. R. S.)</p> <p>13. <i>Agelena labyrinthica</i> (Clerck)
Derby (F. P. S.)</p> <p>14. <i>Tegenaria atrica</i>, C. L. Koch
Derby (F. P. S.)</p> <p>15. <i>Tegenaria derhami</i> (Scopoli)
Derby (F. P. S.)</p> <p>16. <i>Cælotes atropos</i> (Walckenaer)
Derby (F. P. S.) ; Matlock (T. R. R. S.)</p> <p>17. <i>Araneus diadematus</i>, Clerck
Derby (F. P. S.)</p> <p>18. <i>Zilla</i> × <i>-notata</i> (Clerck)
Derby (F. P. S.)</p> | <p>19. <i>Meta segmentata</i> (Clerck)
Derby (F. P. S.)</p> <p>20. <i>Pachygnatha degeerii</i> (Sundevall)
Derby (F. P. S.)</p> <p>21. <i>Lepthyphantes nebulosus</i> (Sundevall)
Derby (F. P. S.)</p> <p>22. <i>Lepthyphantes minutus</i> (Blackwall)
Derby (F. P. S.)</p> <p>23. <i>Lepthyphantes tenuis</i> (Blackwall)
Derby (F. P. S.)</p> <p>24. <i>Leptorhoptrum huthwaitii</i> (O. P.-Cam-
bridge)
Derby (O. P.-C.)</p> <p>25. <i>Tmeticus affinis</i> (Blackwall)
Derby (O. P.-C.)</p> <p>26. <i>Erigone dentipalpis</i> (Wider)
Derby (F. P. S.)</p> <p>27. <i>Theridion denticulatum</i> (Walckenaer)
Derby (F. P. S.)</p> <p>28. <i>Theridion lineatum</i> (Clerck)
Derby (F. P. S.)</p> <p>29. <i>Amaurobius similis</i> (Blackwall)
Derby (F. P. S.)</p> <p>30. <i>Amaurobius ferox</i> (Walckenaer)
Derby (F. P. S.)</p> <p>31. <i>Amaurobius fenestralis</i> (Stroem)
Derby (F. P. S.) Matlock ; (T. R. R. S.)</p> |
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CRUSTACEANS

The Romans were a highly practical people, and the poet of widest renown among them has left us the aphorism that it is impossible for every one to do everything. It appears to be equally true that all counties cannot embrace all branches of natural history with a complete efficiency. A region may have striking features of scenery appealing not only to æsthetic tastes but to the curiosity of those who would fain understand the slow moulding of the land they live in and unravel the far-off story of what happened before its history began. In such a region there may be a great variety of attractive objects, fossils and minerals, exquisite fluor spar, marbles of great beauty and value; there may be mysterious caverns with wonderful stalactites and bones of extinct yet half familiar animals; there may be dripping wells in which treasures the most trifling or the most precious—a tuft of moss, the egg of a robin, or a skull which the owner has ceased to require—may be rendered almost imperishable by a calculated thickness of incrustation. Since all these and several other engaging attributes belong to Derbyshire, there is no great reason for surprise that the subject of this chapter has hitherto been passed over with an almost absolute neglect. It is time that its turn should come, and an endeavour will here be made to show that carcinology, the science and study of crustaceans, has a fair and promising field in this county.

It will be tolerably obvious to every reader that in regard to this pursuit there are facilities enjoyed by the maritime outskirts which are entirely denied to the central districts of England. At any considerable distance from the coast the majority of the inhabitants may pass their whole lives without ever suspecting that any crustaceans whatever are fellow-tenants with themselves. They are impressed by the fact that crabs and lobsters, prawns and shrimps have to be imported from the sea and are never found indigenous to the midlands. It is not, or till recently was not, any part of popular education to explain that in close affinity with the commercial species just mentioned there are others, not large, not eaten, not highly prized, which live on land and on terms of an indifferent intimacy with mankind. Also among things not generally known may be included the fact that, in addition to a score or so of terrestrial species, we have about two hundred that occupy the fresh waters of this country.

Omitting the cirripedes or barnacles which are not tempted to forsake our shores, we may divide the rest of the crustacean class into Malacostraca and Entomostraca. It is the latter division that supplies a

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very large number of species and great swarms of individuals in fresh water, of which the smallest tracts are sometimes the most productive.

Of the Malacostraca our inland representative highest in rank and most important by far in point of size is the river crayfish *Potamobius pallipes* (Lereboullet). At Matlock a fishmonger and others of whom inquiries were made replied that they had never heard of this species as living in Derbyshire. But on applying to Dr. H. C. Sorby, F.R.S., I learned from him that a relative of his had formerly spoken to him of its being found in the river Wye. Dr. Sorby also took the trouble to write on the subject to Mr. John Hall of Norbury, Sheffield. Mr. Hall in a letter dated October 21, 1901, says: 'All I can tell you about crayfish is that some dozen years ago I caught one at Grindleford Bridge while fishing for trout in a flood with wasp grub. The keeper told me they were often caught there in a flood, but by no means common.' With reference to this letter Dr. Sorby subsequently wrote to me saying, 'Grindleford Bridge is on the Derwent, a few miles below Hathersage and a good many above Chatsworth. It is a station on the Midland line.' In an earlier note he says: 'I send you Mr. John Hall's letter, which gives unimpeachable evidence of the crayfish in the Derwent. He is a gentleman of eighty or so, and has been a fisherman in Derbyshire most of his life. He has taken much interest in natural history and was a friend of Frank Buckland. Being thus found in the Derwent we may conclude that my aunt was correct in saying that it [the crayfish] occurred in the Wye. These are the two chief rivers of the county.' The Rev. H. S. Gorham, F.Z.S., has also assured me by word of mouth that when he lived in the neighbourhood of Ashbourn crayfish were plentiful in the banks of the river Dove. As the result then of these inquiries it may be fairly inferred that the species certainly belongs to the county fauna, but that it is not everywhere especially common. Its position in the crustacean class may be briefly explained. The highest Malacostraca are divided into Brachyura and Macrura, short-tails and long-tails. *Potamobius* belongs like the lobster and the shrimp to the latter section. Like the lobster and the shrimp it has a pair of movable eyes, two pairs of antennæ, six pairs of jaws, five pairs of trunk-legs, and an abdomen or tail of seven segments, of which each except the last carries a pair of appendages. Thus including the eyes there are in all twenty pairs of appendages, and assuming that each of these implies an originally distinct segment supporting it, we shall have the malacostracan body composed of twenty-and-one segments. Since there are some orders in which the eyes are not movable and have no proved claim to a segment of their own, the first or ocular segment is, like the last which is devoid of appendages, in a somewhat exceptional position. Between these two extremities however there are nineteen segments of the body which maintain themselves with a remarkable though not absolutely unbroken uniformity throughout the highly diversified and very extensive division of the Malacostraca.

It will be noticed in the crayfish that the eyes and the following

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thirteen pairs of appendages all appear to be attached to or covered by the great shield called the carapace. The theory of this shield is that it is composed of two or three, or perhaps more, of the original segments grown together and extended backwards and forwards over several other segments, which have in consequence become to a great extent dorsally indistinguishable. Although on the ventral surface there are marks from which it is not difficult to infer a primitive separation, it will be found that the leg-bearing segments of the lobster are all firmly coherent. But one of the differences which separates the river crayfish from its marine counterpart consists in this, that it has the segment carrying the hindermost pair of legs freely movable.¹ A more easily appreciable distinction is afforded by the second antennæ, these having near the base a scale or plate which in the crayfish is large but very small in the lobster.

In the sessile-eyed Malacostraca there is further evidence of that original independence that is claimed for each appendage-bearing segment. Here the carapace with rare exceptions is limited to a connection with the two pairs of antennæ and four pairs of mouth-organs, while the following seven pairs of appendages are more or less conspicuously leg-like, and each pair is attached as a rule to a movable trunk-segment. Thus a flexibility of body is secured of which crabs are altogether devoid, and which in lobster and crayfish is transferred to the abdomen.

The first sessile-eyed group that concerns us has received the general name of Isopoda, meaning equal-footed or like-footed. This was conferred upon it because the species earliest taken into account in comparatively modern classification were seen to have all the fourteen legs of the trunk or middle body nearly alike. In the order as now more fully known such a character is far from being constant. There are many exceptions, and in some of them differences of size and shape in the series of legs are carried to an extreme. Nevertheless in a good number of marine forms and undoubtedly in our terrestrial isopods, which go by the humble vernacular name of woodlice, there is sufficient similarity and equality in the feet to justify the title which was given to the order by the French naturalist Latreille about a hundred years ago.

In regard to the woodlice or Oniscidea I may affirm from personal observation that five species are found in Derbyshire. It is probable that there are at the least double that number. But at all events five were seen in a little coppice on a hill near Matlock Bridge. These represent four out of the eleven genera at present known to occur in Great Britain. They are divided between two families, the Oniscidæ and the Armadillidiidæ, which are separated by some well marked distinctions and by others not unimportant but less obvious. Those who have never studied woodlice scientifically must yet be conscious of the habit which some of them share with the hedgehog. Every one indeed is familiar from childhood with the little creatures that on the slightest hint of danger or touch of intrusion roll themselves up into the like-

¹ See Huxley, *The Crayfish* (1881), pp. 152, 237.

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ness of a smooth black shining pill. These usually belong to the second of the families above mentioned, and the habit in question would almost suffice alone to affiliate them to it. But a certain caution must be observed, first because in the other family the members of one genus are nearly as perfect in the globe-making practice, and secondly because among myriapods there is a genus quite as perfect in this defensive manœuvre and so similar also in colour and smoothness that the rolled up specimens are often mistaken for the true woodlice, which are not myriapods but crustacean isopods. Another distinction consists in the circumstance that the young of the Oniscidæ quit the mother while the seventh segment of the middle body is still undeveloped, whereas the young of the other family have that segment already developed when they first enter upon an independent career. For perceiving this difference however a careful examination is required. The young ones, it is true, are often extremely abundant, especially among the Oniscidæ, but they are pallid and small. A distinction more easy to observe will be found in the tail part of the adults. This part, otherwise known as the abdomen or pleon, appears to consist of six segments instead of the theoretical number seven. The terminal segment or telson is coalesced with the preceding segment which carries the last pair of appendages, known technically as uropods or tail-feet. In the Oniscidæ it will be without difficulty discerned that the outer branch of these uropods is prolonged beyond the compound telsonic segment. In the other family the tail-feet and tail-segment are so arranged as to form a neat unbroken curve which without any projecting parts can meet the front of the animal for spherical adjustment.

There are some ungifted persons who may think that all this is 'much ado about nothing,' and certainly whoever first devised the names *Oniscus asellus*, adopted by Linnæus for the captain of all the woodlice, must have attributed to that species the anxiety so emphatically expressed by Shakespere's Dogberry, 'Masters, do not forget to specify, when time and place shall serve, that I am an ass.' Not only does the Linnæan designation first in Greek and then in Latin libel the species as a little donkey, but also our own celebrated countryman Ray had before the time of Linnæus called it *Asellus asininus*, as though willing to translate into scientific language the impatient exclamation of Conrade in the play, 'You are an ass, you are an ass.' For a considerable time the genus *Oniscus* was equivalent to the Isopoda at large, which are now distributed among several tribes, many families, and very numerous genera. To *Oniscus* remains only a shadow of its past supremacy in the form of the family name Oniscidæ and the tribal name Oniscidea. To the genus itself very few species are now assigned. The eldest and commonest, *Oniscus asellus*, Linn., is probably known to every one by sight though not by name, being abundant in gardens, in woods, and in almost all places where it can find convenient shelter with food and moisture. From its frequency on the walls of cellars and other damp places it has been by way of alternative called *O. murarius*. The other

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title suits and was perhaps suggested by its usually slow reluctant movements. It has but little tendency to double itself up, and when the maternal pouch is crowded with young such a feat would be out of the question. In common with the species next to be mentioned it has a character that is of much service in classifying specimens. In woodlice the first antennæ are inconspicuous, but the second make a good show. When these are examined they are found to have a five-jointed peduncle followed by a variously sub-divided flagellum or lash. The whip-like character of the latter is to a great extent lost in most inland forms because the sub-divisions or jointlets are very few. In *Oniscus* and *Philoscia* this flagellum is three-jointed, but it is only two-jointed in the other genera which will here be claimed for Derbyshire. Our next species then, *Philoscia muscorum* (Scopoli), cannot be distinguished from *Oniscus asellus* by counting the joints of the antennæ, but it is very much smaller, much more lively in its movements, and much brighter and more varied in its colouring. It has also high up on each of its pale-coloured legs a dark spot which is additionally distinctive. Moreover the relation of the tail part to the trunk sets *Philoscia* apart from all the three other genera of the present notice, for it has the pleon abruptly and continuously narrower than the middle body. In the others the abruptness of the narrowing is masked, because the third pleon-segment widens out over the lateral extremities of the first and second, so that its side margins form a fairly continuous line with those of the central trunk. The third species is *Porcellio scaber*, Latreille. This is just as common and plentiful and widely distributed as the other two. It competes in length of body but not in breadth with *Oniscus asellus*; it is much rougher with its many rows of tubercles, and usually, but not always, much darker and more uniform in colouring. The two-jointed flagellum of the antennæ prevents any confusion with the preceding species.

The second family owes its name to the genus *Armadillidium*, Brandt, which contains two Derbyshire species. One of these is *A. vulgare* (Latreille), of which some characteristics have been already indicated. Until recent years this was the only species of its genus, as it still is by far the commonest, known in Great Britain and Ireland. It has now three companions, the latest added being *A. pulchellum*, Brandt, concerning which Dr. R. F. Scharff writes in the *Irish Naturalist* for May 1901¹: 'I discovered this species in April close to the village of Ballymote (co. Sligo) when visiting the district for the Royal Irish Academy Fauna and Flora Committee. I found about a dozen specimens, all full-grown—about 5 mm. in length—under stones on the top of a mud wall; it was there in company with the very common grey woodlouse, *Porcellio scaber*. The next day we kept a good look out for the species in the neighbourhood, but only met with some of the common kinds. *A. pulchellum* is a distinctly northern species, having been taken in Scandinavia, northern Germany and Belgium.' When thanking Dr. Scharff

¹ Vol. x. p. 109.

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for the report of this interesting addition to our fauna, I hazarded the prophecy that we should find the species also in England. It so happened that early in the following June I had occasion to visit Matlock Bridge with my wife. A couple of days after our arrival we set ourselves to seek out such localities as were likely to harbour terrestrial Isopoda. We had scarcely been engaged five minutes in the first favourable spot when Mrs. T. R. R. Stebbing exclaimed that she seemed to have found something new. This was really the case, and though, as subsequent researches showed, the specimens were not very numerous, they justified my venturesome prediction by proving to be the veritable *Armadillidium pulchellum* of Brandt, as described by Budde-Lund in 1885. It should however be mentioned that the latter author ascribes the honour of having first named this pretty little species not to Brandt but to Zencker. It is further worth noting that, though *A. vulgare* is usually black and uniform in colouring, there are sometimes found specimens brightly mottled with three or even four rows of yellow spots along the back. It is therefore desirable to reproduce in part Budde-Lund's description of the species *A. pulchellum*, which is not only new to England but as yet peculiar therein to this county. The length is a fifth of an inch, with a breadth of about half the length. It is thus much smaller than the other English members of the same genus. In regard to shape and texture it is oblong oval, very convex, smooth, shining, minutely but not very densely punctate. The outer antennæ are equal to three-sevenths of the length of the body, and the flagellum has its first joint one-third as long as the second. This last is an important character, because in *A. vulgare* there is much less difference and in the other two British species little or none in the length of these two joints. In the first segment following the head the lateral margin just in front of its hinder angle is obliquely sub-truncate. The terminal segment of the pleon is broader than long, sub-semicircular. The colour is brown with the margins and four rows of spots yellow or beautifully red. The seventh segment of the trunk is almost entirely black.¹ In the figure which accompanies Dr. Scharff's paper this last character does not appear, nor is it mentioned in his notes on the colouring. In the Derbyshire specimens the seventh segment has the light spots sometimes pretty strongly developed, but in every case flanked on either side by a dark patch. Thereby this segment is in rather a marked manner distinguished from the preceding segments which have the lateral parts of the dorsal surface light-coloured.

Of the Amphipoda little is yet known from Derbyshire. These sessile-eyed Malacostraca are commonly regarded as a companion group to the Isopoda. They have the body similarly divided, the middle part being composed of seven distinct leg-bearing segments. But whereas in the Isopoda the appendages of the abdomen have some parts modified for the respiratory function, in the Amphipoda this purpose is served by branchial sacs attached to several of the trunk-legs. In this respect

¹ Budde-Lund, *Isopoda Terrestria* (1885), p. 70.

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the Amphipoda agree more closely with the crabs and lobsters, which have the breathing apparatus in the same situation, although their breathing organs are out of sight under the sides of the carapace and are far less simple in structure than those of the sessile-eyed group. The species *Gammarus pulex* (Linn.), occurs in Derbyshire, as it occurs all over England where there are pools and rivulets. At Matlock Bridge I took it in wet moss from a trickling stream not half an inch deep, and likewise from a little pool which at the time was only an inch or two in depth. Specimens have also been sent me by Dr. H. Lyster Jameson, M.A., from water in Speedwell Mine. That other amphipods will be found in Derbyshire when its wells and cavern waters are searched for the purpose is highly probable.

Of Entomostraca in this district there is little at present to be said. Only one of the great sub-divisions appears to have been hitherto in any way noticed. This one is the vast group of very small and very active animals known as the Ostracoda. They belie their affinity to shrimps by assuming the appearance of tiny mussels. In spite of the enclosing valves many of them swim with remarkable agility and thus present a strong contrast to the sedentary habit of the true mussels among the Mollusca. But some of the species are content to creep, a change of manners and morals to which testimony is borne by the generic name *Erpetocypris*. The word is intended to mark a stage of evolution. From the lively genus *Cypris*, it is supposed, certain forms have descended so modified for a lethargic mud-loving life that the prominent attribute of their race has been lost, and the creature is consequently stigmatized as 'the creeping cypris.' Of the genus so named this county possesses two recorded species, *Erpetocypris tumefacta* (Brady and Robertson), which has been 'taken in the river Lathkill, Derbyshire,' and *E. olivacea*, Brady and Norman, of which the authors say: 'This pretty species was found abundantly amongst weeds in the river Lathkill.' Both by shape and colouring they are well distinguished. The former has the 'shell perfectly smooth, opaque white or cream coloured, with clouded yellow patches, and sparingly coated with very fine hairs.'¹ Of the latter the shell is 'smooth and shining, transparent, mottled, deep olive green.'² Of *E. tumefacta* Brady and Robertson remark that a side view might lead to a confusion of it with *Cypris virens* or *Cypris incongruens*, but that 'no species possesses a more characteristic or well-marked contour when looked upon from above,' and in this respect they describe it as 'broadly ovate, suddenly and acutely mucronate in front, well rounded behind, sides sub-parallel, greatest width situated in the middle, and somewhat greater than the height.'³ On the other hand *E. olivacea* is, when 'seen from above, ovate, more than twice as long as broad, widest in the middle, extremities obtusely pointed and nearly equal,' so that the extremities from this point of view are sufficiently distinctive. The only other Ostracode definitely named as occurring in the county is *Cypridopsis*

¹ Brady and Norman, *Trans. R. Dublin Soc.* (1889), ser. 2, iv. 87.

² Loc. cit. p. 89.

³ *Annals Nat. Hist.* (1870), ser. 4, vi. 13.

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villosa (Jurine) from Baslow.¹ In all these instances the discoverer was Dr. G. S. Brady, M.D., F.R.S., who in his description of the last named species gives 'outline, as seen from above, compressed, oval, pointed in front and rounded behind; about twice and a half as long as broad,' and 'surface of the shell covered with long fine hairs'; 'colour light grass-green.'² The narrowness of the form and the difference of hue are good marks to distinguish this from the two species of the preceding genus, but for distinguishing the three from all others that he may meet with, the student will find it desirable to consider the full generic and specific definitions and the figures supplied in the various memoirs cited in the footnotes.

The Copepoda, or oar-footed Entomostraca, are somewhat more shrimp-like than the Ostracoda. It cannot be in the least rash to say that they are plentiful in the county, but there are no printed references available as a guarantee of the assertion, and the only ocular demonstration to which I can appeal depends upon two little specimens of a species of *Cyclops*, which Dr. H. Lyster Jameson kindly sent me 'from pool at bottom of chasm, Speedwell Cave, Derbyshire.' In each instance the pair of strongly geniculate first antennæ show the specimen to be a male, but the species remains for the present indeterminate.

¹ *Trans. R. Dublin Soc.* ser. 2, iv. 90.

² *Trans. Linn. Soc.* (London, 1868), vol. xxvi. pt. 2, p. 377.

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It is impossible to write on this subject without making some mention of the great changes which have taken place, more especially of late years, in our rivers. The rapid growth of our towns, and the absence of systematic method in dealing with the resulting pollution of the nearest streams, have caused many alterations in the distribution of various species. Considerable portions of our water system are now so polluted as to be absolutely useless for fishing purposes. Amongst others we may mention the lower portion of the river Derwent from near Little Eaton almost to its junction with the Trent, the Wye between Buxton and Miller's Dale, and those rivers which traverse our coal producing districts, such as the Rother and the Erewash. It is to be hoped that the next few years will see great alterations in this respect, for the present system of conveying all the sewage and waste products to the nearest stream is disastrous when carried on in the neighbourhood of a town, or indeed on any but a small scale.

Perhaps the results of this system are more clearly shown in the case of a large and conspicuous migratory fish like the salmon than any other. The number of writers who have devoted their attention to the fish of our county is exceedingly small, but many of the early books on local and county history contain references to the importance of the salmon fishery in former times. At present its extent is insignificant : the Derwent is effectually barred, and only a few fish continue to struggle up the Trent and Dove.

The largest river which comes within our limits is that portion of the Trent which flows through the southern part of the county. Its principal Derbyshire tributaries are the Dove, which forms the boundary between Staffordshire and Derbyshire, the Derwent and the Erewash (all on the left bank). These rivers drain the greater part of the county, but the north-eastern district is watered by the Rother and the tributary streams which flow into the Don. From a fishing point of view the most important of our rivers are the Trent, which produces an immense quantity of coarse fish, and which is well looked after on the whole ; the Dove, the upper waters of which produce trout and grayling and the lower reaches chiefly coarse fish ; and the Derwent, with its tributaries the Ashop or Noe, the Wye and the Amber. Here again the upper waters produce chiefly trout and grayling, but coarse fish extend much higher than in the Dove. It is almost unnecessary to say that these rivers are carefully preserved, and that much has been done of late years to improve the fishing by the establishment of fish hatcheries, and the introduction of large quantities of artificially reared fry.

Some attempts have been made to introduce new species, such as

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the Loch Leven trout (*Salmo trutta*, var. *levenensis*) and the rainbow trout of America (*S. irideus*) into our principal streams. It is perhaps too early to speak as to the results of these experiments, but it may be said that they have at any rate proved partly successful.

The number of species treated of in the following list amounts to thirty-one. Of these however the crucian carp and the variety known as the goldfish can hardly be said to exist in a natural state, and, as well as the common carp, owe their position to artificial means, and have but little more right to a place than the Loch Leven and rainbow trout spoken of above. The sturgeon (*Acipenser sturio*) has not been definitely recorded from Derbyshire waters since 1838, and the latest occurrence of the sea lamprey (*Petromyzon marinus*) dates back to 1863. Further evidence as to the presence of the rudd (*Leuciscus erythrophthalmus*) in the Trent is desirable, and the exact range of the flounder (*Pleuronectes flesus*) and white bream (*Abramis blicca*) need careful definition.

The literature on the subject of Derbyshire fish and fishing is somewhat scanty. One can hardly pass over the references to the river Dove in the great classic of the fishing world, Izaak Walton's *Compleat Angler*. Charles Cotton, himself a Derbyshire man, makes numerous allusions to his native streams in his poems. In 1829 Glover published his *History of the County of Derby*, and in vol. i. pp. 166-71 gives a very full and on the whole good account of the fishes of the county. R. Garner's *Natural History of the County of Stafford* (1844-60) contains brief notes on the fish of the Trent and Dove. In 1863 was published *The Natural History of Tutbury*, by Sir Oswald Mosley. In this work the author gives, on pp. 64-82, a sketch of the fish of south Derbyshire, and Mr. Edwin Brown contributes a carefully drawn up list of the fishes of Burton-on-Trent (pp. 114-8 and 229). Mr. J. R. B. Masefield contributed 'A Sketch of our Local Freshwater Fish' to the *Transactions of the North Staffordshire Naturalists' Field Club* (1894), which contains many references to the Dove and Trent. The zoological reports in the same publication may also be consulted, as well as the *Transactions of the Burton-on-Trent Natural History Society*, which contain some papers on the subject by Mr. G. M. Day, the *Zoologist*, *Field*, *Fishing Gazette*, etc. In this connection may be mentioned two local works which contain much of interest, Messrs. Shipley and Fitzgibbon's *True Treatise on the Art of Fly-fishing, Trolling, etc., as practised on the Dove*, etc. (1838), and *The Scientific Angler*, by David Foster (1882). The latter has now reached its ninth edition.

In the present paper an attempt has been made to define the range of each species. Of course like all first attempts the result is imperfect, but it is hoped that it may prove a useful contribution towards a more complete knowledge of our aquatic fauna.

In this connection I have to thank many contributors who have assisted me with useful information, including Messrs. G. H. Storer, J. R. B. Masefield, O. B. Murphy, W. H. Foster, R. Hall, G. M. Bond, T. Hampton, G. Eaton and others.

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TELEOSTEANS

ACANTHOPTERYGII

1. Perch. *Perca fluviatilis*, Linn.

Plentiful in the Trent. It is also found commonly in the river Dove as high as Rocester. A few are occasionally met with for a mile or two above that point, but from the upper waters of the Dove it is altogether absent.

In the Derwent perch are found as high as the Chatsworth waters, but not further up the river. They thrive when introduced into mill dams and ponds, and are not uncommon in our canals.

The maximum weight attained in our waters appears to be $4\frac{1}{2}$ lb. Glover (*Hist. of the County of Derby*, i. 168) says: 'They have been caught in the Derwent $4\frac{1}{2}$ lb. weight'; and in Mr. J. R. B. Masfield's 'Sketch of our Local Freshwater Fish' it is stated, on the authority of Mr. John Ward, that a perch $4\frac{1}{2}$ lb. in weight was taken in the Trent. Individuals from $2\frac{1}{2}$ to 3 lb. have been several times recorded.

2. Ruffe or Pope. *Acerina cernua*, Linn.

This little fish is found in suitable spots in the Trent, Dove, Derwent and smaller streams. It is absent from the Dove above Rocester and the upper reaches of the Derwent. Mr. Edwin Brown (*Fauna of Burton*, p. 114) describes it as abounding in the canals and other waters in the Burton district, especially in dark recesses near locks and weirs. It seldom exceeds 3 or 4 oz. in weight and 5 or 6 inches in length.

3. Miller's Thumb or Bullhead. *Cottus gobio*, Linn.

Common in almost all our rivers and streams, where it may be found lurking under stones or ensconced in a bed of water weed.

ANACANTHINI

4. Burbot or Eel-pout. *Lota vulgaris*, Cuv.

This remarkable fish is rather scarce and local, but has long been known to inhabit the Trent. Glover in 1829 writes: 'These fish are to be caught in the Trent and Derwent and in the back cuttings, Sinfen moor.' Mr. E. Brown (*Fauna of Burton*) says it is frequently taken in the Trent, sometimes weighing as much as 4 lb. Mr. G. M. Bond informs me that he once saw a small burbot (about $\frac{1}{2}$ lb.) taken in a fish trap on the Dove at Hanging Bridge, but this is the only instance which has come to my knowledge.

5. Flounder. *Pleuronectes flesus*, Linn.

Flounders ascend the Trent for a considerable distance, and have been taken in large numbers at Clifton, but do not attain a large size.

HEMIBRANCHII

6. Three-spined Stickleback. *Gastrosteus aculeatus*, Linn.

Locally, Jacksharp.

Found in our principal rivers in comparatively small numbers, but in the small tributary streams and wet ditches it is exceedingly numerous. Mr. E. Brown says that the half armed form (*G. semiarmatus*, Cuv.) is plentiful in the Burton district (*Fauna of Burton*, p. 114), and according to Mr. G. H. Storer the typical form both at Burton and Marston-on-Dove is the quarter-armed stickleback of Parnell (*G. gymnurus*, Cuv.).

7. Ten-spined Stickleback. *Gastrosteus pungitius*, Linn.

Locally, Tinker.

This is not nearly so plentiful as the preceding species, and has up to the present only been recorded from the south of the county. The earliest record of its presence which I can find is a reference in Sir O. Mosley's address to the Burton Natural History Society in 1842, where he describes it as found in a small brook near the railway station at Burton. Mr. Storer has taken specimens near Burton, where it occurs in the ratio of about one to fifty of the three-spined species. He describes it as much more common at Marston-on-Dove, and also tolerably numerous in the Soar and its tributaries.

HAPLOMI

8. Pike or Jack. *Esox lucius*, Linn.

In the Trent pike are found in considerable numbers and attain a large size. If Glover's record can be trusted, 'they have been taken in the Derwent and Trent 36 lb.' previously to 1829. Mr. Edwin Brown says that few seasons pass in which several pike of 20 lb. weight and upwards are not taken in the Trent near Burton, and that in 1845 a pike was taken in the Trent near Twyford which weighed 36 lb. (*Nat. Hist. of Tutbury*, p. 229). At the present time 20 lb. fish are occasionally taken, but the majority do not exceed 10 lb. or so. In the lower Dove pike attain a good size. Sir O. Mosley tells the story of a bull which was attacked by a pike while drinking near Tutbury! He also notes a

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water rat taken from the stomach of a 15 lb. pike from Rolleston. On the upper Dove the present limit of the range of this fish is Mayfield weir. Above this point none is to be found, although they are common enough below. On the Derwent pike are to be found with other coarse fish as high as the Chatsworth waters.

In 1887 a large pike was caught near Staveley which weighed 28 lb. (*Journ. Derb. Arch. and Nat. Hist. Soc.* 1892, p. 182), and Mr. O. B. Murphy has one of 26 lb. taken by himself. Mr. A. S. Hutchinson also informs me that about 1898 he received a 30 lb. fish for preservation from Mr. Ratcliffe of Burton, and that a 26 lb. pike from the Trent has also passed through his hands.

OSTARIOPHYSI

9. Carp. *Cyprinus carpio*, Linn.

This is an introduced species, and only thrives in still or slow flowing waters. It is absent from the Dove and Derwent, but a few are found in the Trent. Mr. Brown says that large ones are occasionally captured in the Trent above Burton, and that one weighing about 8 lb. was caught at Fradley in 1857. In ponds however they attain a much greater size. Glover says that in Osmaston old waters they were taken 14 lb. in weight, and Brown mentions specimens of 12 lb.

10. Crucian Carp. *Cyprinus carassius*, Linn.

The goldfish (*C. auratus*), which may be regarded as a variety of the above species, has been introduced into ponds in various parts of the county. According to Mr. Brown it is found in great numbers in some of the engine ponds at Derby.

Mr. Brown (*Fauna of Burton-on-Trent*) also states that the Prussian carp (*C. gibelio*) has been naturalized in some ponds.

11. Barbel. *Barbus vulgaris*, Linn.

Barbel are found in the Trent and the lower reaches of the Dove, Derwent and Wye. In the Trent there are many well-known haunts of this fish, whence large numbers are taken annually. More than a hundredweight are said to have been taken by one angler in an afternoon (*Nat. Hist. of Tutbury*, p. 115). Mr. G. H. Storer quotes an instance of two anglers taking over a hundredweight in the Dove, and says that takes of 30 lb. to a single rod are not infrequent.

Barbel attain a considerable size. Sir O. Mosley mentions fish of 10 and even 15 lb.

in weight. R. Garner mentions one of 11 lb. from the Trent (*Nat. Hist. of Stafford*, p. 295), and Glover says that they have 'been taken in the Trent and Derwent upwards of 11 lb.' (*Hist. of Derby*, i. 170). Fish of 6 to 7 lb. are recorded annually.

The range of the barbel in the Dove does not extend above Rocester weir. In the Derwent they are found as high as the Chatsworth water, and Mr. O. B. Murphy has taken them in the Wye near Rowsley; but they are absent from the upper reaches of these rivers.

12. Gudgeon. *Gobio fluviatilis*, Flem.

Found in the Trent, Derwent, Dove and their tributaries. It must formerly have been plentiful in the Rother, as on May 14, 1790, the Rev. F. Gisborne killed sixteen large gudgeon by a single shot when after pike (*Journ. Derb. Arch. and Nat. Hist. Soc.* 1892). It seldom exceeds 6 inches in length. One weighing 6 oz. was taken at Matlock in 1901.

13. Roach. *Leuciscus rutilus*, Linn.

The commonest fish in the Trent. Mr. E. Brown says that more than half a ton weight have been taken at a single draw of the net opposite Wetmore, and in 1901 Mr. F. W. K. Wallis took no fewer than 257 roach with rod and line in one day, weighing 150 lb. Of these forty scaled 45 lb., and were retained.

Roach are also common in the lower reaches of the Dove, but are not found above Rocester. They also occur frequently in the Derwent as high as Chatsworth, in many of our canals and in the Rother.

14. Rudd. *Leuciscus erythrophthalmus*, Linn.

R. Garner described this fish as frequently found in the Trent in 1860. At the present time it is by no means a common fish, but is probably sometimes confused with the roach and consequently overlooked.

15. Dace. *Leuciscus dobula*, Linn.

Day—*Leuciscus vulgaris*.

Found in the Trent commonly and also in the Derwent, but especially numerous in the lower Dove, where it is often taken with the natural fly.

A few dace may be found in the Dove just above Rocester weir, but not higher, while below this point they are common. In the Derwent they are found as high as the Chatsworth water. The maximum weight seldom much exceeds 1 lb.

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16. Chub. *Leuciscus cephalus*, Linn.

Commonly found in the Trent, also in the Dove below Rocester and in the Derwent as high as the Chatsworth water. Formerly plentiful in the Rother, where a few still survive. Glover gives the maximum weight of chub from the Trent and Derwent as 6 lb., length 14 to 16 inches; and Garner says that in the Trent they reach 5 lb.

17. Minnow. *Leuciscus phoxinus*, Linn.

Generally distributed.

18. Tench. *Tinca vulgaris*, Cuv.

Thrives best in ponds, canals and sluggish streams. It is found in the Trent and the lower reaches of the Dove and Derwent, but rarely exceeds $2\frac{1}{2}$ lb. Mr. Storer informs me that they have been taken up to 3 lb. near Burton.

19. Bream. *Abramis brama*, Linn.

Very common in the Trent below Twyford, but less so near Burton. It appears to be absent from the Dove, except near its junction with the Trent, but is found in the Derwent up to Cromford, and in canals communicating with the Trent. Six and a half stones of this fish were taken by three anglers at Barton in one day.

Glover and Garner mention fish of 7 lb. weight from the Trent, and one of 6 lb. was taken at Shardlow in 1901.

20. White Bream, Breamflat. *Abramis blicca*, Bloch.

This fish, which was first described from the Trent near Newark (*Trans. Linn. Soc.* xiv. p. 587), is not uncommon in the lower part of the Trent, and a few are to be found within our limits, but it is comparatively scarce above the junction with the Soar, and is absent from our other rivers. It has however been recorded from the Trent at Hixon in Staffordshire, and has probably been overlooked in other parts of the river.

21. Bleak. *Alburnus lucidus*, Heck. and Kner.

Mr. E. Brown (*Fauna of Burton*) describes this fish as 'very abundant in running streams, especially in the Trent'; and Mr. C. Hanson has recorded it from the lower Dove.

22. Loach. *Nemachilus barbatulus*, Linn.

Locally, Stone Loach, Tommy Loach.

Common in nearly all our brooks and rivers.

23. Spinous Loach. *Cobitis taenia*, Linn.

Recorded by almost all writers on the fish of this district from the Trent. It is still

not uncommon near Burton, where it conceals itself among the weeds or under stones (G. H. Storer).

MALACOPTERYGII

24. Salmon. *Salmo salar*, Linn.

In former times large numbers of salmon ascended the Trent, Dove and Derwent for spawning purposes; but owing to the numerous obstacles in the two latter rivers, and the reckless way in which the fish have been killed, their numbers have decreased year by year, and their range has been restricted.

In Glover's time (1829) salmon still ascended the Dove, Wye, Lathkill and Derwent. For many years their progress has been effectually stopped up the Derwent by Darley weir; but Mr. O. B. Murphy informs me that about 1880 he saw salmon jumping up the Long Bridge weir in the middle of Derby, but they failed to pass Darley weir, and, as the water ran low, were killed by the polluted water from the mills, etc. Since then salmon have not faced the Derwent on account of the state of the river below Derby. They still continue to ascend the Trent in reduced numbers, and of late there has been some slight increase in their ranks. Strangely enough these fish refuse the fly, and can only be taken by spinning or ground fishing.

On arriving at the junction of the Trent and Dove most of the fish make their way up the latter stream. At Dove Cliff a salmon ladder exists, and as many as twenty salmon are said to have passed up it in an hour in a good season (G. H. Storer). Sir O. Mosley (*Nat. Hist. of Tutbury*, p. 64) informs us on the authority of Mr. Thornewill that in one year no fewer than forty-two were taken at this spot, but that in the eight years prior to 1863 not more than twelve or fourteen were taken. This diminution he ascribes partly to a succession of dry seasons, and partly to the indiscriminate slaughter of spent fish.

At the present time few salmon ascend higher than Tutbury, but formerly they were known to ascend as high as Dovedale. The late David Foster of Ashbourne remembered seeing them there when a young man (probably about 1830). Twenty years later an occasional fish was seen as high as Mayfield weir, and a small grilse was hooked below the weir about 1886, but escaped. Below Rocester Mr. O. B. Murphy took three fish weighing $9\frac{1}{2}$ lb., 11 lb. and $13\frac{1}{2}$ lb., and lost a fourth, about 1881; and Mr. Bass captured one of $22\frac{1}{2}$ lb. near Doveridge a few years

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prior to 1894 (J. R. B. Mascfield, *Trans. N. Staff. Field Club*, 1894).

Above Tutbury Bridge is a very favourite spawning ground, but owing to the many obstructions on the way the salmon are late in reaching it, and seldom arrive in good condition. Here in December 1853 many were shot and speared (*Nat. Hist. of Tutbury*, p. 64).

The largest fish of which I can find any record is that mentioned by Sir O. Mosley as being caught at Dove Cliff which weighed 32 lb. One of 25 lb. was taken in 1842 at Donington Cliff (J. J. Briggs, *Zoologist*, 1843, p. 323).

25. Brown Trout. *Salmo trutta*, Linn., var. *fario*, Linn.

Derbyshire has long been famous for its trout, which however vary much in appearance according to the locality from which they are taken. As a general rule fish from clear, stony or gravelly streams are brightly marked, whereas those from muddy waters are dingy-looking and sometimes almost black.

In the Trent the trout are as a rule few and small. In the lower reaches of the Dove they are of good size with pinkish flesh, but not numerous, while on the upper reaches they are very common, and range higher than grayling, being found even in the tiny brooklets which flow from the moorlands. In the Derwent and its tributaries their distribution is somewhat similar, except that the polluted state of the river has driven them from below Little Eaton.

In size trout vary considerably. A large trout is exceedingly destructive to the smaller fish in his immediate neighbourhood. He is however as a rule very sedentary in his habits, and appears unwilling to leave his haunt, even when the food supply begins to fail. In consequence of this characteristic many of the largest trout are found to be in poor condition when taken. The largest fish of which I can find any record is one which is referred to by Glover as having been caught in the Via Gellia. This fish is said to have weighed 14 lb. The same writer also gives particulars of a trout which exceeded $7\frac{1}{2}$ lb. by $1\frac{1}{2}$ oz., and measured $25\frac{1}{2}$ inches in length and 14 inches in girth. It was caught in September 1828 in the Lathkill. A $7\frac{1}{2}$ lb. trout was taken near Woodeaves on the Bentley brook about 1876. At the Royal Oak, Hanging Bridge, is preserved a fine trout which was taken in the adjoining river Dove in June 1889. This fish scaled over $7\frac{1}{4}$ lb.

On May 11, 1901, a trout weighing 6 lb. 14 oz., length 24 inches, girth 14 inches, was caught in the Derwent at Matlock Bath by Mr. W. King; and a six-pounder was taken in the Noe between Hope and Brough in July 1899.

[Of late years Loch Leven trout (*S. trutta*, var. *levenensis*) have been introduced into the Trent, Dove and Derwent. In the Trent they have been taken up to $4\frac{1}{2}$ lb., but are under protection as yet, and are returned to the water.]

[The American rainbow trout (*S. irideus*, var. *shasta*) has been introduced in various places. Some were turned into the Trent near Shardlow, others into the upper Dove; and about 1899 some were put into the Derwent above Hathersage, and appear to be doing well.]

26. Grayling. *Thymallus vexillifer*, Linn. Yarrell—*Thymallus vulgaris*.

Another characteristic inhabitant of our Derbyshire streams, which have been famous for grayling since the days of Walton and Cotton. At the present time they are found in considerable numbers in the Dove, Wye and Derwent. Unlike the trout, they are not to be found in the head waters of these streams, nor are they as a rule to be found in the Trent except near its junction with the Dove. On the Dovedale, Okeover and Birdsgrove waters trout and grayling are about equal in numbers; below this the trout decrease in numbers, and there is a corresponding increase in the number of grayling, until the latter outnumber the former by about ten to one. In the Derwent grayling are scarce above Bamford weir, and, as far as I am aware, are never found above Ashopton.

Grayling do not vary in size nearly so much as trout. According to Glover (*Hist. of the County of Derby*, i. 169) they have been taken up to 4 lb. weight. One taken with the fly near the junction of the Dove and Manifold in 1878 weighed $3\frac{1}{2}$ lb., and 3 lb. fish have several times been taken in the Dove. Mr. E. Brown confirms this (*Fauna of Burton*, p. 117), 'It is sometimes taken weighing 3 lb.' Such fish are however exceptional, very few exceeding 2 lb. in weight.

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27. Eel. *Anguilla vulgaris*, Turt.

Very common in the Trent; a fair number are to be found in the lower part of the Dove, and a few on the upper part of the river. On the Derwent they are found as

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high as the Chatsworth waters, but in smaller numbers than formerly, probably on account of the polluted state of the river below Derby. A fine eel taken near Norbury weir weighed

5 $\frac{3}{4}$ lb. Mr. G. M. Day (*Trans. Burton Nat. Hist. Soc.* 1896, p. 116) states that six large sacks have been filled with eels in one day from a trap at Drakelow weir near Burton.

GANOIDS

28. Sturgeon. *Acipenser sturio*, Linn.

An occasional visitor to the Trent, but less frequently than formerly. The earliest record of its appearance exists in the *Annals of Burton Monastery* under date of 1255. 'In this same year, in the waters of the Trent near Donington Castle, about the time of the Ascension of our Lord, there was taken a fish called a Sturgeon, eight feet in length; the old people of those parts affirming that a similar fish was taken in the same place the

year before King John was crowned.'¹ In 1791 one was caught at King's Mills 7 feet long (Stebbing Shaw's *Hist. of Staffordshire*, i. 90). 'Recently one of a good size has been taken at Shardlow' (Glover, *Hist. of Derbyshire*, 1829). In 1838 another was taken at King's Mills about 8 feet long (J. J. Briggs, *Zool.* 1843, p. 323). Sturgeon still occasionally visit the Trent—a large one was seen several times near Newark in June 1899—but appear not to ascend the river so high as formerly.

CYCLOSTOMES

29. Sea Lamprey. *Petromyzon marinus*, Linn.

An occasional visitor to the Trent in former times. The only recent record of its appearance is that of Mr. E. Brown, who in the Addenda to his 'Fauna of Burton-on-Trent' (*Nat. Hist. of Tutbury*, p. 229) states that a living specimen, about 2 $\frac{1}{2}$ feet long, was brought to him in June 1863, captured in the Dove.

30. Lampern. *Petromyzon fluviatilis*, Linn.

Seven-eyed Eel (Glover).

Lamperns ascend the Trent in very large numbers for spawning purposes, especially in

the spring, attaching themselves to the stones in the river bed. In Glover's time they also made their way up the Derwent.

Mr. E. Brown (*Zool.* 1843, p. 212) records the finding of over twenty lamperns in a burrow of the brown rat in a potato field near Burton.

31. Sand Pride. *Petromyzon branchialis*, Linn.

Nine-eyed Eel (Glover). *Locally*, Nine-holes.

Common in the Dove and its tributaries; said to occur also in the Trent, and recorded by Glover from the Derwent.

¹ *Annales de Burton* (Suard, 1864), 336.

REPTILES AND BATRACHIANS

Reptiles are but poorly represented in Derbyshire, both in species and individuals, and their numbers seem to be steadily decreasing, especially in the vicinity of towns and villages.

The common lizard and the blindworm are most abundant in the north of the county; the lizard being still plentiful on the moors, but it also occurs, although very sparingly, in the southern district. The ringed snake is widely distributed throughout the county, being far from rare even in the south Derbyshire plain, from which the viper is, I believe, entirely absent. The latter however still exists on the northern moors, and is also to be met with on the Leicestershire border.

Neither the sand lizard nor the smooth snake occurs in the county, and the European water tortoise, described and figured by Sir Oswald Mosley from a specimen taken on the canal bank near Burton in 1857, was evidently merely a stray specimen which had escaped from captivity.

The batrachians of Derbyshire include the common frog, the common toad, the great crested newt and the smooth newt. The active natterjack toad, although found in both Cheshire and Lancashire, does not occur in Derbyshire; whilst the palmated newt also has not been recorded for the county.

REPTILES

LACERTILIA

1. Common, Scaly or Viviparous Lizard.
Lacerta vivipara, Jacquin.

This species occurs most abundantly in the north of Derbyshire, but is rare or altogether absent from many districts in the centre and south of the county. The Rev. Francis C. R. Jourdain kindly informs me that in 1876 he 'found this species very abundant on the moors which reach from Ashopton to Sheffield, especially near Moscar.'

In south Derbyshire it occurred three or four years ago on some rough furze-covered land near Drakelow, but has entirely disappeared since this was drained and put under cultivation. About six years ago it was to be found near Burton, but is not now to be met with. On the Leicestershire border the scaly lizard is more abundant, and is still

plentiful amongst the rough rocks of Charnwood Forest in that county.

2. Blind-worm or Slow-worm. *Anguis fragilis*, Linn.

More restricted in its range than the common lizard, and is chiefly found in the hilly districts—Miller's Dale, Dove Dale, Thorpe Cloud (Rev. J. C. Stephens), Belper. Mr. Hutchinson obligingly writes to inform me that he received one a few years ago from Little Eaton, about 10 inches in length.

OPHIDIA

3. Common or Ringed Snake. *Tropidonotus natrix*, Linn.
Natrix torquata, Ray.

Although nowhere numerically very abundant, the common snake is widely distributed

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in Derbyshire, especially in the south Derbyshire plain, from which the adder is absent.

The Rev. F. C. R. Jourdain, writing to me on September 3, 1901, says: 'About four examples have been killed in the Ashbourne district since 1880 (one a large one, 4 feet long), but they are by no means common.' I recently examined a specimen 3 feet 1 inch in length, in the possession of Mr. Adsetts of Derby, which had been killed near Belper.

Mr. Hutchinson informs me by letter that he has received various specimens from the vicinity of Derby, and he considers the ringed snake 'fairly common' in his locality. One

example came under his notice as it was in the act of swallowing a frog at Littleover, within two miles of Derby. The ringed snake also occurs at Bretby and near Woodville. I have not heard of its appearance near Burton since 1885.

4. Viper or Adder. *Vipera berus*, Linn.

Very local. Almost confined to the north Derbyshire moors. Has occasionally occurred near the Leicestershire border, such specimens being probably strays from Charnwood Forest, Breadsall Moor (E. Brown) and Darley Dale (A. G. Darwin).

BATRACHIANS

ECAUDATA

1. Common Frog. *Rana temporaria*, Linn.
Common and generally distributed.
2. Common Toad. *Bufo vulgaris*, Laur.
Common and generally distributed.

CAUDATA

3. Great Crested or Warty Newt. *Molge cristata*, Laur.
Fairly common in ponds and ditches.

4. Common or Smooth Newt, Eft. *Molge vulgaris*, Linn.

Triton punctatus, Latr.

Rather more abundant than the last named and found in similar situations. The species, in common with the crested newt, is liable to possess additional digits on both the fore and hind feet. One individual taken at Stapenhill in July, 1900, and which I kept alive for some time, possessed five complete feet, an additional limb being developed from the left shoulder.

BIRDS¹

Owing to its geographical position the number of species of birds observed in Derbyshire must necessarily be small when compared with that of such favoured districts as Yorkshire or Norfolk. For not only is it so far distant from the sea that marine birds as a rule only visit it under stress of weather, but with the exception of the Trent valley, which intersects the southern part of the county, the greater part lies outside the great migration routes. On the other hand the bird life of Derbyshire possesses a peculiar interest from the fact that the limits of the range of many of our northern and southern species overlap here. Thus the heather-covered spurs of the Pennine range in the north are the home of many birds which are only rarely and exceptionally found breeding in the great central plain of the midlands or in the southern counties which lie to the east of the Devonian peninsula. Amongst these may be mentioned the ring-ouzel (*Turdus torquatus*), the grey wag-tail (*Motacilla melanope*), the twite (*Linota flavirostris*), the merlin (*Falco aesalon*), the red grouse (*Lagopus scoticus*), the golden plover (*Charadrius pluvialis*), the common sandpiper (*Totanus hypoleucus*) and the curlew (*Numenius arquata*). On the other hand the rich meadow lands and well wooded parks in the south of the county are within the normal limits of the breeding range of some of our more distinctively southern species, such as the nightingale (*Daulias luscinia*), the reed-warbler (*Acrocephalus streperus*), the red-backed shrike (*Lanius collurio*) the nuthatch (*Sitta cæsia*), the wryneck (*Iynx torquilla*) the turtle-dove (*Turtur communis*), and the red-legged partridge (*Caccabis rufa*), although many of these birds are also known to breed in suitable districts further north.

There is moreover another characteristic which to some extent compensates for its rather scanty limits, namely the great diversity in the character of the country. Few counties contain a greater variety of scenery : in a few hours we pass from the vast heather-covered wastes of the High Peak, broken here and there by masses of millstone grit, through the fertile Derwent valley to a bleak upland country almost devoid of trees except here and there in the hollows, where hedges are replaced by monotonous stone walls. Here quite unexpectedly we find ourselves at the edge of a deep gorge, at the bottom of which we catch a glimpse of the river winding its way through the steep limestone buttresses and gradually working down into the well wooded rolling country

¹ I must acknowledge my indebtedness to the following gentlemen who have most kindly assisted me with information : Messrs. W. Storrs Fox, H. G. Tomlinson, L. E. Adams, W. Crowther, R. Hall, W. N. Statham, J. J. Baldwin Young, W. Boulsover, A. S. Hutchinson and G. W. Pullen.

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of the Dove basin. There is still another change when the rapidly flowing Dove is merged in the waters of the slower Trent with its wide expanse of flat meadow flanking the great river on either side. Almost every kind of scenery meets us in turn, and each region has its characteristic birds; the one thing lacking from an ornithologist's point of view being the succession of marsh and mere which proves so attractive to wildfowl and waders. However even this defect is partly atoned for by the presence of a sewage farm near Egginton, which here as in other parts of England has proved a great attraction to these birds. Many years ago Sinfin Moor must have been an ideal resort for wildfowl; but its glory has departed, and it has long since been drained and turned to more utilitarian purposes.

The moors of the north, which in appearance are almost unaltered, still show some traces of their ancient fauna. Two hundred and thirty years ago, as Willughby tells us, a pair of golden eagles (*Aquila chrysaëtus*) bred here, merlins (*Falco aesalon*) and hen harriers (*Circus cyaneus*) patrolled the moorlands, while short-eared owls (*Asio accipitrinus*) nested among the heather, and kestrels (*Falco tinnunculus*) and ravens (*Corvus corax*) might be found breeding on the tors. Now a pair or two of merlins lead a precarious existence every summer, the harriers are gone, and the short-eared owl is little more than a stray visitor, while our resident ravens have long been exterminated; but the ring-ouzel is common on the wildest parts of the 'tops,' the curlew (*Numenius arquata*) and the golden plover (*Charadrius pluvialis*) still breed, and along the fringe of the moor the nightjar (*Caprimulgus europæus*) lays its two eggs on the bare peat. The meadow-pipit (*Anthus arvensis*) utters its melancholy note as a cuckoo (*Cuculus canorus*) flies past; a pair of twites (*Linota flavirostris*) fly away twittering, and in the evening the reel of the grasshopper-warbler (*Locustella naevia*) sounds from the heathery slopes, while the red grouse (*Lagopus scoticus*) is ubiquitous and the cries of the cocks may be heard wherever we go. On the Howden and Longdendale moors a few couple of teal (*Nettion crecca*) nest, and on the peat-stained mountain streams dippers (*Cinclus aquaticus*), grey wagtails (*Motacilla melanope*) and sandpipers (*Totanus hypoleucus*) are all common.

On the bare uplands bird life is comparatively scarce, but the lapwing (*Vanellus vulgaris*), the corn-bunting (*Emberiza miliaria*) and the wheatear (*Saxicola ænanthe*) are conspicuous, and a few blackgame (*Tetrao tetrix*) may be found haunting the wind-swept plantations.

Formerly scores of buzzards (*Buteo vulgaris*) and kites (*Milvus iclinus*) nested in the woodlands and soared over the commons of the south; but these have long disappeared and only a few kestrels (*Falco tinnunculus*) and sparrow-hawks (*Accipiter nisus*) breed in diminished numbers, while the same may be said of the three species of owls which still nest regularly with us. The lesser redpoll (*Linota rufescens*) is not uncommon, and the hawfinch (*Coccothraustes vulgaris*) though local may almost be said to nest gregariously in favoured spots. Wherever the least encouragement is given the tufted duck (*Fuligula cristata*) establishes itself, and-

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a few pairs of the handsome great crested grebe (*Podiceps cristatus*) nest annually in at least one district.

In the level meadows of the lower Dove and Trent we meet for the first time with the reed-warbler (*Acrocephalus streperus*), the redshank (*Totanus calidris*) and the spotted crake (*Porzana maruetta*).

But the disappearance of the larger birds of prey is not the only change that has come over our ornithology of late years. Other species, such as the stonechat (*Pratincola rubicola*), pied flycatcher (*Muscicapa atricapilla*) and woodlark (*Alauda arborea*) have unaccountably disappeared, while the reed-warbler has diminished in numbers. On the other hand the hawfinch, the redshank, the tufted duck and the red-legged partridge (*Caccabis rufa*) have been added to our list of breeding species, while there has been a very distinct increase in the breeding range of the turtle-dove (*Turtur communis*) formerly unknown except in the extreme south of the county.

In 1893 F. B. Whitlock estimated the total number of species which have occurred in the county as 241, but he included several birds whose right to a place in the British fauna has never been admitted, viz.:

Red-eyed flycatcher (<i>Vireo olivaceus</i>)	Egyptian goose (<i>Ghenalopex ægyptiaca</i>)
White-bellied swallow (<i>Tachycineta bicolor</i>)	Summer duck (<i>Aix sponsa</i>)
Canada goose (<i>Bernicla canadensis</i>)	

Besides these the following species were included on dubious or erroneous evidence:—

Blue-headed wagtail (<i>Motacilla flava</i>)	Crane (<i>Grus cinerea</i>)
Chough (<i>Pyrrhocorax graculus</i>)	Black-tailed godwit (<i>Limosa belgica</i>)
Iceland falcon (<i>Falco islandus</i>)	Buffon's skua (<i>Stercorarius parasiticus</i>)
Rock-dove (<i>Columba livia</i>)	

Since that time the following species have been definitely added to the county list:—

Blue-headed wagtail (<i>Motacilla flava</i>)	Black-throated diver (<i>Colymbus arcticus</i>)
Night heron (<i>Nycticorax griseus</i>)	

The number of British species therefore of whose occurrence within our boundaries reasonable proof exists is 233, besides 13 species which are treated of in their proper place and whose presence by natural means has been regarded as 'not proven.' These include, beside the species mentioned above, the pine-grosbeak and the passenger-pigeon. The regular breeders are 101 in number at the present time, but within the last forty years the raven, woodlark, short-eared owl and hen harrier all nested in the county, and there is some evidence that the golden oriole, siskin, crossbill and curl bunting have occasionally bred.

The principal authority on Derbyshire ornithology is F. B. Whitlock's *Birds of Derbyshire* (1893), a work which shows some signs of hasty compilation but nevertheless contains much valuable material. On page 19 a useful sketch of the previous literature on the subject is given, and since that time, with the exception of a few papers by Mr. W. Storrs Fox and the present writer in the *Zoologist*, hardly anything of importance has been published on the subject. Roughly speaking the principal

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works may be summarized as follows: In 1789 a very fair list of birds was published by James Pilkington in his *View of the present state of Derbyshire*, which was practically republished with additional notes by Mr. O. Jewitt in Stephen Glover's *History of the County of Derby* (1829); Mr. J. J. Briggs contributed a long series of notes on Derbyshire ornithology, with especial reference to the Melbourne district, to the *Zoologist* from its commencement in 1843 to the time of his death; and in 1866 Mr. A. O. Worthington contributed a list of Repton birds to a handbook of the *Wild Flowers, etc., of Repton*. In 1863 a more important work was published entitled *The Natural History of Tutbury*, which contains a chapter on the birds of the district by Sir O. Mosley, and a careful list of those species which have occurred near Burton-on-Trent by Mr. Edwin Brown. The *Journal of the Derbyshire Archæological and Natural History Society* for 1892 (p. 176) contains a most interesting reprint of the shooting diary of the Rev. Francis Gisborne of Staveley from 1761 to 1784, many of the records in which are of very great interest. Local lists by Mr. G. W. Pullen and F. B. Whitlock appeared in 1883 and 1886, and in 1893 the *Birds of Derbyshire* was published.

1. Mistle-Thrush. *Turdus viscivorus*, Linn.

Locally, Thrice-cock, Storm-cock, Sy-cock, Sedcock; Holm Thrush (J. J. Briggs).

This fine bird varies a good deal in numbers from year to year, but is generally distributed and in places quite common. It appears to suffer much in hard winters but soon recovers its position after a mild season. Many of the birds met with in the autumn are immigrants.

The mistle-thrush is an early breeder: full clutches may be found from the third week in March onward, but the usual time for first broods is from April 1 to 10. These early nests are often very conspicuous on the leafless trees. They are as a rule placed at the fork of a bough with the trunk. Nests are however occasionally found far out on the horizontal boughs of oak trees. In rare instances they have been found quite low down among evergreen shrubs in a garden, as at Shirley in 1899. Although naturally a very shy bird the nest of the mistle-thrush is frequently found close to houses, probably for the sake of protection against the magpie (*Pica rustica*). Many clutches are annually destroyed by these birds in spite of the stout resistance made by the parent birds. The typical nest is lined with dry grasses, but it is not unusual to find nests with a considerable amount of wool in the lining. According to F. B. Whitlock, in the High Peak the nests are sometimes found on ledges of rock (*Birds of Derbyshire*, p. 24).

When undisturbed the mistle-thrush will sometimes rear a second brood from the same

nest. I knew of two cases in which this took place in the past season (1901), both nests being within a few yards of houses.

The usual clutch in this county consists of four eggs: five are however occasionally, but rarely, found.

In mild weather the mistle-thrush like the song-thrush may be heard singing in the middle of winter. In December, 1900, a very wet and warm month, these birds were constantly singing in the fields.

2. Song-Thrush. *Turdus musicus*, Linn.

Locally, Thrustle.

The first nests of the thrush may be found long before the hedges have begun to bud. I have seen young birds in the nest at the end of March, but the majority begin to lay about the beginning of April. The eggs show a considerable range of variety in colouring and marking. Some of the handsomest are blotched with reddish brown or chocolate instead of the usual black spots, and between these and the absolutely spotless egg every grade of difference may be met with. The nests are made in a variety of places. Like the blackbird the thrush sometimes nests on the ground, on a bankside or even on the side of a railway embankment, and a nest found on May 29, 1901, was built inside a hay barn and contained five very lightly marked eggs. Curiously enough within a few yards a hen blackbird was sitting on five pale blue eggs in a similar situation. On the higher ground where the hedgerows are replaced by

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stone walls the nest is sometimes made in a hollow in the wall or else on the ground near at hand. Besides our resident birds, which appear to move only under stress of weather, we are visited by many flocks of migratory birds in the autumn and winter.

Albinos have been recorded from Egginton and Sudbury, and a beautifully marked specimen, 'spangled and dashed all over with white,' was shot at Derby in 1888 (Whitlock, *Birds of Derbyshire*, p. 26).

3. Redwing. *Turdus iliacus*, Linn.

A common winter visitor to most parts of the county: it is not particularly common in the Dove valley however, and appears to be rather local in the north.

In January, 1786, a specimen was shot which was entirely white, excepting the feathers under the wing which were tinged with reddish orange (Pilkington).

4. Fieldfare. *Turdus pilaris*, Linn.

A common winter visitor. As a rule the fieldfare does not make its appearance in Derbyshire before mid-October and sometimes not till November. In the autumn of 1900 however small flocks were reported between Ashbourne and Buxton as early as September 6, and others were reported from various villages in the district during the next fortnight (*Field*, September 20, 1900). In south-west Derbyshire these birds affect the higher ground as a rule, except during severe weather when they come down to the valleys and may be seen in gardens. In the north of the county the low-lying districts appear to be most extensively patronized.

5. Blackbird. *Turdus merula*, Linn.

Locally, Blackie, Ouzel (*obs.*)

A very common resident in almost all parts of the county. On the high moors its place is taken by the ring-ouzel (*T. torquatus*) but the ranges of the two birds overlap and in some places they may be found breeding close together. Mr. W. Storrs Fox found a blackbird's nest with eggs on the summit of Glosop Moor (about 1,500 feet), but this is an exceptional case (F. B. Whitlock, *Birds of Derbyshire*, p. 28).

Soon after the first thrushes' nests are seen those of the blackbird may be found. In one case a nest with four eggs was found in the Dove valley on February 15, 1898, but as a rule eggs are seldom found before the last week of March. The situation of the nest varies considerably. I have seen them in canifers quite 30 to 35 feet from the ground, inside old barns and outhouses, in haystacks, in the

walls of loose stone which take the place of hedges on the high ground, and actually on the ground, although the usual position is in a hedge or tree a few feet up. Three distinct types of egg are found: one resembles that of the ring-ouzel, but is as a rule less strongly marked; another type recalls the egg of the jay, and the pale blue eggs scantily marked with faint brown spots or quite spotless are almost indistinguishable from lightly marked eggs of the thrush except for their rougher surface. Pied, white and cream-coloured birds have frequently occurred.

6. Ring-Ouzel. *Turdus torquatus*, Linn.

Locally, Tor-ouzel.

A common summer visitor to the highlands of the county, arriving during the last days of March or the first week in April. Its breeding ground is north of a line drawn from Ashbourne through Wirksworth to Chesterfield, and is defined with wonderful exactness by the 1,000 feet contour lines.¹ It is perhaps commonest in the High Peak, nesting on the moors, but a good many pairs breed in the precipitous sides of the numerous dales which intersect the uplands. On the moorland the nest is usually placed in a sheltered spot amongst the ling on a bank, often by a roadside or near a stream, and a few cases of nests in trees or bushes have been recorded. In the dales the nests are placed on ledges of the limestone rock. The first clutches are generally laid during the second or third week in May and the number of eggs is generally four, not infrequently three, and rarely five. Mr. W. Storrs Fox took a nest containing the latter number from a hedge on May 10, 1900. It had apparently been built upon an old thrushes' nest. Except in its breeding grounds the ring-ouzel is a scarce bird in Derbyshire and only occurs casually on migration.

A good account of this bird as observed in north Derbyshire by Mr. W. Storrs Fox will be found in the *Zoologist* (1900), p. 1.

7. Wheatear. *Saxicola œnanthe* (Linn.).

Locally, White-ear (Pilkington).

A summer visitor but rather local in its distribution, being only found on rocky and broken ground and in the 'stone wall' districts, and arriving about the third week in March. In the plain country it is only known as a scarce visitor on migration. The eggs are five to seven in number and may be found from the beginning of May onwards in

¹ Mr. Storrs Fox has however found nests in Lathkill Dale considerably below 900 feet.

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loose stone walls, stone heaps, rabbit holes and crevices in the rock. The breeding range of this species has evidently become more restricted during the past century, as the older writers speak of it as a common bird. At present it is confined to the north-western portion of the county, Thorpe Cloud being the southern limit of its breeding grounds.

8. Whinchat. *Pratincola rubetra* (Linn.).

Locally, U-tick, Furze Bunting (N. Wood).

A common summer visitor to all the low-lying parts of the county, more especially to the southern plain where it is very plentiful. The whinchat arrives about a month later than the wheatear, and the eggs are usually laid during the latter half of May and are generally six or seven in number. Sometimes the nest is placed in a tussock in the open field, at other times on a bank side or in a small bush. It is usually well concealed, but the cock bird is very demonstrative as long as any one remains in the vicinity.

9. Stonechat. *Pratincola rubicola* (Linn.).

Locally, Stone-chatter (Pilkington).

Apparently this bird was formerly a not uncommon resident, but at the present time it is exceedingly scarce and its somewhat erratic appearances are made during the summer months. No doubt the enclosure of waste lands and commons have contributed to diminish its numbers, but it is remarkable that a bird which was considered in 1863 by Sir Oswald Mosley to be more plentiful than the whinchat should now be quite a rarity. A pair or two may occasionally be found breeding in the upper Dove valley and in the Bakewell district, while single birds have been reported from different parts. In 1886 two nests were found near Ashbourne, one containing five eggs and the other newly hatched young.

10. Redstart. *Ruticilla phœnicurus* (Linn.).

Locally, Firetail, Redster.

A common summer visitor, being found both in the stone wall country and also in the well wooded valleys, arriving generally about the middle of April. It is perhaps most numerous in the north, west and extreme south of the county and rather local in the central plain. The nests are built in holes of almost any kind, in stonework, rocks or trees, especially when covered by ivy. A nest at Ashbourne was built inside an old swallow's nest in an outhouse, and at Clifton a pair were found breeding near the end of a horizontal bough of a Scotch fir.

11. Black Redstart. *Ruticilla titys* (Scopoli).

A hen bird was recorded by Mr. J. J. Briggs (*Zool.* p. 5365) as having been trapped accidentally at Melbourne on November 3, 1856. Another was seen shortly afterwards.

12. Redbreast. *Eritbacus rubecula* (Linn.).

A very familiar resident. In spite of its confiding habits the robin generally exercises a good deal of caution in keeping its nesting place secret even when built quite close to a house. The eggs vary a good deal: white or almost white specimens are not uncommon, and one particularly fine clutch is boldly marked with deep red on a white ground.

A cream coloured robin is in the possession of Mrs. Briggs from Chellaston. An instance of the robin breeding in December is recorded in the *Ornithologist* (p. 58).

13. Nightingale. *Daulias luscinia* (Linn.).

A regular visitor in small numbers to the south and south-east of the county. Occasionally a pair or two nest in the Dove valley and on the eastern border.

Mr. E. Brown, writing of the Burton district, says: 'During one season about ten years ago (i.e. about 1853) this bird was to be found in every grove in the district, but it has rarely occurred since.' More or less dependable reports of the occurrence of this bird in spring have been received from Creswell, Bakewell and Winster. A pair certainly bred about 2 miles from Ashbourne in 1895, and in the lower Dove and Trent valleys they have frequently been noticed. In 1901 several pairs bred near Derby (W. H. Walton), and a cock bird in full song was reported from Snelston. On the Nottingham border they appear occasionally, especially in the neighbourhood of Sherwood Forest.

14. Whitethroat. *Sylvia cinerea* (Bechstein).

Locally, Jacky Scrawch, Hayjack, Peggy Whitethroat, Thinstraw.

A very common summer visitor to all the valleys and low-lying districts of the county, but absent from the high ground and therefore very local in the north-west of the county.

15. Lesser Whitethroat. *Sylvia curruca* (Linn.).

A summer visitor, as a rule in much smaller numbers than the preceding species. Its numbers however vary considerably, and sometimes its monotonous little song may be heard in all directions. Its distribution is similar to that of the common whitethroat.

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16. Blackcap. *Sylvia atricapilla* (Linn.).

A summer visitor as a rule in fair numbers. It is pretty generally distributed over the low-lying country and is found locally in the wooded valleys of the Peak, but is absent from the moors and higher ground. Individuals sometimes prolong their stay with us till well into the winter. Thus J. J. Briggs has recorded a male taken alive at Melbourne on November 11, 1850 (*Zool.* p. 3111), and a hen was shot near Norton in the north of the county, by Mr. H. Turner, on December 11, 1881, and is now in the Sheffield Museum (*Field*, December 17, 1881, p. 898).

17. Garden-Warbler. *Sylvia hortensis* (Bechstein).

Locally, Garden Fauvet (N. Wood).

Another somewhat local summer visitor, but rather more numerous at the present time than the preceding species. The reverse of this seems to have been the case in former years, according to most of the earlier writers on Derbyshire ornithology, and Glover (1829) omits it altogether from his list. Its distribution is somewhat similar to that of the blackcap, but F. B. Whitlock says that it replaces that species in the Trent valley. In some seasons (in 1901 for instance) it is exceedingly common.

18. Dartford Warbler. *Sylvia undata* (Boddaert).

Locally, Red-eyed Whinling (N. Wood).

Mr. J. J. Briggs (*Zool.* p. 2486) says: 'A pair were shot off the top of a furze bush half covered with snow on Melbourne Common during some severe weather in the winter of 1840. The birds appeared hardy and lively in their manners.' No other instances of its occurrence in the county are known.

19. Golden-crested Wren. *Regulus cristatus*, K. L. Koch.

Locally, Kinglet (Sir O. Mosley).

A common resident wherever conifers are found, and nesting in all parts of the county. Besides these resident birds, many migrants visit north Derbyshire and the Trent valley in the winter months. There are entries relating to this bird in the Rev. F. Gisborne's shooting diary as far back as 1770. A pair nested in a deodar at Ashbourne in 1890, and on examining the spot eight years later, I was surprised to find another nest within 2 feet of where the former one had been placed.

20. Fire-crested Wren. *Regulus ignicapillus*, C. L. Brehm.

Mr. J. J. Briggs has recorded one of these birds as shot near Melbourne in 1838 (*Zool.* 1849, p. 2487). Another was killed near Draycott 'a few years ago' by Mr. W. H. Hine (*Birds of Derbyshire*, p. 45).

21. Chiff-chaff. *Phylloscopus rufus* (Bechstein).

Locally, Lesser Pettychaps (Glover).

Generally the first to arrive of our summer visitors, and owing to its peculiar and quite unmistakable song easily recognized. As a rule it is first heard at the end of March or during the first week in April; but in 1886 it was singing near Ashbourne on March 21, and in 1896 on March 23, while Neville Wood saw one at Foston on February 5, 1836, and noticed others subsequently. It is rather local, but a pair or two are to be found in nearly all the wooded parts of the county. From the bleak uplands and moors it is of course absent. The nest is always placed some little distance from the ground, and sometimes 6 or 7 feet above it; one in trelliswork on the side of a house at Clifton was quite 10 feet up (*Zool.* 1900, p. 430). This bird has a curious habit of beginning to sing again about the end of August, and may be heard at intervals, especially on bright mornings, during the first three weeks of September. In 1902 the song was heard as late as October 2 at Clifton, near Ashbourne.

22. Willow - Wren. *Phylloscopus trochilus* (Linn.).

Locally, Peep.

A very numerous and widely distributed summer visitor. It arrives about a fortnight later than the chiff-chaff as a rule, but has been heard as early as the first week in April, though the middle of the month is the more usual time. The nest is nearly always placed on the ground; but one at Shirley in 1899 was built in a small dead spruce in a shrubbery quite 3 feet above the ground (*Zool.* 1900, p. 429). This is by far the commonest of our Phylloscopi, and is found wherever hedgerows and trees can grow, breeding right up to the edge of the moors.

23. Wood - Wren. *Phylloscopus sibilatrix* (Bechstein).

Rather a local and thinly distributed summer visitor, but unlike the chiff-chaff is perhaps rather more common in the woods of north Derbyshire than in the southern part of the county. There are however certain districts in the south in which it is numer-

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ous. It is the last to arrive of our Phylloscopi, being seldom noticed before the last week in April.

24. Reed-Warbler. *Acrocephalus streperus* (Vieillot).

Locally, Marsh Reedling (N. Wood), Reed Sparrow, Reed Wren.

A very local summer visitor to the south of the county, breeding usually in osier beds on the banks of the Trent and the lower part of the Dove. A few pairs are said to breed among reeds in the country south of the Trent, and this species is reported to have occurred on the Derwent near Matlock about 1889-91, but further evidence is desirable. Most Derbyshire nests are placed in willows, often at considerable height, and though frequently built over the water they may also be found at some distance from any river. In south Derbyshire the reed-warbler is frequently made use of as a foster parent by the cuckoo.

25. Sedge-Warbler. *Acrocephalus phragmitis* (Bechstein).

Locally, Sedge Reedling (N. Wood).

A common summer visitor to most parts of the county below 1000 feet, but rather less numerous towards the north. In the flat country watered by the Trent it is exceedingly common.

26. Grasshopper-Warbler. *Locustella naevia* (Boddaert).

Locally, Brake Locustelle (Sir O. Mosley), Sibulous Brake-hopper (N. Wood).

A somewhat erratic summer visitor, varying much in its numbers from year to year. In some seasons it may be found locally all over the county, from the grouse moors in the north to the osier beds and marshes of the Trent valley in the south; but at other times most of the favourite haunts are deserted. I have met with breeding pairs among the heather on the slopes of the Derwent moors at a height of 1,200 to 1,300 feet. In 1898 and 1901 some six or seven pairs were breeding in the Ashbourne district, but in the intervening years they were altogether absent.

27. Hedge-Sparrow. *Accentor modularis* (Linn.).

Locally, Hedge Batty, Hedge Dunnock (N. Wood).

Generally distributed and common almost everywhere. Two buff-coloured and one pied individuals are recorded by F. B. Whitlock (p. 52-3).

28. Dipper. *Cinclus aquaticus*, Bechstein.

Locally, Water Ouzel, Water Crow or Water Pyot (Glover).

A resident in fair numbers on nearly all our mountain streams. A few pairs may be found breeding in the Dove valley as low as Doveridge and in the Derwent valley near Ambergate, while stragglers have occurred at the junction of the Dove and Trent and close to the town of Derby. In the Dove valley it begins to be fairly common above Mappleton. Each pair has its own beat of a few hundred yards of water, and somewhere on this the nest is made. Where a cliff descends sheer to the water's edge is a favourite spot, but in default of this the nest is frequently built in a wall, underneath a bridge, under the river bank, or even in a hollow in some old tree stump. On the smaller streams the nest is often placed underneath a waterfall. One well-known nesting place which has been used for twenty years, and probably much longer, is a hole in the roof of the cave known as the Dove Holes, where I have often seen the old birds removing the droppings of the young in their bills.

All the nests which I have examined have been lined with dead beech leaves. Sometimes two broods are reared from one nest in the year, and I have known the same nest used for two successive seasons, but this is unusual. The young can swim, fly and dive on leaving the nest.

29. Bearded Tit. *Panurus biarmicus* (Linn.).

R. Garner (*Nat. Hist. of Staffordshire*) says that this species has occurred on the Dove on the authority of Mr. Emery; and Messrs. Sterland and Whitaker (*Birds of Nottinghamshire*) have recorded a specimen which was shot at Toton in an osier bed on the Nottingham border. Captain Henniker, who knows this bird well, having met with it frequently in Asia Minor, assures me that he saw one in the summer of 1896 in a reed bed between Marchington and Sudbury.

30. Long-tailed Tit. *Acredula caudata* (Linn.).

Locally, Bottle Tit, Jug (E. Brown).

Thinly distributed over those parts of the county which are below 600 feet and scarce above that height. The number of breeding birds varies considerably from year to year. In the spring of 1899 they were exceedingly common in south-west Derbyshire, but in the following year hardly a bird was seen.

The nest is variously placed; sometimes in a bush or hedge a foot or two from the

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ground, and at other times 30 or 40 feet high in a tree.

31. Great Tit. *Parus major*, Linn.

Locally, Blackcap, Tomtit, Ox-eye.

This species is I think commoner than the blue tit in Derbyshire. With the exception of the moors it is found in all parts of the county, but is naturally most numerous in the well wooded parts. The nest, like that of the blue tit, is placed in almost any kind of hole. One at Shirley was built in an old water can which had been thrown aside, and contained the unusual number of thirteen eggs.

32. Coal-Tit. *Parus ater*, Linn.

Locally, Colemouse (*obs.*).

A few pairs are generally to be found where plantations of conifers exist. As a breeding species, it is rare in the valleys of the Trent and lower Dove, but is not uncommon in the winter.

33. Marsh-Tit. *Parus palustris*, Linn.

Absent from the north of the county, but found in small numbers in the low-lying districts of the south, especially where old pollarded willows are to be found. Apparently this species has decreased in numbers of late years.

34. Blue Tit. *Parus cæruleus*, Linn.

Locally, Tomtit, Bluecap.

Much commoner than either of the two preceding species, and pretty generally distributed.

35. Nuthatch. *Sitta cæsia*, Wolf.

Locally, Woodcracker (Glover).

A very local resident, breeding regularly in the country south of the Trent, and in small numbers in the parks of north-east Derbyshire where large timber is to be found. To other parts of the county it is a rare straggler.

36. Wren. *Troglodytes parvulus*, K. L. Koch.

Locally, Jenny Wren.

Found breeding in every part of the county. Even in the wildest parts of the moorlands its cheery little song may frequently be heard.

37. Tree-Creeper. *Certhia familiaris*, Linn.

Resident in all the wooded parts of Derbyshire, but not in large numbers. During the breeding season the old birds follow a regular beat in search of food, and may be looked for about the same time on some favourite tree for weeks together. In default of the usual nesting site, between the bark and trunk of

some old tree, the creeper will nest in crevices of wooden sheds or between loose timber piled upright.

38. Pied Wagtail. *Motacilla lugubris*, Temminck.

Locally, Water Wagtail.

A partial migrant, many migrating southward on the approach of winter, but individuals may be seen during every month of the year. It breeds commonly in all parts of the county right up to the edge of the moorlands, and is frequently used as a foster parent by the cuckoo.

39. White Wagtail. *Motacilla alba*, Linn.

A regular visitor in spring to the Trent valley, where it may possibly breed occasionally. It was first observed by the late Mr. Edwin Brown, and has been subsequently noticed by several observers. It also occurs occasionally on migration in the north of the county.

40. Grey Wagtail. *Motacilla melanope*, Pallas.

Locally, Yellow Wagtail.

Breeds in fair numbers by the banks of all our mountain streams and also by the Dove and Derwent, becoming scarcer as the southern plain is reached. On the Trent only one or two pairs nest, but as an autumn and winter visitor the grey wagtail is common enough, forsaking its breeding haunts in the Peak. The nest is nearly always beautifully lined with white horsehair, and is placed near water in crevices of walls, ledges of rock, or on a rough bank. One found by Mr. E. W. H. Blagg was placed in a recess at the far end of a large cave in Dovedale.

41. Blue-headed Wagtail. *Motacilla flava*, Linn.

Mr. J. J. Briggs (*Zool.* p. 2488) in his 'List of the Birds of Melbourne,' asserts that a specimen of the grey-headed wagtail (*M. neglecta*) was killed on November 23, 1846. There is however reason to believe that the bird was wrongly identified (see F. B. Whitlock, *Birds of Derbyshire*, p. 64). One was however killed at Darley Dale in the summer of 1895, and is now in the Whitworth Museum (W. Boulsover).

42. Yellow Wagtail. *Motacilla raii* (Bonaparte).

Locally, Spring Oatear (N. Wood).

A regular summer visitor in considerable numbers to all those parts of the county which are under 500 feet above the sea. Higher up it becomes scarce, but a few

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pairs nest among the cornfields or in the grass up to about 600 feet. In the Trent valley and also that of the lower Dove and Derwent it is most numerous, arriving in south Derbyshire about the beginning of April.

43. Tree-Pipit. *Anthus trivialis* (Linn.).

Locally, Titlark, Bank Lark.

A very common summer visitor to nearly every part of the county except the moors and the bleakest uplands, but naturally most common in the fertile and well wooded valleys of the Dove and Derwent and on the rising ground in the Trent valley. Local eggs show the usual variations in colouring and type of markings. The cuckoo occasionally deposits its eggs in nests of this species.

44. Meadow-Pipit. *Anthus pratensis* (Linn.).

Locally, Moor Titlark.

This bird is not a summer visitor like the preceding species, but a resident, although subject to partial migrations. Many pairs may be found breeding on the moorlands and mountain pasture at 1,000 feet and upwards, replacing the tree-pipit; but here and there a few pairs may be found breeding in the broad treeless meadows of the southern plain, although the ranges of the two birds seldom overlap. In the north of the county the meadow-pipit is the usual foster parent of the cuckoo.

45. Golden Oriole. *Oriolus galbula*, Linn.

Four examples of this beautiful bird have been shot at different times in Derbyshire. Of these three at least were killed in the spring, and in one case there is a presumption that a nest existed in the neighbourhood.

A hen was killed at Egginton on May 28, 1841, and is now in the Rolleston Hall Museum (*Nat. Hist. of Tutbury*, pp. 38, 95). This bird showed signs of incubation, and the male was seen but not secured. A male was seen by the Rev. T. J. Jones near Tideswell about 1858. Another was killed by a boy near Burton on April 19, 1871, and a cock bird was obtained near Kirk Ireton by a man named Kiddy 'some years ago' (*Birds of Derbyshire*, p. 69). Mr. J. Whitaker records the fourth, which was shot at Creswell on May 13, 1889 (*Zool.* 1889, p. 352).

46. Great Grey Shrike. *Lanius excubitor*, Linn.

Locally, Wierangel (F. Willughby), Butcher Bird (Glover).

Records of the visits of this species exist

from the time of Francis Willughby (1676), who in his *Ornithology* asserted that it 'is found in the mountainous parts of the north of England, as, for instance, in the Peak of Derbyshire.' Two were shot by the Rev. F. Gisborne of Staveley, one on November 16, 1762, and the other curiously enough on November 16, 1793. Pilkington in 1789 mentioned one shot near Derby, but gave no further particulars. One was killed at Burton Bridge on December 2, 1844 (*Nat. Hist. of Tutbury*, p. 37). Mr. E. Brown also states that several have been killed near Burton, but one of these at any rate was a Staffordshire bird. Two were killed at Draycott in January, 1890 (*Birds of Derbyshire*, p. 70). Mr. W. Storrs Fox, writing in 1893, says that three have been killed at different times by Mr. Peat of Curbar. One of these, stuffed by himself, is still in his possession. In April, 1899, another was seen near Baslow by the same observer, but a long shot failed to secure it (*Zool.* 1900, p. 429).

47. Red-backed Shrike. *Lanius collurio*, Linn.

Locally, Butcher Bird, Lesser Butcher Bird (Glover).

A summer visitor in small numbers to southern and eastern Derbyshire, breeding usually near the same spot year after year. Individuals have occurred in different parts of the county, but always under 500 feet, penetrating into the Dove valley as far as Thorpe (where they breed), to the Derwent valley as high as Curbar (nesting occasionally near Matlock), and in the north-east to the Rother valley, where the nest has been taken near Sutton Scarsdale. It is not however common in any part of the county north of the Dove and Trent valley.

48. Woodchat. *Lanius pomeranus*, Sparrman.

One was identified by the late Mr. J. J. Briggs (*Zool.* p. 2478) on May 19, 1839, while devouring a yellow bunting which it had impaled.

[Red-eyed Flycatcher. *Vireo olivaceus*, Bonaparte.

Mr. E. Brown (*Nat. Hist. of Tutbury*, pp. 94, 385) describes and figures a male bird of this species said to have been caught, together with a female, by a birdcatcher named Richard Pickney at Chellaston in May, 1859. The male bird alone was preserved, and is now the property of Mr. Lyon of Tutbury.]

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49. Waxwing. *Ampelis garrulus*, Linn.
Locally, Bohemian Chatterer (*obs.*), Waxen Chatterer (Glover).

Many instances of the occurrence of this erratic winter visitor in our county are on record since 1774, when it was shot by Mr. Gisborne. Pilkington (1789) mentions a flock of fourteen seen at Smalley and Melbourne and one killed near Bolsover. Sir O. Mosley says that many were observed and some shot near Burton and Willington in the years 1827, 1835 and 1850; several were shot near Derby in January, 1829 (Glover); one shot and another seen at Hazelwood December 20, 1878 (*Journ. Derb. Arch. and Nat. Hist. Soc.* i. 127); one shot on the road by Shottle Wood near Hazlewood in January, 1879, by Major Holmes' keeper (J. C. Cox); another seen at Chellaston on January 11, 1879 (*Midland Naturalist*, 1879); remains of a dead bird picked up near Bake-well in 1893 (W. S. Fox); one shot at Smalley January 22, 1895 (*Zool.* 1895, p. 69); and one shot at Matlock Bridge early in February, 1902 (R. Hall).

50. Spotted Flycatcher. *Muscicapa grisola*, Linn.

A common summer visitor to nearly every part of the county except the bleak upland country and the moors, often resorting to the same nesting site for many years together. J. J. Briggs (*Zool.* p. 2478) mentions one locality occupied for twenty years and another for nine. When two broods are reared in a season a fresh site is usually selected for the second hatch. In some clutches the ground colour is a distinct blue and the spots few, showing a decided approach to the egg of the pied flycatcher.

51. Pied Flycatcher. *Muscicapa atricapilla*, Linn.

Locally, Coldfinch (Willughby).

There is reason to believe that this beautiful species formerly bred regularly in small numbers in the dales of north-west Derbyshire; but though an occasional bird is still seen in the spring, there are very few instances of its having nested with us of late years. Willughby in his *Ornithology* (p. 236) describes two specimens sent to him from the Peak by Francis Jessop, and Neville Wood mentions Buxton as a favourite resort, but adds, 'the latter occurs very rarely in any part.' Possibly a pair or two may have continued to nest in Dovedale till more recent times. Mr. W. N. Statham informs me that he found two nests at Matlock in

1892, and that two of the eggs are still in his possession.

Stragglers on the spring migration have been recorded from Melbourne (*Zool.* p. 2478), Alderwasley (*Zool.* 1844, p. 645), at Draycott about 1873 and also more recently, and from Belper about 1883 (*Birds of Derbyshire*, p. 74). On May 14, 1887, I watched a cock bird for some time near Ashbourne; in May, 1898, Mr. H. G. Tomlinson saw one near Tutbury; on May 7 another was observed at Froggat (W. S. Fox), where one had been shot some years previously; and a fine male bird was seen in Callow Wood near Ashbourne on May 4, 1902 (Mrs. Henniker).

52. Swallow. *Hirundo rustica*, Linn.

A common summer visitor to all parts of the county, entering by the Trent valley seldom before the end of the first week in April, but usually rather later, and gradually spreading over the country. Although the nests are almost invariably placed on or in buildings, I have once or twice found them in the roofs of caves in the limestone district. Chimneys are not resorted to for nesting purposes as in the south of England.

53. House-Martin. *Chelidon urbica* (Linn.).

A summer visitor in considerable numbers, but less numerous than the preceding species; nesting in the plains on the external walls of buildings and in parts of the Peak in colonies on precipitous rock faces. A large colony of this kind exists near Stony Middleton, but not in Dovedale, as Seebohm by a slip of the pen asserted (*Hist. Brit. Birds*, ii. 180).

[American Tree-Swallow. *Tachycineta bicolor* (Vieillot).

One bird of this American species was recorded by J. Wolley (*Zool.* 1853, p. 3806) as having been killed near Derby in 1850. It is now in the Norwich Museum (see also *Proc. Zool. Soc.* 1860, p. 131, and *Zool.* 1860, p. 7145).]

54. Sand-Martin. *Cotile riparia* (Linn.).

Locally, Bank Swallow.

Common wherever suitable breeding places are available. A few are to be found nesting in the Peak, but the largest colonies are situated in the Trent valley and those of the lower Dove and Derwent. In default of steep sandy banks, they have been known to nest in the interstices of a stone wall or sunk fence. The sand-martin usually appears about a fortnight before the house-martin.

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55. Greenfinch. *Ligurinus chloris* (Linn.).

Locally, Green Linnet.

A very common resident in all parts of the county where hedgerows and trees are to be found. Mr. J. Whitaker has two cinnamon-coloured birds from the Ashbourne district.

56. Hawfinch. *Coccothraustes vulgaris*, Pallas.

Locally, Grosbeak (E. Brown), Haw Grosbeak (Pilkington).

Originally only a winter visitor at irregular intervals, the hawfinch is now well established as a regular breeding species in many parts of the county. Mr. E. Brown in 1863 suspected that they bred in the Burton district, and between 1876 and 1880 isolated nests were found in many places in south and central Derbyshire. At the present time it breeds rather locally, but in considerable numbers, in well wooded parks and gardens all over Derbyshire, with the exception of some parts of the High Peak. Like the greenfinch, the hawfinch at times appears to build almost gregariously. In 1901 no fewer than seven nests were found in the grounds of a house near Ashbourne. Hawfinches are exceedingly shy birds and almost invariably forsake their nests if disturbed before the eggs are laid. They have a curious habit of cutting off twigs from yew trees in order to get at the berries, so that a tree frequented by them has the appearance of having been recently clipped. The bill is sufficiently strong to crack the hard kernel of the cherry with ease, and when undisturbed the noise can be clearly distinguished some distance off.

57. Goldfinch. *Carduelis elegans*, Stephens.

Locally, Proud Tailor, Common Goldwing (N. Wood), Thistle Finch or Seven-coloured Linnet (Glover).

Formerly a common breeding bird, but now only found in small numbers and chiefly in the southern half of the county. A slight increase in numbers has taken place during the last year or two, perhaps because fewer young are taken from the nest. In the Dove valley a good many pairs nest among the damson orchards, but chiefly on the Staffordshire side. On October 2, 1901, a nest containing three young nearly fledged was found in an apple tree between Sudbury and Marchington, a remarkably late date. In the autumn small flocks are occasionally met with.

58. Siskin. *Carduelis spinus* (Linn.).

An irregular winter visitor, sometimes in fair numbers. Mr. Neville Wood was of opinion that a pair or two bred in the woods

near Foston in 1831 and following years, but although the birds were seen throughout the summer the nest was never found. In the *Field* for August 2, 1902, is a communication from C. R. Gurney, in which it is stated that a siskins' nest with eggs was found near Repton in a small tree, about six feet from the ground, during the summer of 1902. Large flocks occurred in the winter of 1844-5, in January, 1846 (J. J. Briggs and R. J. Bell), and April, 1857 (Sir O. Mosley). Small parties have been met with on many occasions since that time.

59. House-Sparrow. *Passer domesticus* (Linn.).

Common everywhere except on the moors. Variations in plumage are not uncommon. Whitlock records two albinos, also buff-coloured, smoky white and mottled birds. Nests have occasionally been found in the winter months (*Zool.* i. 76).

60. Tree-Sparrow. *Passer montanus* (Linn.).

Rather a local and scarce species compared with the house-sparrow, usually found breeding in small colonies. According to Mr. H. Seebohm (*Hist. Brit. Birds*, ii. 70) it is found nesting in rocks in the High Peak. Holes in trees and walls are more generally used but it has been known to nest in trees like the house-sparrow, and in 1885 I found several pairs breeding in holes in old magpies' nests in Bradley Wood, near Ashbourne.

61. Chaffinch. *Fringilla cœlebs*, Linn.

Locally, Pied Finch, Piedy, Spink.

A very common resident everywhere except on the moors. A pretty variety of the well-known eggs without spots or only faintly clouded is not infrequently met with. In the spring of 1900 a nest was found at Clifton studded all over with bits of newspaper in place of the usual lichens. Mr. E. Brown says a variety with green plumage has been shot (*Nat. Hist. of Tutbury*, p. 99), and a white bird was obtained early in 1902 (A. S. Hutchinson).

62. Brambling. *Fringilla montifringilla*, Linn.

A somewhat irregular winter visitor, occasionally occurring in large flocks, while in other years only small numbers are met with.

63. Linnet. *Linota cannabina* (Linn.).

Locally, Brown Linnet, White Linnet (N. Wood).

Not so numerous now as formerly, although a fair number still breed with us. Mr. G. Pullen has recorded a white bird (excepting

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only a few brown tail-feathers) from Derby in 1884, and about 1900 another was obtained near Matlock (*Derbyshire Naturalists' Quarterly*).

64. Mealy Redpoll. *Linota linaria* (Linn.).

A rare winter visitor. An undoubted specimen was killed at Draycott about 1873 (J. R. Towle in *Birds of Derbyshire*, p. 90).

65. Lesser Redpoll. *Linota rufescens* (Vieillot).

Locally, Lesser Red-headed Linnet (Gisborne).

This characteristic little bird breeds rather locally but in fair numbers throughout the county. It is most common in the valleys of the upper Derwent and Ashop and the lower Dove. At Rolleston Hall there is a creamy white specimen from the old Burton Museum.

66. Twite. *Linota flavirostris* (Linn.).

Locally, Mountain Linnet (N. Wood).

Breeds in the moorlands of the High Peak, where it was discovered by Francis Jessop as recorded by Willughby. Several nests are said to have been found in the south of the county by Neville Wood and others, but not recently.

67. Bullfinch. *Pyrrhula europæa*, Vieillot.

Locally, Hedge Coalhood (N. Wood), Bully.

Still fairly common in most parts of the county except on the high uplands and moors, and nesting by preference in gardens where a box tree is a very favourite site for the nest.

[Pine - Grosbeak. *Pyrrhula enucleator* (Linn.).

Locally, Pine Thickbill (N. Wood).

Two specimens in the Derby Museum, which originally formed part of the Jebb collection, are said to have been locally obtained, but particulars are by this time unattainable. Two birds are stated to have been seen among spruce firs at Kings Stern-dale near Buxton (*Field*, Feb. 4, 1860), but were probably crossbills.]

68. Crossbill. *Loxia curvirostra*, Linn.

An irregular winter visitor which has been observed on a good many occasions. Possibly they may have bred as they were still plentiful near Matlock as late as March, 1889. The first irruption of which we have any record took place about 1768 near Derby: large flocks were seen at Duffield in 1821 and 1828. N. Wood records a flock at Foston in 1836 and E. Brown at Burton about 1838; and in Matlock and the neigh-

bourhood they were common in the early spring of 1889.

69. Two-barred Crossbill. *Loxia bifasciata* (C. L. Brehm).

One shot at Mickleover November 21, 1845, in company with fieldfares (R. J. Bell, *Zool.* p. 1247).

70. Corn-Bunting. *Emberiza miliaria*, Linn.

Locally, Bunting Lark (Gisborne).

The distribution of this bird in Derbyshire is rather curious. It is found in small numbers in the valley of the Trent, lower Dove and Derwent, but cannot be considered really common. A few pairs may be found scattered over the central and north-eastern divisions. It is however on the high ground in the north-west where the fields are divided by stone dykes, such as the country between Tideswell and Brough, that the corn-bunting is most numerous. Here the monotonous song can be almost continually heard in the spring.

71. Yellow Bunting. *Emberiza citrinella*, Linn.

Locally, Goldfinch.

Commonly distributed. Varieties with white head and neck and also entirely of a pale buff colour have been recorded (*Birds of Derbyshire*, p. 95).

72. Cirl Bunting. *Emberiza cirlus*, Linn.

Few notices of the occurrence of this species in Derbyshire exist. A. O. Worthington says it has been 'taken within the last few years in Bladon Wood' (*Wild Flowers, etc., of Repton*, 1881). A. S. Hutchinson has seen it once or twice near Chellaston (*Zool.* xvi. 125), and E. A. Brown says it has been recorded near Burton (McAldowie, *Birds of Staffordshire*, p. 75).

73. Reed - Bunting. *Emberiza schæniclus*, Linn.

Locally, Reed Sparrow.

Common in low-lying districts such as the Trent valley and the lower parts of the basins of its tributaries: the high ground in the north-west is naturally unsuitable to its habits.

74. Snow-Bunting. *Plectrophenax nivalis* (Linn.).

Locally, Snowy Longspur (N. Wood).

A somewhat irregular winter visitor, occurring most frequently in the Trent valley and on the moorlands in the north. The earliest record is that of Mr. Gisborne who shot one on December 11, 1767, near Staveley. For

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other occurrences see *Birds of Derbyshire*, p. 97. To these may be added: one seen near Bakewell, February, 1894 (W. Boulsover); several also seen near Curbar during the same winter; one shot and another seen near Curbar on December 7, 1895 (W. Storrs Fox).

75. Starling. *Sturnus vulgaris*, Linn.

Locally, Starnel.

Common in every part of the county, breeding indifferently in holes of trees, ivy-covered walls, buildings and rocks. I have seen the eggs taken from a sand-martin's burrow. A nest found near Ashbourne in an exceptionally mild winter contained nearly fledged young on January 26, 1898 (*Knowledge*, 1898). Albinos and pale-coloured varieties of plumage are common.

76. Rose-coloured Starling. *Pastor roseus* (Linn.).

This erratic visitor has been recorded several times from Derbyshire. Pilkington mentions the first shot, October, 1784, at Weston Cliff, by Mr. Dawson. J. J. Briggs, in the *Zoologist*, mentions three other occurrences, and records a fourth in the *Field* for 1866. One was seen at Allestree by Mr. Evans (*Nat. Hist. of Tutbury*, addenda, p. 228) and Mr. G. Pullen states that one was seen near Castle Donington, but this last was probably a Leicestershire record.

[Chough. *Pyrrhocorax graculus* (Linn.).

A stray bird shot within ten miles of Sheffield may have been secured within our limits (see F. B. Whitlock *Birds of Derbyshire*, p. 101).]

77. Jay. *Garrulus glandarius* (Linn.).

Still fairly numerous wherever woods exist, although much persecuted. Owing to the caution it displays during the breeding season but few nests are found. Although sometimes breeding low down I have seen several nests at least 60 feet high in tall larches and firs.

78. Magpie. *Pica rustica* (Scopoli).

Not uncommon except in those districts where the game is strictly preserved and the neighbourhood of the grouse moors. Where not disturbed they are often very numerous: I have counted over twenty in half an hour's walk. Some few nests are to be found in the high straggling blackthorn hedges and are generally difficult of approach. In 1899 a wild hen magpie paired with an escaped cock jackdaw at Fenny Bentley, but though a nest

was built no eggs were laid, perhaps owing to the birds having been disturbed too much (*Zool.* 1900, p. 430). A cream coloured variety with pale brown markings was shot near Ashbourne in 1901.

79. Jackdaw. *Corvus monedula*, Linn.

A common resident, sometimes breeding in large colonies and making use of holes of rocks, buildings and trees as nesting sites. Although cases have been recorded of old rooks' nests having been utilized, I know of no instance in which the enormous well-shaped open nest has been found in Derbyshire. In Staffordshire and Shropshire two or three colonies nest in this way in trees. In north Derbyshire the clutch rarely if ever exceeds four in number, but in the south six eggs are not uncommon.

80. Raven. *Corvus corax*, Linn.

Formerly the raven bred in many localities in Derbyshire, but all are now deserted and only stray birds visit us at uncertain intervals. Most of these breeding places were in precipitous rocks, such as Raven Tor near Ashover, Howden Chest on the Derwent Moors, Cressbrook and Dovedale; but a large willow in a marsh near Ashbourne was occupied till about forty-five years ago. In 1866 the Rev. J. C. Cox saw two ravens nailed up against the gable end of a barn in Stanton-in-the-Peak Park, and ascertained that they had been shot in Lathkill Dale, where they bred. Between 1866 and 1873 he repeatedly saw ravens at the upper end of Edale and at Chee Dale; also once between Stony Middleton and Eyam and several times near Ashover. Portions of the original nest described by Seebohm (*Hist. Brit. Birds*, i. 49) were still visible when I visited Howden Chest in May, 1900, although they must have been there for nearly 40 years. Now and then a raven is seen on the grouse moors: one was reported at Lane End near Derwent in April 1900 (*Zool.* 1900, p. 431). Another was observed for some time near the entrance to Dovedale in 1898.

81. Carrion-Crow. *Corvus corone*, Linn.

Still manages to exist in spite of gamekeepers, and in one or two districts, such as the Dove valley between Thorpe and Hartington, is decidedly common. The usual number of eggs varies from four to six, but occasionally nests containing a single egg or two only are found, probably the produce of old and almost barren birds (see *Zool.* 1900, p. 429).

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82. Hooded Crow. *Corvus cornix*, Linn.

A local winter visitor, numerous on the lower Trent and not uncommon on the moors, but almost unknown in many parts of the county. It is scarce in the upper Trent valley and rare on the Derwent and Dove. According to Mr. E. D. Doncaster it is destructive among the moorland sheep in severe weather (*Birds of Derbyshire*, p. 107).

83. Rook. *Corvus frugilegus*, Linn.

Locally, Crow.

Exceedingly common all over the county, and at times very destructive to eggs of all kinds. Examples with elongated and malformed mandibles are not uncommon. Two such specimens are to be seen in the Derby Museum. A third is mentioned in the *Zoologist* 1900, p. 429. Exceptionally rooks have been known to nest in late autumn, and an instance of this took place near Chesterfield. A white bird has been recorded from Staveley, and pied or partly white birds are not uncommon.

84. Sky-Lark. *Alauda arvensis*, Linn.

Most numerous in the southern plain, but found everywhere except on the moors. Under stress of weather large flocks make their way southward in the winter, returning after the break-up of the cold weather. A variety with white wing feathers is recorded in the *Birds of Derbyshire* (p. 109).

85. Wood-Lark. *Alauda arborea*, Linn.

This species appears to have unaccountably decreased in numbers since Neville Wood's time. In 1836 he describes it as tolerably abundant near Foston, and proceeds to mention some nests in unusual positions. In 1863 Sir O. Mosley notes that it is 'scarce' in the Tutbury district, and Mr. E. Brown as 'rare' near Burton, and in 1850 Mr. J. J. Briggs writes that it is becoming scarcer every year. At the present time I have no notes of its occurrence in Derbyshire with the exception of a single bird obtained on the Sheffield moors (W. Boulsover), and a nest, said to have been found in the Burton district on May 29, 1881.

86. Swift. *Cypselus apus* (Linn.).

Locally, Squealer, Screamer.

A common summer visitor usually arriving about May 4 with wonderful regularity. F. B. Whitlock saw many on April 30, 1892, but this is unusual. When suitable breeding places are available swifts prefer to breed in company; but as these are often restricted in

numbers, isolated pairs may frequently be met with. A few nests may be found in the limestone district in crevices of rocks, but most of them are placed under eaves or in thatch. Two or frequently three eggs are laid, varying considerably in size and shape. For further notes on this species in Derbyshire see *Zool.* 1901, p. 286.

87. Nightjar. *Caprimulgus europæus*, Linn.

Locally, Moth-hawk, Fern Owl, Goatsucker.

A regular summer visitor to the moorlands breeding in small numbers not only on the Glossop moors but also on the eastern side of the Derwent from Ashopton to the Matlock district. To the low-lying country in the south and south-east it is a scarce and irregular visitor, but has been shot at Staveley, Kirk Ireton, near Derby, Sinfin Moor, Donington Park and near Burton.

88. Wryneck. *Ijnx torquilla*, Linn.

A local summer visitor in small numbers to the parks in that part of Derbyshire which lies south of the Trent. A few are also to be found in the north-east, and one or two pairs visit the valley of the upper Derwent. It is unknown in the Dove valley.

89. Green Woodpecker. *Gecinus viridis* (Linn.).

A fairly common resident in most well-wooded districts, and noticeable on account of its peculiar cry. It is less shy than the spotted woodpecker.

90. Great Spotted Woodpecker. *Dendrocopus major* (Linn.).

Locally, French Magpie.

A local resident, but more common in suitable localities than is generally believed owing to its shy and retiring habits which render observation difficult. It is most numerous in the woods and parks of southern and central Derbyshire, but a pair or two haunt the coniferous woods on the edge of the moorlands in the High Peak.

91. Lesser Spotted Woodpecker. *Dendrocopus minor* (Linn.).

This species is also very prone to elude observation but is probably rather scarcer than the great spotted woodpecker though no doubt frequently overlooked. I have not met with it further north than Rowsley, and most notes of its appearance are from the district which lies to the south of Belper.

92. Kingfisher. *Alcedo ispida*, Linn.

A common resident by the rivers of south

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Derbyshire, but less numerous in the northern half of the county. On the lower Dove and Trent there has been a perceptible increase in their numbers during the last year or so, possibly owing to fewer birds having been shot, the kingfisher being now protected by the County Council. To show the destruction formerly carried on by water bailiffs and others, no fewer than twenty-two were trapped in one year by one man on the river Dove.

93. Roller. *Coracias garrulus*, Linn.

One seen and clearly identified by Mr. Davis, an optician of Derby, by the Derwent between Duffield and Darley on May 3, 1856 (*Nat. Hist. of Tutbury*, pp. 49, 102).

94. Bee-Eater. *Merops apiaster*, Linn.

Two if not three bee-eaters visited Derbyshire in 1879. One was shot on May 4 in the gardens of Stainsby House near Mapperley and is now in the possession of Mr. J. Whitaker (*Zool.* 1879, p. 461). The second now in the Nottingham Museum, was also shot at Mapperley on June 10 (*Mid. Nat.* ii. 235). A third is also said to have been shot in the same neighbourhood but cannot be traced.

95. Hoopoe. *Upupa epops*, Linn.

A rare visitor. Sir O. Mosley saw one on the Dove and mentions another shot at Swadlincote some time between 1843 and 1863. On September 25, 1885, I saw one on the lawn at Ashbourne Vicarage walking about with depressed crest. It was not at all shy but at last took wing, showing the brilliant wing colouration and settled on a bank with erect crest. It was not disturbed, but after a few days strayed away and was shot on September 30 about half a mile away by a man named Blore and proved to be a male by dissection.

96. Cuckoo. *Cuculus canorus*, Linn.

A summer visitor to all parts of the county, haunting the moorlands as well as the cultivated country. In the Trent valley the reed-warbler is frequently used as a foster parent; in the cultivated country the pied wagtail and hedge-sparrow are most often made use of, and on the moors the egg is usually placed in the nest of the meadow-pipit. Besides these the tree-pipit, sedge-warbler, reed-bunting, blackbird and yellow bunting all occasionally take the part of foster parent, and an instance of a cuckoo's egg being found in a deserted thrushes' nest at West Hallam is recorded in the *Field* for July 6, 1901.

The cuckoo occasionally utters its note at night. On May 15, 1896, one was calling steadily at 10.30 p.m., and I have noticed the same thing in the south of England. Mr. Whitaker has a curious pale variety, slightly marked with pale brown.

97. Barn-Owl. *Strix flammea*, Linn.

Locally, White Owl, Screech Owl.

Although perhaps rather less numerous than the brown owl, this species is found in most parts of the county, and if it were not for the senseless and illegal persecution to which it is subjected might again become common. Although owls of all species are nominally protected, very large numbers find their way annually to the bird-stuffers' shops. Pole traps too are responsible for the death of many of these useful birds: under one trap I have on two occasions found the remains of five and three owls respectively, and this took place on the estate of a landlord who in a letter to me asserted that he has been a preserver of owls all his life! An analysis of some 240 pellets of this species from the Dove valley by Mr. L. E. Adams gives the following results: Common shrew, 531 skulls; field vole, 295; long-tailed field mouse, 137; bank vole, 107; house mouse, 37; lesser shrew, 32; brown rat, 18; water shrew, 12; noctule, 1; sparrow, 7; other birds, 18; frog, 3; cockchafer, 1; and remains of beetles in 7 pellets.

98. Long-eared Owl. *Asio otus* (Linn.).

A resident in many of our woods, but more frequently overlooked than either the white or brown species. Migratory birds also visit us in the autumn. In April, 1901, a pair of long-eared owls were found breeding in a new magpies' nest of which they had taken possession, but usually old and deserted nests are made use of.

99. Short-eared Owl. *Asio accipitrinus* (Pallas).

Locally, Lesser Horned Owl (F. Gisborne).

Besides being an autumnal visitor, the short-eared owl was formerly a regular breeder on the moors of North Derbyshire, but owing to rigorous persecution it has now become exceedingly scarce. Mr. W. Storrs Fox met with the survivor of a pair, which from its movements had evidently attempted to breed in the vicinity, on June 9, 1894, on the moors above Ramsley Lodge. Migrants from the continent occur not infrequently in various parts of the county, especially in the Trent valley.

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100. Tawny Owl. *Syrnium aluco* (Linn.).

Locally, Brown Owl, Moll-hawk, Wood Owl, Grey Owl.

Perhaps on the whole rather more common than any other species of owl in Derbyshire, especially where the country is at all hilly and broken. In the plains of the south-east it is less numerous. Great numbers are shot and trapped every year in defiance of legislative protection. The usual number of eggs varies from two to three; four eggs are very rarely found, although in Northampton five are not uncommonly met with.

101. Little Owl. *Athene noctua* (Scopoli).

J. J. Briggs recorded (*Zool.* p. 644) a specimen taken in a chimney near Derby and exhibited alive in a local museum on May 17, 1843. It is a curious coincidence that in May, 1843, Waterton turned out five of these birds near Wakefield. It is included by Glover in his list.

102. Snowy Owl. *Nyctea scandiaca* (Linn.).

J. J. Briggs observed one near Melbourne on May 20, 1841, but was unable to secure it. Another was shot near Ashover in 1825, and is now in the Rolleston Hall Museum. It is a magnificent bird in pure white plumage, without the usual dark bars and spots.

103. Eagle-Owl. *Bubo ignavus*, T. Forster.

Glover in 1829 recorded a 'great horned owl' as having been shot at Shardlow recently, and J. J. Briggs adds that it was killed in 1828.

104. Marsh - Harrier. *Circus æruginosus* (Linn.).

Locally, Moor Buzzard (Pilkington).

Pilkington in 1789 recorded marsh harriers from Croxall and Foston, but probably even at that time they were not common. In 1891 Mr. E. D. Doncaster was informed that a bird probably of this species haunted a marshy part of the moors between Strines and Agden Bridge (*Birds of Derbyshire*, p. 125). Three harriers were observed by a keeper on the Bradfield Moors at the beginning of September, 1895; and one was shot on the 9th by Mr. Waters on Thornsett Moor, just over the Yorkshire border, and proved to be a marsh-harrier in the plumage of the first year (J. J. Baldwin Young).

105. Hen-Harrier. *Circus cyaneus* (Linn.).

Locally, Ring-tail Hawk (♀), Pilkington.

At one time common and widely distributed throughout Derbyshire. There are four or

five references to it in Mr. Gisborne's shooting diary (1761-84), mostly in the autumn or winter months. Pilkington records it from the moors east of the Derwent and near Derby. Sir O. Mosley, in 1863, says that before the enclosure of the wastes and forests it was common, but 'is now become uncommon among us'; and Mr. E. Brown gives no local records from Burton. Two eggs were taken from Drakelow in 1870 by Mr. F. Drewry, and are now in the possession of Mr. A. O. Worthington, and the nest has been found by keepers on the moors within the last forty years. A hen was shot in March, 1892, by Mr. Lowe at Unthank Hall (*Birds of Derbyshire*, p. 127), I flushed a male on Ashbourne Green about 1880, and have been told by the keepers on the North Derbyshire moors that they still occasionally visit them and that birds of both sexes have been shot of late years.

106. Common Buzzard. *Buteo vulgaris*, Leach.

Formerly an exceedingly common resident, breeding in the larger woodlands, but has long been exterminated. Stragglers have been recorded from different parts of the county, especially from the moors, which are frequently visited by birds of prey. According to Sir O. Mosley the buzzard was so common about 1813 that upwards of twenty might be seen on the wing at the same time over Egginton Heath and Etwall Common (*Nat. Hist. of Tutbury*, p. 33). Fifty years later they had become scarce, although in J. J. Briggs' time an occasional bird was still trapped in Donington Park. F. B. Whitlock gives some six or seven instances of occurrences since 1859, the latest of which is that of a bird shot September 28, 1892, near Ashopton. Since then one was shot in Lathkill Dale, July, 1894 (W. S. Fox), and they have been seen several times on the Derwent Moors.

107. Rough-legged Buzzard. *Buteo lagopus* (J. F. Gmelin).

An occasional winter visitor, occurring at irregular intervals, especially on the moorlands of north Derbyshire. Several appear to have been trapped in the winter of 1839-40 (*Zool.* pp. 247, 1247). One was killed near Derby in 1881, another near Kinder Scout in 1884, and two on the Derwent Moors in the autumn of 1891. In March, 1889, one was shot by Lupton the keeper at Monsal Dale, which had killed many rabbits in the neighbourhood. It was a hen bird, and measured 57 inches across the

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wings. Curiously enough the same keeper trapped another and even larger bird on November 4, 1895, after it had haunted the dale for a month. Another was shot on December 2 or 3, 1895, near Curbar, and is in the possession of Mr. Hodgkinson (W. S. Fox); and on January 11, 1896, a remarkably large and white bird was killed by a keeper on the Derwent Moors (J. J. Baldwin Young).

108. Golden Eagle. *Aquila chrysaëtus* (Linn.).

We believe that there is no record of the golden eagle having bred in any English county south of the Lake district, with the exception of Derbyshire. Pilkington quotes Willughby's description of a nest found in the Woodlands (i.e. the chapelry of Derwent-Woodlands) near the river Derwent in the year 1668, 'made of great sticks, resting one end on the edge of a rock, the other on two birch trees, upon which was a layer of rushes, and over them a layer of heath, and upon the heath rushes again, upon which lay one young one and an addle egg, and by them a lamb, a hare and three heath poults. The nest was about two yards square and had no hollow in it. The young eagle was black as a hobby, of the shape of a gos-hawk, of almost the weight of a goose, rough footed or feathered down to the foot, having a white ring about the tail.' The same writer mentions another taken about 1720 on Kinder Scout in an exhausted state, and says that in 1759 and 1782 eagles were seen at Hardwick which presumably belonged to this species. In 1823 a golden eagle was shot between Cromford and Lea Wood (Glover), and J. J. Briggs (*Zoologist*, 1843, p. 178) records another as haunting the High Tor, Matlock, for a few days in the winter of 1843. This last bird is however just as likely to have belonged to the next species.

109. White-tailed Eagle. *Haliaëtus albicilla* (Linn.).

The white-tailed eagle is a not uncommon winter visitor to the north Derbyshire moors. Probably some of the eagles mentioned in the article on the golden eagle belonged to this species. In 1836-7 two were killed in the Derwent Woodlands, and in 1886 two more were killed on the Derwent Moors. A third was wounded and got away, but was afterwards found in a state of decomposition by the keepers. In 1887, on November 26, one of these birds attacked a dog, but was shot by a keeper named Hancock on Farley Moor near Matlock Bank. Another was shot near Strines in the winter of 1889,

and in October, 1891, a fine bird, measuring 7 ft. 6 in. across the wings, was shot by a keeper on the Hathersage Moors. In March, 1892, an eagle (probably of this species) was seen by several people near Monsal Dale station, and remained for about a week. In the spring of 1893 an eagle was seen several times on the Ramsley Moors, but managed to escape (W. S. Fox).

110. Goshawk. *Astur palumbarius* (Linn.).

Glover includes this bird in his list, but gives no particulars. On March 21, 1893, a large hawk made a descent upon a wired aviary outside Mr. Storrs Fox's house at Bake-well. It appeared to be injured, and was squatting under the hedge when observed, but rose and made its escape, flying very low. From the description this bird must have belonged to this species. In the Derby Museum there is a specimen which formed part of the Jebb collection, and in a letter to the Hon. A. N. Curzon, Mr. Jebb refers to a goshawk shot near Ashover, probably this very bird.

111. Sparrow-hawk. *Accipiter nisus* (Linn.).

Not common anywhere owing to continual persecution on the part of gamekeepers and others, but isolated pairs are to be met with in all our wooded districts. The nest is usually built early in the spring, but the first egg is not laid till about May 8, and others at intervals of two and even three days, so that the old bird begins to sit about the end of the third week in May.

112. Kite. *Milvus iclinus*, Savigny.

Described by Pilkington as common in 1789, and still well known and numerous in Glover's days, the kite has now long ceased to be a resident, and has only visited us at rare intervals of late years. According to Sir O. Mosley, it was never plentiful in the Tutbury district and had completely disappeared at the time he wrote. The Derby Museum contains a local specimen obtained near Ashover, and two others were shot in 1888, one on Hulland Ward and the other at Radbourne (F. B. Whitlock, *Birds of Derbyshire*, p. 138).

113. Honey-Buzzard. *Pernis apivorus* (Linn.).

Two instances of the occurrence of this scarce summer visitor are on record. Pilkington in 1789 says that one was shot at Aston-Trent, and in June, 1843, Mr. John Heppenstall (*Zool.* i. 247) records one as recently obtained by Sir G. Sitwell's keepers.

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[Iceland Falcon. *Falco islandus*, J. F. Gmelin.

There is some reason to believe that Pilkington's description of a 'spotted falcon,' which he was unable to identify, applies to this species, especially as he was familiar with most of our larger birds of prey and obviously was interested in ornithology. The description of the plumage is quoted in the *Birds of Derbyshire*, p. 139.]

114. Peregrine Falcon. *Falco peregrinus*, Tunstall.

Although absolute proof of the fact is wanting there is but little doubt that formerly this fine bird bred in many parts of the county. At the present time it is an occasional visitor to the moors, especially in the autumn and winter months, and has also been noticed several times in the Trent valley. Omitting those cases in which the birds are known to have escaped from captivity, about a dozen instances are recorded in the *Birds of Derbyshire* in which the peregrine has been seen or shot. To these may be added an immature male shot at Drakelow in January, 1846, by Mr. Granger and now in the Rolleston Hall Museum.

115. Hobby. *Falco subbuteo*, Linn.

A rare visitor, but has been known to breed with us. Mr. J. J. Briggs met with hobbies in the month of April, May, August and October, and was satisfied that they bred on rare occasions in the vicinity of Melbourne, but does not appear to have found the nest. On July 4, 1891, a hen was shot on Howden Moor by a keeper and sent to Mr. E. D. Doncaster, who after dissecting her was convinced that she had recently bred. A nest with eggs was found in June, 1894, near Goyt's Bridge, Buxton, by Mr. P. Shaw (Coward and Oldham, *Birds of Cheshire*, p. 255). A male bird in the Rolleston Hall Museum was killed in June, 1890, and probably had a mate somewhere in the neighbourhood.

116. Merlin. *Falco aesalon*, Tunstall.

A few pairs still breed on the moorlands, but the old birds are usually trapped or shot at the nest, so that the final disappearance of this species from our list of breeding birds cannot be long delayed. To other parts of the county it is only an occasional visitor, generally in the winter months. Most of these appearances are recorded from the Trent valley. The nest is a mere hollow, with a few bits of broken ling round the sides, and is placed in a bare patch among

tall heather on some steep hillside. The eggs are laid early in May—not at the end of the month as stated by Seebohm. Certain parts of the moors seem to have a great attraction for these pretty little hawks, and are resorted to for breeding purposes again and again even after both parents have been destroyed.

117. Kestrel. *Falco tinnunculus*, Linn.

Still fairly common in most parts of Derbyshire, breeding in the wooded districts in old magpies' or crows' nests and in the rocky parts on ledges or crevices of the cliffs. Although nominally protected, very many are shot annually by keepers in districts where game preservation is carried on. A favourite haunt of this species is the valley of the Dove from Beresford Dale to Dove-dale, the limestone cliffs presenting numerous suitable breeding places.

118. Osprey. *Pandion haliaëtus* (Linn.).

Formerly a not uncommon visitor on migration, especially to the Trent valley, but occurrences of late years have been few and far between. Some fourteen instances are mentioned by F. B. Whitlock in which these birds have been killed. The earliest of these is that in which the Rev. F. Gisborne shot one at Staveley on May 28, 1779, while perched on a gatepost. Five are said to have been killed on different occasions at Melbourne Pool, and certain reaches of the Trent, such as Weston Cliff, have been frequently haunted by these birds. The latest instance took place in November, 1890. To the instances recorded in the *Birds of Derbyshire* (p. 148) may be added the following: One seen flying over the Trent near Burton in the summer of 1860 and afterwards shot lower down the river (E. Brown, addenda to *Nat. Hist. of Tutbury*, p. 227). Another was shot at Stony Middleton, and is now in the possession of Mr. D. Peat (W. Boulsover).

119. Common Cormorant. *Phalacrocorax carbo* (Linn.).

An occasional visitor to the Trent at irregular intervals. Pilkington notes its occasional appearance, but does not give details. About 1820-30 Sir O. Mosley saw one on the Dove, and Mr. E. Brown records one shot from a tree overhanging the Trent, opposite Burton, about 1838. A third was killed at Burton about December, 1885, and in May, 1898, another was shot on the sewage farm at Egginton (*Journ. Derby Arch. and Nat. Hist. Soc.* 1899, p. 20.).

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120. Shag or Green Cormorant. *Phalacrocorax graculus* (Linn.).

Like the preceding species has occasionally been obtained. F. B. Whitlock records three instances of shags being killed at Burton, Stanton-by-Dale and Long Eaton, and on the last occasion another bird was seen but not secured. A fifth was shot at Middle Dale and brought to Ashbourne for preservation.

121. Gannet. *Sula bassana* (Linn.).

Since Glover's time this bird has figured in our county list, but only two records for the county are mentioned in Whitlock's book, and in both cases the particulars are rather scanty. One from Willington prior to 1881 (A. O. Worthington) and another from near Belper 'some little time after' (G. W. Pullen). On April 27, 1878, one was picked up in an exhausted state at Ednaston Lodge, between Ashbourne and Derby. Next day another was seen in the neighbourhood (*Journ. Derb. Arch. and Nat. Hist. Soc.* i. 127). Poole, the old bird-stuffer of Ashbourne, told me that two specimens had passed through his hands: one probably the above mentioned bird and the other from near Kniveton. On August 4, 1900, after high winds, two gannets were seen flying over Clifton down the Dove valley (*Trans. N. Staff. Field Club*, xxxv. 46). Mr. W. Boulsover informs me that another was shot by a farmer named Finney on Bakewell Moor about March, 1879; and about 1898 one was killed on Moscar farm by T. K. Wilson (J. J. Baldwin Young).

122. Common Heron. *Ardea cinerea*, Linn. *Locally*, Herne.

In 1884 there were, according to the editor of the fourth edition of *Yarrell*, three heronries in Derbyshire: one in Kedleston Park (about 20 pairs), another at Eaton Wood near Uttoxeter, and a third at Sutton Scarsdale (about 12 pairs). In 1893 Whitlock described the Kedleston heronry as reduced to about six nests: the Sutton Scarsdale heronry had ceased to exist and he could get no information about the Eaton Wood colony. At the present time the Kedleston Park heronry is the only one deserving of the name in the county, although a good many pairs breed in different parts, and there are one or two heronries within a short distance of our borders, such as that at Bagot's Wood near Uttoxeter. There were about fifteen nests at Kedleston in 1901, but the colony is not of great antiquity, having only been started about twenty-five years ago by a

single pair. There is a rookery in the park among the trees where the herons breed, but curiously enough the birds seem to get on fairly well together, although I have known a case where the herons' nests were systematically robbed by the rooks throughout the season, and out of some sixty nests only one succeeded in hatching off.

When Eaton Wood was cut down about 1890 most of the birds removed to Bagot's Park in Staffordshire, only three or four pairs remaining on the original site. Besides these heronries nests have also been reported from many parts of the county, as at Drakelow, one or two nests in 1861 (E. Brown); at Anchor Church near Repton in 1865; near Clifton about 1878; two or three times near Dovedale; in Shirley Wood in 1900; in the woods near Haddon (W. S. Fox); and in the Hope valley (E. Slack), as well as regularly at Hassop until 1879 (W. Boulsover). Nominally the heron is protected by an order of the County Council, but many both old and young birds are still killed off by keepers and water-bailiffs.

123. Purple Heron. *Ardea purpurea*, Linn.

Two of these birds have been recorded from Derbyshire. One, a fine male, shot from a willow on the banks of the Trent near Wetmore on July 1, 1856 (E. Brown, *Nat. Hist. of Tutbury*, p. 105, and *Birds of Derbyshire*, p. 154). The second was killed at Newton Solney before 1881 (A. O. Worthington).

124. Squacco Heron. *Ardea ralloides*, Scopoli.

A male bird was shot on the banks of the Dove by Mr. H. Archer of Coton on May 17, 1874 (*Birds of Derbyshire*, p. 154).

125. Night Heron. *Nycticorax griseus* (Linn.).

Mr. C. Oldham (*Zool.* 1897, p. 329) records an adult bird of this species which was shot by the late Mr. William Jackson at Combs reservoir near Chapel-en-le-Frith some time in the early sixties.

126. Little Bittern. *Ardetta minuta* (Linn.).

R. Garner (*Nat. Hist. of Staffordshire*) says vaguely that this species has been shot on the Dove or Trent on Mr. Emery's authority. Mr. R. F. Tomes has a stuffed bird purchased from a travelling dealer with a label on the back of the case stating that the bird was killed at Castleton. No dates can be assigned to either of these occurrences; but in August, 1872, a female bird was shot by the keeper of Mr. J. H. Towle on the canal at Draycott

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(*Birds of Derbyshire*, p. 155), and a male was killed by another keeper on Mr. Burkett's trout ponds at Langwith in the spring of 1889 (*Zool.* 1890, p. 357).

127. Common Bittern. *Botaurus stellaris* (Linn.).

Not an uncommon winter visitor and probably formerly a resident, as Mr. Gisborne records his having killed one in July, 1768. F. B. Whitlock in the *Birds of Derbyshire* gives particulars of some twenty-four occurrences, in nearly all of which the birds were killed. To these may be added the following: One shot on Christmas Eve, 1860, at Kniveton; another at Morley in November, 1889 (G. W. Pullen); a third from Egginton, and a fourth from Smally in January, 1900 (A. S. Hutchinson); a fifth from Spondon on January 17, 1901. The Rolleston Hall Museum also contains one which was shot at Chatsworth in December, 1894. The latest of which I have any note was killed at Lea near Matlock early in January, 1902 (R. Hall).

128. White Stork. *Ciconia alba*, Bechstein.

According to R. Garner (*Nat. Hist. of Staffordshire*): 'Has occurred several times on the Dove.' One of these birds, killed by Mr. Emery (prior to 1844), is referred to by Sir O. Mosley as having been killed in the neighbourhood of Tutbury.

129. Glossy Ibis. *Plegadis falcinellus* (Linn.).

F. B. Whitlock (*Birds of Derbyshire*, p. 159) mentions three cases in which this bird has been shot in Derbyshire, at Chellaston, Walton-on-Trent and Derby respectively. None of these occurrences are recent, but date back to fifty or sixty years ago.

130. Spoonbill. *Platalea leucorodia*, Linn.

This conspicuous bird has been twice observed (*ibid.* p. 159): one having been killed at Butterley reservoir 'many years ago,' and another shot on the Erewash near Toton in 1847. The specimen in the Rolleston Hall Museum was shot within a mile of the Dove on June 14, 1872, and probably passed up the Trent valley.

131. Grey Lag-Goose. *Anser cinereus*, Meyer.

Comparatively few wild geese visit us, and those which are seen frequently pass over the Trent valley far out of shot. Sir O. Mosley (*Nat. Hist. of Tutbury*, p. 55) however describes them as common fifty years ago (about 1813), and states that he has shot them himself on the Dove in severe winters; but at the present time they are seldom seen and still less frequently shot.

132. White-fronted Goose. *Anser albifrons* (Scopoli).

An occasional visitor to the Trent valley in severe weather.

133. Bean-Goose. *Anser segetum* (J. F. Gmelin).

Although reported to have occurred once or twice the only definite record of this species is Mr. Hutchinson's note in the *Birds of Derbyshire*, p. 161. Two were killed and a third wounded in December, 1890, on the Trent, by a keeper of the late Sir F. Burdett. The wounded bird was afterwards found dead at Repton.

134. Pink-footed Goose. *Anser brachyrhynchus*, Baillon.

Probably the greater number of our visiting wild geese belong to this species. In 1856 a large flock visited the Trent valley, and seven were shot on December 7 (J. J. Briggs) at Weston, while Sir O. Mosley mentions another killed at Winshill near Burton in the same year. Other specimens have been recorded from the Trent valley in 1869-70, 1877, 1880, 1881, about 1887, and in 1891 Whitlock saw a flock of forty-three flying over the Erewash.

135. Bernacle-Goose. *Bernicla leucopsis* (Bechstein).

Although one of the more exclusively shore-haunting species, this bird has nevertheless several times occurred in Derbyshire. Pilkington mentions one obtained at Barlborough. Sir O. Mosley says it 'has been occasionally shot' near Tutbury, and that one associated with his Canada geese for some weeks in December, 1859. A small gaggle of, I think, four birds, doubtless attracted by the presence of the resident Canada geese, visited Ashbourne Hall pond about 1880, and subsequently I saw a single bird on the same water in hard weather.

136. Brent Goose. *Bernicla brenta* (Pallas).

Stragglers of this species have also been seen and shot in Derbyshire. In Pilkington's time it occasionally visited Sinfin Moor. J. J. Briggs says (*Zool.* p. 2822) that a flock visited the Trent in January, 1841. Whitlock observed a single bird at the mouth of the Erewash on October 11, 1881, and Sir R. Payne Gallwey (*Letters to Young Shooters*, ser. 3, p. 64) describes how two were seen on the Derwent near Derby about 1890 and one secured by an extemporized charge of gravel.

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[Canada Goose. *Bernicla canadensis* (Linn.).

Although ignored by most writers, or treated as a domestic bird, the Canada goose appears to have a good claim to be treated as an introduced species, for it has certainly established itself as a breeding species in many parts of the county. Some of the flocks are of considerable size (such as that at Chatsworth) and as the birds are at perfect liberty and fly strongly to considerable distances it is hardly necessary to state that they run the same risks as wild birds. Many breeding colonies exist on islands in rivers or ornamental waters especially in the valleys of the Dove, Derwent and Trent. According to Sir O. Mosley the date of introduction was about 1820-30.]

[Egyptian Goose. *Chenalopex aegyptiaca* (Linn.).

Recorded from the Trent about March 12, 1885 (*Naturalist*, vol. v.), also near Burton several times and at Twyford (E. Brown, *Fauna of Burton*, p. 228). These in all probability were escaped specimens.]

137. Whooper. *Cygnus musicus*, Bechstein.

Locally, Elk, Wild Swan (E. Brown), Whistling Swan (Mosley).

From the evidence of all the earlier writers on Derbyshire ornithology it is obvious that the whooper was formerly a much more frequent visitor than at the present time. I am not aware of any recent occurrence of this species,¹ but J. J. Briggs describes flocks of five or six to even thirty birds passing over in the winter, and disturbed a party of twelve from the Trent on one occasion which rose from the water with a loud, sonorous trumpet-like clang (*Zool.* p. 2822). Pilkington, Sir O. Mosley and Mr. E. Brown also speak of the whooper as a not uncommon winter visitor to the Trent valley.

138. Bewick's Swan. *Cygnus bewicki*, Yarrell.

A flock of eleven visited the Trent in February, 1845, two of which were shot but only one secured (J. J. Briggs, *Zool.* p. 2823). Another was killed at Newton Solney on January 18, 1864, and is now in the Rolleston Hall Museum. Early in January, 1895, a flock of six visited the north Derbyshire moors, and two were shot by a keeper near Ramsley Lodge (W. Storrs Fox).

¹ Mr. W. Storrs Fox informs me that a whooper was shot by a keeper named Goodison on Rivelin Dams about 1887.

139. Mute Swan. *Cygnus olor* (J. F. Gmelin).

Many of these birds exist in a semi-domesticated state on ponds and ornamental waters (like the Canada geese referred to above). Some of these birds not having been pinioned may occasionally be met with flying at a moderate height up or down the valleys of our three chief rivers. Large numbers were formerly found on the Trent, but their numbers were reduced on account of the damage done by them to the mowing grass (E. Brown, *Nat. Hist. of Tutbury*, p. 108).

140. Common Sheld-Duck. *Tadorna cornuta* (S. G. Gmelin).

An occasional visitor, generally to the Trent valley. In most cases no details are given, but Mr. Worthington records two killed at Newton Solney in 1865, and another was shot near Burton in December, 1890. On April 25, 1889, one was killed at Stanton-by-Dale (W. Fox). Several other specimens are known to have been obtained.

141. Mallard or Wild Duck. *Anas boschas*, Linn.

A common resident breeding in considerable numbers, especially on the banks of the Dove. A few breed on the moors in the north. This is certainly a species which has benefited by recent legislation and appears to be on the increase.

142. Shoveler. *Spatula clypeata* (Linn.).

Not common, but a few are shot, generally in the winter, but sometimes in the early spring. Possibly a pair or so may have nested in the Trent valley or on the Nottingham border. Most of the records of this species are from the Trent valley; but in August, 1895, a drake was shot at Hassop (W. S. Fox), and it has been observed on the lakes at Sutton Scarsdale.

143. Pintail. *Dafila acuta* (Linn.).

An irregular winter visitor, usually to the Trent valley; but F. B. Whitlock also gives instances of its occurrence at Sutton Scarsdale, Borrowash, Kedleston and on the Dove.

144. Teal. *Nettion crecca* (Linn.).

A fairly common winter visitor, and a few scattered pairs may be observed on our rivers and ponds till late in the spring. Some of these probably breed in the county, but the only place where I know for certain that they nest is on the grouse moors at the head of the Derwent valley.

[Summer Duck. *Aix sponsa* (Linn.).

One killed on the Trent near Drakelow

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'a few years ago' (E. Brown, *Nat. Hist. of Tutbury*, p. 228). Others have been killed near Ogston Hall, October 30, 1878, and on the Derwent in 1853 (*Birds of Derbyshire*, p. 176).]

145. Garganey. *Querquedula circia* (Linn.).

Recorded from Sinfin Moor by Pilkington, and Sir O. Mosley and Mr. Brown from the Trent valley; but no details are given and no recent records are to hand, although Mr. J. R. Towle shot specimens many years ago on the Derwent. It is also said to have visited the lakes at Sutton Scarsdale.

146. Wigeon. *Mareca penelope* (Linn.).

A fairly numerous winter visitor to the Trent and other pieces of open water, especially in severe weather. Reservoirs in the north are often visited by this species which remains with us till the spring.

147. Pochard. *Fuligula ferina* (Linn.).

Not uncommon in the Trent valley and on the lower Derwent in winter. A few visit Osmaston ponds in the south-west, but in the north it is hardly ever seen except at Sutton Scarsdale lakes.

148. Tufted Duck. *Fuligula cristata* (Leach).

A common winter visitor to south Derbyshire which has established itself as a regularly breeding species during the last twenty years (see *Zool.* 1899, p. 476; 1900, p. 429). The south-western part of the county appears to be most favoured for breeding purposes, but a few years' protection would probably result in a considerable increase in its range as attempts are frequently made to nest in new localities. The number of eggs laid is large, varying from eight to fifteen, and I have found as many as eighteen in one nest, but have no doubt that in this case more than one duck was laying. They breed late, and full clutches may be found in the last days of May and the first fortnight of June.

149. Scaup-Duck. *Fuligula marila* (Linn.).

Only an occasional winter visitor, generally occurring in hard winters. Most of the notices of its appearance are from the neighbourhood of the Trent valley, but a pair were killed near Bakewell in April, 1891 (*Birds of Derbyshire*, p. 174).

150. Goldeneye. *Clangula glaucion* (Linn.).

Locally, Morillon (Glover).

A tolerably regular winter visitor to the rivers and ponds of south Derbyshire. Besides the instances mentioned by Whitlock, (pp. 174-5) which are all from the south, a

single individual was shot near Baslow by a keeper (W. S. Fox).

151. Long-tailed Duck. *Harelda glacialis* (Linn.).

A rare winter visitor to the Trent valley, and formerly to Sinfin Moor and the lower Derwent. The only instance in which any details of capture are known is that recorded by Mr. E. Brown as 'killed near Twyford' (prior to 1863).

152. King-Eider. *Somateria spectabilis* (Linn.).

A duck of this species was shot on the Derwent near Draycott by the late Mr. J. H. Towle in November, 1887 (*Zool.* 1879, p. 131).

153. Common Scoter. *Ædemia nigra* (Linn.).

Not uncommon in winter in the Trent valley, where several were shot in the great frost of 1890-1. Whitlock also records specimens from the Derby Canal (1891), the Derwent at Wilne and Sutton Scarsdale. Besides these a drake, killed near Belper in April, 1900, is now in the Rolleston Hall Museum, and another in the possession of Mr. Storrs Fox was shot at Hassop in January, 1895.

154. Velvet-Scoter. *Ædemia fusca* (Linn.).

One shot on the Trent at Willington by the Rev. J. Smith some time previous to 1860, and another killed on the Derwent at Draycott in 1853 by the late Mr. J. H. Towle (*Birds of Derbyshire*, p. 177).

155. Goosander. *Mergus merganser*, Linn.

Locally, Chellaser Dun Diver (F. Gisborne).

Quite the commonest of the three 'saw-bills' in Derbyshire, where many have been seen or shot, especially in the Trent valley. F. B. Whitlock gives a list of occurrences dating from 1774 and 1776 when individuals were observed by the Rev. F. Gisborne at Staveley. In addition to these a duck was killed at Burton in January, 1854 (*Nat. Hist. of Tutbury*, p. 57); in December, 1878, one was shot at Borrowash (*Journ. Derby Arch. and Nat. Hist. Soc.* i. 128), and a third was killed in the winter of 1887 by Mr. W. Crowder in Darley meadows (W. N. Statham).

156. Red-breasted Merganser. *Mergus serrator*, Linn.

Curiously infrequent as compared with the preceding species. A few have been killed on the Trent, one (a duck) in 1890 (F. B. Whitlock), and they have also been shot at Sutton Scarsdale. One was shot by a keeper at Baslow on the Derwent prior to 1893 (W. S. Fox).

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157. Smew. *Mergus albellus*, Linn.

This species has visited us several times in severe winters. Whitlock gives a list of ten occasions on which one or more have been observed and in most cases shot. The earliest is in March, 1774, when Mr. Gisborne shot a female at Staveley. Others have been killed on the Dove, Derwent, Trent and on ornamental waters, such as the lake at Osmaston Manor.

158. Ring-Dove or Wood-Pigeon. *Columba palumbus*, Linn.

Locally, Woodie.

A common resident in all the wooded parts of the county, but perhaps least numerous in the north-west. Several broods must be reared in the course of the year, for fresh eggs may be met with from the end of March to the middle of September. Occasionally vast flocks, consisting of many hundred birds, are met with in the winter months.

159. Stock-Dove. *Columba œnas*, Linn.

Locally, Little Blue Pigeon (J. J. Briggs), Blue Rock.

Much less common than the wood pigeon and somewhat local in its distribution, possibly on account of the difficulty in finding suitable nesting sites. For example, in the Ashbourne district it was common enough among the old oaks in Okeover Park and in Dovedale, but seldom seen anywhere else. As a general rule the presence of old timber or rocks seems necessary to this species, although Mr. Brown has found nests in rabbit holes near Burton.

[Rock-Dove. *Columba livia*, J. F. Gmelin.

Although this species has been said to breed in Derbyshire there is every reason to suppose that the birds in question were either stock doves or domestic pigeons which had reverted to a wild state.]

160. Turtle-Dove. *Turtur communis*, Selby.

A summer visitor, principally to the southern part of the county, which has considerably increased its breeding range of late years. No mention of this bird occurs in the works of Pilkington and Glover, but at the present time it is fairly numerous in the Trent valley and locally distributed over the whole of south and north-east Derbyshire. Here it usually occurs in small colonies, which generally haunt a wood and the adjoining fields, where two or three nests may be found at no great distance apart. As the birds are very local in their habits, and these colonies often several miles apart, the presence of this species is not always easy to detect. Their present northern

limit on the Dove appears to be the valley of the Henmore brook; on the Derwent they were first noticed at Curbar about 1890 (W. S. Fox) and are still extending their range northward.

[Passenger-Pigeon. *Ectopistes migratorius* (Linn.).

Mr. J. J. Briggs, in the *Field* for September 10, 1869, recorded a bird of this species from near Melbourne.]

161. Pallas's Sand-Grouse. *Syrhaptes paradoxus* (Pallas).

Although in all probability the flock which reached Staffordshire in May, 1863, passed through Derbyshire, the only record of that incursion is a notice of two which are said to have been killed on our northern borders in that year, and are now in the Sheffield Museum (*Birds of Derbyshire*, p. 184). In 1888 one was picked up dead at Breaston towards the end of May and others were seen, while one is said to have been killed at Shardlow but not preserved. In July, 1889, Mr. R. C. H. Cotton succeeded in shooting a brace near Parwich. Three birds which the writer believes to have belonged to this species were seen near Ashbourne on May 12, 1900, but none were shot (*Zool.* 1900, p. 431).

162. Black Grouse. *Tetrao tetrix*, Linn.

Locally, Blackgame or Heath-cock (Glover).

In all probability this species is far less common now than formerly, although a good many scattered birds breed on the fringe of the moors and along the Staffordshire border. At the present time the High Peak is the headquarters of blackgame in Derbyshire; many nesting in the coppices near Strines and Ashopton, and also on Glossop Moor and Kinder Scout and their outlying spurs. Along the East Moor a few breed locally along the range as far south as Darley Moor, and on the Staffordshire border they are found between Buxton and Hartington. Below this point they are confined to the Staffordshire side of the Dove. Blackgame were formerly common in Needwood Forest, and stray birds from here and Cannock Chase have been recorded from many parts of south Derbyshire, but such stragglers are now hardly ever met with.

163. Red Grouse. *Lagopus scoticus* (Latham).

Locally, Heath-poult, Moor-poult (obsolete), Moor-game (Glover).

A resident in large numbers on the moorlands of north Derbyshire where they are care-

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fully preserved. Practically all the heather covered ground in the High Peak is occupied by them as well as the long ridge known as the East Moor on the left bank of the Derwent, as far south as Matlock. On the western side a good many breed round Buxton, and small isolated colonies may be found where heather exists between Buxton and Alsop-en-le-Dale. In severe weather when the moors are covered with snow partial migrations to lower ground take place, and occasionally stragglers have been killed in the southern plain. Thus Sir O. Mosley and Mr. E. Brown (*Nat. Hist. of Tutbury*, pp. 52, 104) have recorded that packs visited the district between Burton and Derby during the winter of 1860-61, and one was shot near Ashbourne in January, 1860. These birds may have come from Cannock Chase, where they have been introduced. Many were driven south by the great storm of December, 1901, as far as Kirk Ireton (J. B. E. Blackwall). A very light coloured grey variety was shot by Col. J. C. Cavendish in September, 1898.

164. Pheasant. *Phasianus colchicus*, Linn.

Probably at the present time there is no such thing as a pure bred *P. colchicus* in the county, but all our resident birds show signs of interbreeding with the Chinese ring-necked pheasant (*P. torquatus*) and other species. About 1875 or 1876 I saw a splendid cock bird killed in the Derwent valley in the extreme north of the county, where these birds are scarce and no artificial rearing is carried on, which had all the appearance of a pure bred bird, and possibly a few may still survive. Comparatively few pheasants are to be found in the valleys of the north, and they are of course absent from the moors and highlands, but in other parts of the county they are common, and large numbers are artificially reared every year on many estates. Owing to wholesale crossing and exchange of eggs variations in plumage are common and pied and white individuals often occur. J. J. Briggs (*Zool.* p. 4253) mentions a hybrid between the pheasant and the black grouse which was shot near Melbourne, and specimens of the same cross are preserved in the collections at Chaddesden Hall and Calke Abbey from Breadsall Moor (Hon. F. Strutt).

165. Partridge. *Perdix cinerea*, Latham.

Unlike the pheasant the grey partridge is one of our indigenous birds and must have been very numerous a century ago in spite of the many raptorial birds which were then found in Derbyshire (see *Journ. Derb. Arch.*

and Nat. Hist. Soc. 1892, p. 178, etc.). At the present time it is still fairly common, especially in south Derbyshire, but is of course absent from the moorlands. A. S. Hutchinson has recorded a mottled variety from Foremark in 1890 (*Field*, April 4, 1891), and the same writer (*Field*, May 4, 1901) mentions a case in which a partridge survived the loss of both feet, and was at last killed by a weasel after injuring itself against some telegraph wires!

166. Red-legged Partridge. *Caccabis rufa* (Linn.).

Locally, French Partridge, Frenchman.

Although this species was practically unknown in Derbyshire half a century ago it is at the present day not uncommon in the Trent valley, and has extended its range considerably of late years, being found locally over all the country south of a line drawn through Belper, while a few pairs are allowed to breed as far north as Taddington (W. Boulsover), and in 1901 they were observed for the first time in the Alstonefield district.

167. Quail. *Coturnix communis*, Bonnaterre.

Formerly a regular spring visitor to south Derbyshire and probably to the east of the county as well, but its numbers have steadily diminished and now it can only be described as nesting occasionally with us, especially in the Trent valley. A nest with fourteen eggs was found by mowers near Ashbourne about 1870, and another pair are said to have bred at Brassington. They are known to have nested near Burton, and on the sewage farm at Egginton a nest with nine eggs was found in 1892. Bretby, Swarkestone and Melbourne are also known as former breeding places.

168. Landrail or Corncrake. *Crex pratensis*, Bechstein.

A common spring visitor especially to the fertile valleys of the south. In the north it is rather local and not so common. F. B. Whitlock figures a beautiful white variety killed at Kedleston in September, 1892.

169. Spotted Crake. *Porzana maruetta* (Leach).

There is little doubt that this interesting species nests annually in the valleys of the Trent, lower Derwent and Erewash. A few penetrate up the Dove valley, and in October, 1897, one was killed in lower Lathkill Dale, but the majority of our records come from south-east Derbyshire. The Rolleston Hall Museum contains a nest of six eggs

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with the parent birds from near Derby, taken in 1898, and eggs and young are said to have been taken from the Old Trent near Repton.

170. Baillon's Crake. *Porzana bailloni* (Vieillot).

One was killed in November, 1821, within three miles of Derby (*Zool. Journ.* iii. 493).

171. Water-rail. *Rallus aquaticus*, Linn.

Not at all uncommon on suitable ground in most of the low-lying districts of Derbyshire, especially in the osier beds of the Trent and Dove. Owing to their skulking habits they are seldom seen except during hard frosts. Like the spotted crake they are frequently killed by striking telegraph wires in the dusk.

172. Moor-hen. *Gallinula chloropus* (Linn.).

Locally, Waterhen.

Common on most of our ponds and gently flowing streams, but naturally less abundant on the more rapid waters of the hill country. The nest is sometimes placed at a considerable height from the ground. One at Calwich Abbey was built among the branches of a large chestnut quite 16 feet above the water (*Zool.* 1900, p. 429). I have seen as many as thirteen eggs in one nest, but of course more than one hen may have laid in it.

173. Coot. *Fulica atra*, Linn.

Locally, Bald-coot.

Not common; but breeds locally in south Derbyshire, generally on ponds in the Dove and Trent valleys, such as Bradley, Osmaston, Sudbury, etc. It is not found in the north-west except on the reservoirs at Longdendale. When a coot takes to sucking eggs it is almost as destructive as a rook to nests of waterfowl, and for this reason many are shot or scared away.

[Crane. *Grus communis*, Bechstein.

Glover includes this bird in his list, and adds that it is 'rarely found in the county.' No particulars are given.]

174. Little Bustard. *Otis tetrax*, Linn.

A female shot by Mr. A. N. Mosley on Etwall Common in 1797 is preserved in the Rolleston Hall Museum. For many years this was the only county record, although one was shot not far from the Staffordshire border; but on May 14, 1901, another hen bird was killed by a farmer on Middleton Top near Youlgreave, and afterwards passed into the possession of Mr. W. Storrs Fox (*Zool.* 1901, p. 270).

175. Stone-Curlew. *Ædicnemus scolopax* (S. G. Gmelin).

Locally, Thick-kneed Bustard (Glover).

Glover describes this species as breeding on the moorlands, but there is no further evidence in support of the statement, and this part of his notice may possibly refer to the common curlew (*Numenius arquata*). One was shot in 1890 near Overton Hall (*Birds of Derbyshire*, p. 195).

176. Dotterel. *Eudromias morinellus* (Linn.).

Ever since Willughby's time the dotterel has been known to visit north Derbyshire in the spring, remaining sometimes for six weeks or two months, but apparently not breeding. Flocks have been frequently observed on rough pasture near Castleton (*Birds of Derbyshire*, p. 196), and Mr. Seebohm mentions a trip of nine observed on the Strines Moors during the last week of April, 1871. On the bleak uplands near Taddington four were shot on May 27, 1894 (*Zool.* 1894, p. 344), and they have been observed here on other occasions. Stragglers have been recorded from Staveley (three in April, 1774), Twyford (*Zool.* p. 2611), the Dove near Tuthury (*Nat. Hist. of Tutbury*, p. 52), and Derby (*Field*, May 20, 1899).

177. Ringed Plover. *Ægialitis biaticola* (Linn.).

A tolerably regular visitor on migration in small numbers to the Trent valley (F. B. Whitlock). Individuals have also been recorded from Derby in February, 1786 (Pilkington), and also in the winter of 1891-2 (G. W. Pullen); Ramsley Lodge near Bake-well (W. S. Fox), and on the sewage farm at Egginton where they have been observed on several occasions.

178. Golden Plover. *Charadrius pluvialis*, Linn.

A regular breeder on the highest parts of the moors, usually in scattered pairs. To the plains of south Derbyshire it is a common but irregular winter visitor, sometimes in large flocks. Whitlock mentions a dark sooty coloured variety in the possession of Mr. F. Beresford Wright.

179. Grey Plover. *Squatarola helvetica* (Linn.).

A scarce winter visitor, having been only twice definitely recorded. One was shot on the sewage farm at Egginton in the winter of 1890: the other was killed close to Derby early in January, 1893.

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180. Lapwing. *Vanellus vulgaris*, Bechstein.

Locally, Peewit.

A very common resident, breeding not only in the low lying meadows but also on the uplands right up to the edge of the heather. After the breeding season large flocks are usually met with on the lower ground, especially in the valleys of the Dove and Trent. In wet weather the eggs often show traces of mud from the birds' feet, and on May 8, 1900, I came across a clutch of eggs which were completely caked with mud so that the shell was completely hidden. A young lapwing sent to Hutchinson for preservation on August 7, 1900, was a pale buff colour all over with the exception of a few white feathers. Later in the same year another cream-coloured bird was caught on the sewage farm, but unfortunately was not preserved, and others were seen about the same time.

[Turnstone. *Streptilas interpres* (Linn.).

One of these birds was shot by Mr. E. A. Brown on the Trent between Burton and Nottingham, but unfortunately I have not been able to ascertain the date or place.]

181. Oyster-catcher. *Hematopus ostralegus*, Linn.

An occasional visitor generally to the south of the county. Whitlock mentions eight instances of its occurrence near Derby, at Melbourne (two), on the Dove near Tutbury, at Newton Solney, and on the sewage farm at Eggington where Mr. R. C. Cotton saw three.

182. Avocet. *Recurvirostra avocetta*, Linn.

There is no recent record of this species, but during the first half of the nineteenth century stragglers appear to have occasionally visited the Trent and Dove valleys. One was shot in 1800 at Barton Ferry on the Nottingham border (*Birds of Nottingham*, p. 41), another on the Dove near Scopton probably about 1840 (*Nat. Hist. of Tutbury*, pp. 54, 106). Mr. Wolley saw one near the junction of the Trent and Soar in June, 1856 (*Zool.* 1856, p. 5280); and in 1859 one was seen at Thrumpton on the same day that another was killed lower down the Trent (*Birds of Nottingham*, p. 41).

183. Grey Phalarope. *Phalaropus fulicarius* (Linn.).

Locally, Grey scollop-toed Sandpiper (Pilkington).

Whitlock records six killed in different parts of the county, including one shot by

the Rev. F. Gisborne on September 26, 1770, at Staveley, and others more recently at Long Eaton, Draycott (October, 1891), Swarkestone (October 17, 1891), and near Heeley.

184. Woodcock. *Scolopax rusticola*, Linn.

Although a pair or two probably breed with us annually, and there is evidence that they have nested at Hayfield, Ashford-in-the-Water, Derby and Melbourne, the number of breeding birds is curiously small and shows no signs of increasing. In the neighbouring counties of Nottingham and Stafford however woodcock have bred in many places. As an autumn and winter visitor to the county there is little doubt that the woodcock is far less common than in former times.

185. Great Snipe. *Gallinago major* (J. F. Gmelin).

The earlier records of this species are somewhat vague and unsatisfactory, but there is reason to believe that it has occurred several times, and Mr. J. Whitaker has two Derbyshire birds in his collection. One was killed at Bolsover on October 12, 1892 (*Naturalist*, 1892, p. 326), and several in January, 1902.

186. Common Snipe. *Gallinago caelestis* (Frenzel).

Breeds locally in many parts of Derbyshire, especially in the upper part of the Dove valley, and in suitable spots in the High Peak. To the lowlands of the south it is a common winter visitor, but few remain to breed. Glover mentions a white variety shot near Weston Cliff about 1820, and Whitlock one from Matlock in 1880 in which the whole plumage was suffused with buff.

187. Jack Snipe. *Gallinago gallinula*, Linn.

Not an uncommon winter visitor to north as well as south Derbyshire.

188. Dunlin. *Tringa alpina*, Linn.

There is reason to believe that a few pairs of dunlins breed on the north Derbyshire moors. In 1893 Mr. E. T. Doncaster observed two pairs near Redmires, and later on saw a party of twelve fully fledged. Mr. Storrs Fox saw one in full breeding plumage on June 13, 1893, on Stanage Edge, and the Rev. A. E. Sorby noticed others in the breeding season on the Sheffield moors. In 1901 one of these birds was shot during the summer near Redmires and its nest with four eggs taken. As spring migrants they regularly visit the Trent valley. One shot by F. B.

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Whitlock on the return journey, July 20, 1889, still bore traces of down on the nape.

189. Little Stint. *Tringa minuta*, Leisler.

A rare occasional visitor, said to have once been killed near Burton. F. B. Whitlock shot one on September 21, 1890, near the mouth of the Erewash (*Birds of Derbyshire*, p. 208).

190. Purple Sandpiper. *Tringa striata*, Linn.

Another scarce visitor, three specimens of which have been killed on the sewage farm at Egginton and one near Sutton Scarsdale. All but one were observed in the winter of 1890-1.

191. Knot. *Tringa canutus*, Linn.

An occasional winter visitor to the Trent valley. The most definite instances of its occurrence are one from Breadsall, April 25, 1891, and three shot near Burton, October 5, 1891 (*Birds of Derbyshire*, p. 209).

192. Sanderling. *Calidris arenaria* (Linn.).

About 1878 three of these birds were killed by a keeper at Walton-on-Trent (*Birds of Derbyshire*, p. 210).

193. Ruff. *Machetes pugnax* (Linn.).

In Pilkington's time ruffs were to be found on Sinfin Moor. In 1857 two immature birds were shot near Burton: Mr. R. C. Cotton shot a reeve on the Egginton sewage farm in October, 1892, and on March 1, 1897, Mr. A. S. Hutchinson killed an immature ruff in the same place.

194. Common Sandpiper. *Totanus hypoleucus* (Linn.).

A common summer visitor to the valleys of the Dove and Derwent; comparatively few birds remaining to breed near the Trent. The nests are sometimes placed on shingle banks or among rough herbage close to the water, but at other times at a considerable distance from it. One found June 17, 1900, was built among grass on the side of a railway embankment between Clifton and Norbury, and was placed not more than 8 feet from the metals (*Zool.* 1900, p. 431). It is common on the moorland streams of the High Peak.

195. Wood-Sandpiper. *Totanus glareola* (J. F. Gmelin).

An immature bird was killed near Breadsall in August, 1885, and is now in the Sheffield Museum (*Birds of Derbyshire*, p. 212).

196. Green Sandpiper. *Totanus ochropus* (Linn.).

Occasionally met with on the streams of south Derbyshire at all times of the year except June and the first half of July, but occurs most frequently on migration in April or May, and on the return at the end of July or in August.

197. Common Redshank. *Totanus calidris* (Linn.).

Locally, Whistling Plover.

Although formerly known only as a scarce visitor, the redshank is now a regular breeder in the wide meadows adjoining the Trent and lower Dove, and is increasing in numbers and extending its range. About 1896 they began to breed near Sudbury, and in 1901 a pair nested for the first time near Norbury. Between Willington and Burton it is not uncommon. In 1902 a pair were reported as nesting not far from Staveley (Canon Molineux).

198. Spotted Redshank. *Totanus fuscus* (Linn.).

Mr. E. Brown mentions a specimen in his possession killed near the Dove (prior to 1869).

199. Greenshank. *Totanus canescens* (J. F. Gmelin).

An occasional visitor, included by Sir O. Mosley and Mr. Brown in their lists. Whitlock mentions three specimens shot at Ilkeston (1890), Overton Hall and near Draycott. Mr. C. Oldham (*Naturalist*, 1897, p. 308) observed one at Combs reservoir, near Chapel-en-le-Frith, from August 16 to 23, 1897.

200. Bar-tailed Godwit. *Limosa lapponica* (Linn.).

No distinction is made in the writings of the early Derbyshire ornithologists between the two species of godwits. J. J. Briggs (*Zool.* p. 2818) however states that a bar-tailed godwit was shot at Swarkestone about 1844, and two shot near Burton 'many years ago' were identified by Mr. C. Hanson (*Birds of Derbyshire*, p. 215). Another was shot near Baslow by a gamekeeper, prior to 1893, and is now in his possession (W. S. Fox).

[Black-tailed Godwit. *Limosa belgica* (J. F. Gmelin).

Pilkington in 1789 wrote that 'the godwit' had been 'shot at Barlborough and another on Sinfin Moor.' At this time the black-tailed godwit was still a British breed-

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ing species, so the note may refer to it. Whitlock's statement that it is mentioned by Sir O. Mosley and Mr. E. Brown is erroneous.]

201. Curlew. *Numenius arquata* (Linn.).

A summer visitor, breeding in scattered parts not only on the moors of the High Peak, as stated by Whitlock, but also along the ridge known as the East Moor. Mr. W. Storrs Fox visited nests near Ramsley Lodge, Baslow, and on Ankirk Moor in 1894. On migration they are frequently observed in the Trent valley, and stragglers have occurred in the winter months. The fusillade on the opening day of the grouse shooting has been known to drive them from their usual haunts to districts twenty miles away, such as the hills near Ashbourne.

202. Whimbrel. *Numenius phaeopus* (Linn.).

F. B. Whitlock describes this bird as a regular visitor in small numbers during migration periods, seldom alighting. One bird was however observed on the river margin at Long Eaton on April 15, 1892 (*Birds of Derbyshire*, p. 217). To the Dove valley it is a rare visitor, but two which had been seen for about a week on a hill near Swinscoe on the Staffordshire side were killed at the end of April, 1899.

203. Black Tern. *Hydrochelidon nigra* (Linn.).

An occasional visitor, sometimes, according to Whitlock, in some numbers, and usually in the spring. Two were killed on June 6, 1889, near Langley (*Field*, June 8, 1889), and one near Etwall early in September, 1900.

204. Whiskered Tern. *Hydrochelidon hybrida* (Pallas).

One shot near Barrow-on-Trent in the autumn of 1883, and now at Calke Abbey (*Birds of Derbyshire*, p. 218).

205. Sandwich Tern. *Sterna cantiaea*, J. F. Gmelin.

According to J. J. Briggs, not an uncommon visitor in spring and during stormy weather to the Melbourne district. F. B. Whitlock observed one on May 14, 1888, on the Trent between Barton Ferry and the mouth of the Soar.

206. Roseate Tern. *Sterna dougalli*, Montagu.

Both Sir O. Mosley and Mr. E. Brown assert that this species has rarely occurred in

the Burton and Tutbury districts, and James Harley includes it in his list from the Trent; but no particulars are given and more definite information is very desirable.

207. Common Tern. *Sterna fluviatilis*, Naumann.

A common visitor on migration to the Trent valley, and also occurs after stormy weather. Many of this and the following species appeared in the Tutbury district in May, 1842 (*Nat. Hist. of Tutbury*, p. 57), and individuals have frequently been recorded from Trent side parishes. Stragglers are also occasionally met with on the Dove as high as Hanging Bridge.

208. Arctic Tern. *Sterna macrura*, Naumann.

Like the preceding species, the arctic tern is a frequent visitor to the south of Derbyshire, but has also been occasionally noticed in the Longendale valley and on the reservoir at Butterley (*Birds of Derbyshire*, p. 220).

209. Little Tern. *Sterna minuta*, Linn.

Much less common than either of the two preceding, but has occurred several times in the south. Whitlock mentions four instances, all from the Trent valley, and adds that a small flock was seen at Barton about 1886.

210. Sooty Tern. *Sterna fuliginosa*, J. F. Gmelin.

The first example of this tropical species obtained in the British Islands was killed by a stone near Tutbury about October, 1852, and was subsequently exhibited by Yarrell at a meeting of the Linnæan Society in February, 1853.

211. Little Gull. *Larus minutus*, Pallas.

One was killed on January 22, 1851, on the Trent (*Zool.* p. 3118) near Weston Cliff; another immature bird was shot in Locko Park in 1891, and is now in the Derby Museum. F. B. Whitlock observed one on August 10, 1890, near Barton Ferry (*Birds of Derbyshire*, p. 222).

212. Black-headed Gull. *Larus ridibundus*, Linn.

Visits us more frequently than any other species, large numbers frequenting the Trent valley, especially during the spring migration. Storm-driven birds and stragglers are occasionally met with in all parts of the county.

213. Common Gull. *Larus canus*, Linn.

Also occurs regularly in the Trent valley. About 1823 a flock of over a hundred remained for nearly two days on a pond at

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Rolleston, on the Staffordshire side of the Dove (*Nat. Hist. of Tutbury*, p. 57). It is also occasionally met with in the north.

214. Herring-Gull. *Larus argentatus*, J. F. Gmelin.

Occurs regularly on migration in the Trent valley and occasionally in other parts of the county. Unlike the smaller gulls, this species usually flies at a considerable height.

215. Lesser Black-backed Gull. *Larus fuscus*, Linn.

Not an uncommon passing migrant in the Trent valley, and occasionally met with in other parts.

216. Great Black-backed Gull. *Larus marinus*, Linn.

Occasionally occurs in the Trent valley, and has also been met with at Egginton and near Derby. A small flock of four or five of these birds was seen at close quarters near Alsop-en-le-Dale one misty morning in the spring of 1902 (J. Henderson).

217. Kittiwake. *Rissa tridactyla* (Linn.).

This is one of the commonest gulls, and on the upper Trent is met with even more frequently than the black-headed gull. Storm driven birds occur occasionally in the north, but most of our visitors follow the course of the Trent.

218. Pomatorhine Skua. *Stercorarius pomatorhinus* (Temminck).

J. J. Briggs (*Zool.* p. 4513) records a specimen which was mobbed by rooks and secured in an exhausted state on September 28, 1854. There is however some doubt as to its correct identification (*Nat. Hist. of Tutbury*, p. 111). An immature bird was shot by T. K. Wilson on the moors near Strines at the beginning of October, 1898 (J. J. Baldwin Young).

219. Arctic or Richardson's Skua. *Stercorarius crepidatus* (J. F. Gmelin).

Two of these birds in immature plumage are stated by Sir O. Mosley and Mr. E. Brown to have been killed near Burton. Another was picked up at Mickleover about 1879-80.

[Long-tailed or Buffon's Skua. *Stercorarius parasiticus* (Linn.).

Sir O. Mosley (*Nat. Hist. of Tutbury*, p. 58) states that 'The arctic skua has, it is said, been shot near Burton.' As he also refers to Richardson's skua, it is evident that he refers to this species, but Mr. E. Brown omits all mention of it.]

220. Little Auk. *Mergulus alle* (Linn.).

Several were shot on the Trent in the Burton district about 1843 (*Nat. Hist. of Tutbury*, pp. 57, 109). One was caught by a dog on a pond at Kilburn in November, 1856; one was killed near Derby in December, 1892 (G. Pullen); and in February, 1898, another was shot on the Trent (*Fourn. Derby. Arch. and Nat. Hist. Soc.* 1898, p. xx.). There are also two specimens in the Derby Museum, one of which at any rate was locally obtained.

221. Puffin. *Fratercula arctica* (Linn.).

Locally, Fire-eyed Grebe (Pilkington).

One is said by Pilkington (1789) to have been shot near Derby.

222. Great Northern Diver. *Colymbus glacialis*, Linn.

Whitlock gives five definite records of this species for Derbyshire: at Darley in 1826, on the Derwent about 1845, near Ockbrook in 1853, at Newton Solney in 1861-2, and on the Trent in 1863. A young female was picked up in an exhausted state between Tideswell and Peak Forest on August 1, 1899 (W. Boulsover).

223. Black-throated Diver. *Colymbus arcticus*, Linn.

An immature bird of this species was shot in January or February, 1897, on Combs reservoir near Chapel-en-le-Frith, and recorded by Mr. C. Oldham in the *Zoologist*, 1897, p. 426.

224. Red-throated Diver. *Colymbus septentrionalis*, Linn.

Has occurred several times on the Trent and the lower waters of the Dove and Derwent. About 1848 many visited the Trent, and one was killed on January 31 (J. J. Briggs). Others have been killed at Repton Park pool, and on the Derwent near Derby in 1844 (*Zool.* 1844, p. 577). An immature bird was killed on the Dove above Hanging Bridge in 1895.

225. Great Crested Grebe. *Podiceps cristatus* (Linn.).

At the present time three pairs of these fine birds breed on the ponds in Shipley Park near Heanor, where they are carefully preserved, and if the restrictions of the Wild Birds Protection Act were observed, we might hope to see a considerable increase in their breeding range. As however no fewer than five adult birds have been killed in dif-

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ferent parts of south Derbyshire, in defiance of the law, between June, 1900, and June, 1901, it is almost hopeless to expect any extension at present. As a winter visitor it has occurred in many parts of the county where ponds or reservoirs exist.

226. Red-necked Grebe. *Podiceps griseigena* (Boddaert).

One was shot on the Derwent near Derby (*Zool.* 1844, p. 577); another on the Trent between Burton and Stapenhill in April, 1849 (*Zool.* 1850, p. 2706), and a third was shot on a brook near Chapel-en-le-Frith about 1887 (*Naturalist*, Oct. 1897).

227. Slavonian or Horned Grebe. *Podiceps auritus* (Linn.).

One shot on the Trent at Newton Solney in 1860 (*Nat. Hist. of Tutbury*, p. 109). Another was shot on the pond at Allestree and received by A. S. Hutchinson for preservation on November 28, 1898 (*Zool.* 1900, p. 428).

228. Black-necked or Eared Grebe. *Podiceps nigricollis*, C. L. Brehm.

Mentioned by Glover and Harley as found sometimes on the Trent, but no data are given. One was however shot on the Derwent at Draycott in 1860 (*Birds of Derbyshire*, p. 221).

229. Little Grebe. *Podiceps fluviatilis* (Tunstall).

Locally, Dipper, Dabchick.

Fairly common in those districts where ponds and still reaches are available for breeding purposes. In winter ponds are deserted for the open water of the larger rivers, and in severe weather many resort to the sea coast. The eggs are often washed out by floods, and when fresh may be found lying on the bottom not far from the nest.

230. Storm-Petrel. *Procellaria pelagica*, Linn.

Exhausted birds are occasionally picked up, usually in south Derbyshire. Sir O. Mosley and Messrs. E. Brown and J. J. Briggs confirm this, but give no particulars. Whitlock mentions two, one taken alive on Hopton Moor and the other found dead at Winshell (*Birds of Derbyshire*, p. 234). One was shot at Kniveton about 1885, and another was picked up dead on December 11, 1886, at Ashbourne after having been seen flying over a pond in the morning. In the *Naturalist* for October, 1897, Mr. C. Oldham says one was picked up exhausted on the line at Combs near Chapel-en-le-Frith in the winter of 1893-4.

231. Leach's Fork-tailed Petrel. *Oceanodroma leucorhoa* (Vieillot).

Mr. E. Brown mentions one obtained near Burton some years ago (*Nat. Hist. of Tutbury*, p. 111); another was picked up alive at Draycott in November, 1881, and a third caught in Markeaton Park by a dog on November 29, 1882. Two were seen and one shot on the canal at Awworth on the borders of Nottingham at Christmas, 1888 (*Birds of Derbyshire*, p. 233).

232. Manx Shearwater. *Puffinus anglorum* (Temminck).

About eight instances of the occurrence of this bird are mentioned by F. B. Whitlock, all from the south of the county, and mostly captured in the month of September between the years 1879-92. In the latter year one was taken alive in Burton, and another received from Findern (*Birds of Derbyshire*, p. 232). About 1894 or 1895 one was killed at Kniveton near Ashbourne.

233. Fulmar. *Fulmarus glacialis* (Linn.).

One was shot near Melbourne Pool on October 25, 1847 (*Zool.* p. 2951). No other instance of its occurrence is on record.

MAMMALS

As Derbyshire is one of the most central counties of England, the list of mammals is almost necessarily a small one. Moreover the number of resident naturalists is exceedingly limited, so that many opportunities of observing the rarer animals have been allowed to pass. In one respect Derbyshire would appear at first sight to have an advantage over some of her neighbours from a naturalist's point of view—in the extent of ground, especially in the north-west, which has never been brought under cultivation. But these moors are the chosen haunt of the red grouse (*Lagopus scoticus*), and as such fall under the rule of the gamekeeper. Naturally therefore the British representatives of the family Mustelidæ are becoming every year more and more restricted in numbers. The marten has already gone and the polecat bids fair to follow, although sixty years ago it was far from uncommon. The otter and badger still survive in certain districts, but it is only owing to the partial protection afforded them. The fox, preserved with religious care in the hunting country of south Derbyshire, is proscribed on the northern moorlands. Here, as everywhere, the smaller mammals hold their own against man better than their larger relations. The smaller rodents are numerous; no efforts of the gamekeeper can exterminate the stoat and weasel, and the hedgehog, mole and shrews are widely distributed.

But in order to realize the changes that have been brought about in our fauna by man, it is necessary to study the records of the past. The moorlands of the High Peak are a fragment only of a vast hunting domain, the great Peak Forest. The boundaries of this district, a part of the primeval forests of Britain, may be roughly defined by the course of the rivers Goyt, Etherow and Derwent to Mytham Bridge and thence to the Wye valley, near Miller's Dale, altogether an area of some forty square miles.

Large portions of this district appear to have been wooded, chiefly with oak, especially in the Longdendale bailiwick. Here red deer (*Cervus elaphus*), fallow deer (*Cervus dama*), roe deer (*Capreolus capreolus*), wild swine (*Sus scrofa*),¹ as well as wild cats (*Felis catus*), bears (*Ursus arctos*) and wolves (*Canis lupus*), were to be found within historic times.

The number of species treated of in the following list is 33. To these will probably be added the harvest mouse (*Mus minutus*), which is believed to exist in small numbers in the south of the county. On the other hand, both the pine marten (*Mustela martes*) and the black rat (*Mus rattus*) are now extinct, and the red and fallow deer are only kept in a semi-domesticated state.

¹ For an account of the re-introduction of the wild boar into Derbyshire (1826-37), see Harting, *Extinct British Mammals*, p. 97.

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Five species owe their position in our list to the agency of man, viz. the rabbit, the fallow deer, the black rat, the brown rat and the blue hare. The last species has only become naturalized during the last twenty years, a previous attempt to introduce it having resulted in failure.

Previous authorities on the mammalia of Derbyshire are somewhat few. Dr. Charles Leigh's *Natural History of Lancashire, Cheshire and the Peak in Derbyshire* (1700) contains little of value. A few notes on mammals occur in the shooting diary of the Rev. F. Gisborne (1761-84), published in the *Journ. Derby Arch. and Nat. Hist. Soc.* for 1892. James Pilkington in 1789 gave an all too brief list of mammals in his *View of the present state of Derbyshire*, and Stephen Glover in the *History of the County of Derby* (1829), i. 130-9, furnished a more ambitious list. In 1863 appeared a work entitled *The Natural History of Tutbury*, by Sir O. Mosley. This useful work contains a chapter on the mammalia of the district and a good annotated list of the fauna of Burton by Mr. Edwin Brown.

Mr. J. J. Briggs contributed a paper on the mammals of the Melbourne district to the *Zoologist* for 1848 (p. 2278), and a series of articles (incomplete) on the 'Fauna of Derbyshire' by the same writer also appeared in the *Reliquary* (vol. i. 1861), and at various times short notes on the natural history of the county have appeared in the *Field*, *Zoologist*, *Naturalist* and other papers.

For information respecting recent cave deposits the papers of the Rev. J. Magens Mello, Messrs. John Ward and Rooke Pennington may be consulted.¹

In conclusion I have pleasure in acknowledging the assistance which has been rendered to me by the following gentlemen: Messrs. W. Storrs Fox, G. H. Storer, L. E. Adams, C. Oldham, T. A. Coward, R. Hall, J. J. Baldwin Young and W. Boulsover.

CHEIROPTERA

1. Lesser Horseshoe Bat. *Rhinolophus hipposiderus* (Bechst.).

Not a rare species, but of somewhat partial distribution, being apparently confined to the limestone districts. Sir O. Mosley and Mr. E. Brown (*Nat. Hist. of Tutbury*, pp. 31, 85) have recorded specimens from Matlock and Dovedale. At the present time it is found in fair numbers, chiefly in limestone caverns and old lead workings at Matlock and in the surrounding country, even as far as the Peak district. It appears to be absent from the Trent valley and the basin of the lower Dove.

2. Long-eared Bat. *Plecotus auritus* (Linn.).

A commonly distributed species over the greater part of the county, but rather local in the north. It is mentioned in the 'Shooting

Diary' of the Rev. F. Gisborne (*Journ. Derby Arch. and Nat. Hist. Soc.* 1892, p. 206) under the date February 16, 1776: 'Mr. Rodes gave me a long-eared Bat which wd. 3½ drachms.' Like the pipistrelle, it is often seen in the neighbourhood of buildings, and not infrequently makes its way through open windows into rooms when attracted by lights burning at night. Contrary to the usually received opinion, remains of this species and the pipistrelle rarely if ever occur in pellets of the white and brown owls (*Strix flammea* and *Syrnium aluco*), although I once found a dead long-eared bat with a broken wing under a white owl's perch. On the whole it appears to be rather less numerous in the south than the pipistrelle. Mr. G. H. Storer describes it as being more delicate in confinement than either the noctule or pipistrelle.

¹ See *Journ. Derby Arch. and Nat. Hist. Soc.*, *Reliquary* and *Journ. Geol. Soc.*

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3. Noctule or Great Bat. *Pipistrellus noctula* (Schr.).

Bell—*Scotophilus noctula*.

This fine bat is not uncommon in suitable localities, and in some of the well wooded districts is quite common. Owing to its large size and direct flight, it is easily distinguished on the wing from any of our other local species. Mr. Edwin Brown records a specimen in his collection measuring $14\frac{1}{2}$ inches in expanse of wing, and adds that as many as sixteen have been dislodged from one hole in a tree in Drakelow Park (*Fauna of Burton*, p. 85). Sir O. Mosley says that it is merely seen from April to July, but I have seen individuals in the Dove valley as late as September 19. Parks which contain old timber in the valleys of the Trent, Dove and Derwent are the most likely haunts for this species, which appears to be most numerous in the southern part of the county. That it is sometimes captured by owls is shown by the fact that Mr. L. E. Adams has detected the skull in pellets of the white owl (*Strix flammea*) from the Dove valley. Mr. G. H. Storer describes it as very intelligent, for a bat, in confinement; his specimens soon became tame and confiding, and readily came when called.

4. Pipistrelle. *Pipistrellus pipistrellus* (Schr.).

Bell—*Scotophilus pipistrellus*.

This is our commonest bat, and may be seen fluttering about in the twilight in mild weather at almost any time of the year. Even during the winter months, a spell of mild, moist weather will bring this bat out of its retirement. Mr. Edwin Brown describes a small, black variety or sub-species occurring at Burton (*Fauna of Burton*, p. 85).

Individuals may sometimes be seen on the trunks of trees in broad daylight fast asleep, trusting to their insignificant size and colouring to escape detection.

5. Natterer's Bat. *Myotis nattereri* (Kuhl.).

Bell—*Vespertilio nattereri*.

Mr. Edwin Brown, in his list of the mammalia of Burton-on-Trent in the *Natural History of Tutbury*, says: 'One specimen was captured in the roof of Stapenhill House some

years ago and is now in the Burton Museum.' No other specimens have been recorded since this was written in 1863, but this is hardly to be wondered at considering the very small amount of attention which has been given to this group.

6. Daubenton's Bat. *Myotis daubentoni* (Leisl.).

Bell—*Vespertilio daubentonii*.

This species occurs in colonies at various spots in the valleys of the Trent, Dove and Derwent, and probably also in other parts of the county where still shady pools or reaches are to be found.

Mr. E. Brown received a single specimen from Matlock, and Mr. C. Oldham (*Zool.* 1897, p. 326) pointed out the fact that this bat is found in some numbers on the Dove near Uttoxeter. He has also observed it in smaller numbers on the ornamental waters at Buxton. In the Trent valley it is not common, but Mr. G. H. Storer has met with it twice at Drakelow and also at the confluence of the Trent and Dove, near Newton Solney.

It comes out rather late and flies low, and all observers notice that it is silent on the wing.

7. Whiskered Bat. *Myotis mystacinus* (Leisl.).

Bell—*Vespertilio mystacinus*.

Individuals have been taken in various parts of the county, and it will probably prove to be distributed over the greater part of the district with the exception of the southern plain, where it appears to be decidedly scarce. Mr. C. Oldham (*Zool.* 1889, p. 68) records the capture of a male on New Year's day, 1889, in Lathkill Dale, near Bakewell: 'It was hanging asleep in a damp place, its fur being quite wet, in a tunnel connected with some disused lead mines.' Mr. Oldham also informs me that in 1895 he examined another which had been killed in broad daylight at Cromford; also that it is very plentiful in the Goyt valley above Whaley Bridge. Here on three different occasions he has captured individuals flying at midday close to the river. In the adjoining counties of Cheshire and Staffordshire it is common. In the south, according to Mr. Storer, it has been taken once near Burton.

INSECTIVORA

8. Hedgehog. *Erinaceus europæus*, Linn.

Locally, Urchin (obs.).

Generally distributed over the greater part of the county where there is a sufficiency of cover, and in some districts very common.

Remains of the hedgehog have been found in some of our cave deposits (J. Ward, *Journ. Derby. Arch. and Nat. Hist. Soc.* 1893, p. 173). In later times the name frequently occurs in the old churchwardens' accounts, head money

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varying from 2*d.* to more usually 4*d.* being paid for each hedgehog slain (*Reliquary*, xxvi. 248, etc.). Mr. E. Brown says that he has known one caught in a trap baited with eggs; also that one kept in confinement was detected in the act of stealing chickens from underneath a hen (*Nat. Hist. of Tutbury*, p. 86).

A favourite spot for the nest is in a garden underneath the branches of an Austrian pine. Here the female may be found with her young snugly ensconced within a great heap of pine needles.

9. Mole. *Talpa europæa*, Linn.

Locally, Moudiewarp or Moldiwarp.

Common, especially in the cultivated districts. Fresh workings may however be seen on bleak hillsides well over 1,000 feet above the sea. When they are found in small numbers, they are frequently left undisturbed and the 'hills' spread over the grass as a top dressing; but when too numerous the services of a professional molecatcher are called in. Glover, writing in 1829, says that he has seen an account for mole catching on an estate at Etwall which amounts on an average for the last ten years to more than £10 annually. In 1828 it was £11 13*s.* 10*d.*

Mr. E. Brown records a white specimen: 'When killed the whole fur was suffused with a rosy blush' (*Nat. Hist. of Tutbury*, p. 86), and the Rolleston Hall collection includes a cream-coloured individual. In 1902 three specimens varying in colour from cream to grey were taken not far from Derby (A. F. Adsetts).

10. Common Shrew. *Sorex araneus*, Linn.

Bell—*Sorex vulgaris* (in ed. 2).

Locally, Fetid Shrew (*obs.*), Shrew Mouse.

An exceedingly common species, and well known to every one on account of the numerous dead individuals which may be noticed on roads and paths.

Mr. E. Brown notes a white variety from the Burton district (*Nat. Hist. of Tutbury*, p. 86). An analysis of about 127 pellets of the white owl (*Strix flammea*) from the Dove valley by Mr. L. E. Adams tends to prove

that in this district at any rate the common shrew may be said to form the staple food of the owl. Remains of no fewer than 337 shrews were detected, and in every case the number of remains of common shrews was far in excess of those of any other species. In some cases the proportion was as high as 50 to 60 per cent of the whole.

11. Pigmy Shrew. *Sorex minutus*, Linn.

Bell—*Sorex pygmæus*.

This species has been confounded by earlier writers with the common shrew, but it appears to be generally distributed, although in much smaller numbers, over the southern part of the county at any rate. Probably further research will lead to its recognition in the north as well.

Mr. Storer finds it not nearly so frequently as the common shrew in the Repton district. In the Dove valley it appears to be rather more numerous, and is preyed upon by the white owl. In a series of about 100 pellets taken in May 1900, and examined by Mr. L. E. Adams, were no fewer than twenty-four skulls of this species.

In the Ashbourne district it is found, but not commonly, and near Bakewell it is scarce.

12. Water Shrew. *Neomys fodiens* (Pallas).

Bell—*Crassopus fodiens* (1874), *Sorex remifer* and *Sorex fodiens* (1837).

This species haunts brook sides, ditches and small ponds, and is found in such localities in the low lying parts of the county. Pilkington (1789) and Glover (1829) include it in their lists, and Mr. J. J. Briggs, writing in 1861, says: 'In the parish of Melbourne I have met with five specimens at various periods of the year. I have even seen it travelling over snow in the winter.' He proceeds to give an account of one of these animals attacking a frog (*Reliquary*, ii. 33).

Mr. E. Brown found it by no means uncommon in the Burton district. In the Dove valley it is rather scarce, but Mr. Adams has found the skulls in castings of the white owl, and near Ashbourne it has occurred in small numbers.

CARNIVORA

13. Fox. *Vulpes vulpes* (Linn.).

Bell—*Vulpes vulgaris*.

Thanks to careful preservation for purposes of sport the fox still survives in considerable numbers in those parts of the county which are regularly hunted, especially the Meynell

country. On the moorlands however the fox is ruthlessly killed off, and in consequence has become very rare.

Mr. J. J. Briggs (*Reliquary*, i. 238) narrates an instance of the fox feeding on strawberries in the market gardens of Melbourne.

A HISTORY OF DERBYSHIRE

14. Pine Marten. *Mustela martes*, Linn.

Bell—*Martes abietum*.

This fine animal has probably been extinct in Derbyshire for about half a century, but as it is capable of covering long distances it is quite possible that individuals have visited us within more recent times from adjoining counties. Remains of the marten have been found in the surface soil of Robin Hood's Cave and the Cresswell Crags (*Journ. Derby Arch. and Nat. Hist. Soc.* 1882, p. 171).

Its chief haunts seem to have been the wooded parts of the Peak Forest in the north: the valleys of the Dove and Derwent, the forests of Needwood in Staffordshire and Charnwood in Leicestershire, from whence it made excursions into the south of Derbyshire. It must have been tolerably common towards the end of the eighteenth century, for Pilkington writing in 1789 says, 'It is scarcely necessary to add that polecats, martins, weasels, badgers and stoats . . . are all inhabitants of Derbyshire.' Glover, forty years later, also includes it in his list, and a writer in the *Penny Magazine* of November 27, 1841, describes the marten as 'plentiful in the fir-woods which clothe the sides of some of the hills of Derbyshire and especially near Buxton.'

Mr. W. Bennett, writing in 1866 on the place names of the Peak Forest, says 'Martinside and Cat's Tor were the places of refuge of the beautiful mart or marten cat, which has been found in a wild state within the last forty years among the solitary rocks of the Roych Clough' (*Reliquary*, vii. 95). The late Dr. C. Clay of Manchester, who died in 1893 at the age of 91, told me that he well remembered when a young man seeing a fine specimen offered for sale alive in the market at Manchester. It was in a cage and very savage, and was said to have been recently trapped in the High Peak.

Mr. J. R. B. Masfield, in his paper on the indigenous mammals of Staffordshire, says: 'I should not have included it here had I not been assured by one on whose word I can rely that one was killed within his recollection, but many years ago, on the Staffordshire side of Dovedale.'

Garner (*Nat. Hist. of Stafford*), writing in 1844, notes that the marten has occurred in the woods near Dilhorne, Consall, in Needwood Forest and rocky places in the limestone district; and Sir O. Mosley, nearly 20 years later, says that by traditionary report it was an inhabitant of Needwood Forest before the enclosure, but 'is now nowhere to be found.' Mr. M. Browne's researches in

Leicestershire show that it survived much longer in that county.

15. Polecat. *Putorius putorius* (Linn.).

Bell—*Mustela putorius*.

Locally, Foumart or Filimart (*obs.*) Fitchet.

Formerly very common and widely distributed, but its numbers have rapidly decreased during the last forty years, and at the present time it is practically extinct in the south and occurs rarely in the north and west. In the 'Shooting Diary' of the Rev. F. Gisborne of Staveley (*Journ. Derby Arch. and Nat. Hist. Soc.* 1892, p. 196) occurs the following entry: 'October 24 [1772] 1 Foumart.' In a footnote the Rev. C. H. Molineux says that formerly these animals were evidently very numerous, and 4*d.* per head was paid by the churchwardens as 'verming.' In the accounts for 1772 there is a somewhat startling entry, 'A polecat catching in the Church, £0 os. 6*d.*' Glover describes the habits of this animal accurately; he tells us that in summer they haunt woods or rabbit warrens, and are very destructive; in winter they are found in barns and outhouses. In 1842 Sir O. Mosley found this species 'sufficiently common' in the Tutbury district; but writing in 1863 he speaks of it as 'becoming more scarce every year,' but 'still to be found in rough upland banks and in the tangled willow beds by the sides of our rivers and streams.' Mr. E. Brown also says it is 'still occasionally found.'

In the High Peak polecats were not uncommon in the upper part of the Derwent valley and on the edge of the moors as late as 1860-76. I remember seeing one about 1874 or 1875 gallop across the road between Derwent and Howden in broad daylight and disappear through the opening at the bottom of the stone wall for the surface water to escape. On another occasion my father and the Rev. J. O. Bent were walking on the Derwent moors and suddenly came upon a family party, consisting of two old and six young polecats, which showed but little fear, and being undisturbed soon disappeared in the heather. This was about September 1873.

Canon Molineux saw one at Staveley some time between the years 1888 and 1892, and watched it for some moments as it rolled on the turf like a dog on a rug (*Journ. Derby Arch. and Nat. Hist. Soc.* 1892).

In the Ashbourne district it still appears occasionally. One was killed at Bradley in 1890 or 1891. Another was seen in a hedgerow much frequented by rabbits near Bradley in 1896, and in the spring of 1900

MAMMALS

one was trapped, but managed to escape, although it left a foot in the trap. At Meynell Langley none have been observed since 1861.

16. Common Stoat. *Putorius ermineus* (Linn.).

Bell—*Mustela erminea*.

Still pretty generally distributed over the greater part of the county, in spite of unremitting persecution from game preservers. It is perhaps rather more common in the wooded parts, and comparatively rarely seen in the bleak uplands. Mr. E. Brown says that in the Burton district they have been known to hunt the hare in concert, following on the track until the animal has been run down. Individuals in the yellowish white pelage of winter are not uncommon in some seasons.

17. Weasel. *Putorius nivalis* (Linn.).

Bell—*Mustela vulgaris*.

Generally distributed and common in all parts of Derbyshire, where it is of great service in keeping down the numbers of mice and voles. The many walls built of loose stones without mortar furnish secure retreats for this species from which it can only be dislodged with difficulty. Occasionally the weasel will take to the water, and an instance is on record of one swimming across the Trent in pursuit of a rat (*Nat. Hist. of Tutbury*, p. 87).

18. Badger. *Meles meles* (Linn.).

Bell—*Meles taxus*.

Formerly a common resident in our woodlands, and even now a good many pairs exist in different parts of the county. The survival of this interesting species may be attributed partly to its nocturnal habits, which often cause its presence to be unsuspected, and partly to a measure of protection which it receives in several places, although by no means generally.

Sir O. Mosley, writing in 1863, says that the badger still existed, 'although it is every year becoming more scarce,' and Mr. E. Brown writes even more strongly, 'Fast becoming extinct, although 20 years ago it was found in most of the woods about here.'

At the present time colonies exist close to the town of Derby, and specimens have been killed near the racecourse. The Kedleston district has long been a noted haunt of this species, and there are earths at Alderwasley, Allestree, Hopwell Hall, West Hallam and many other places. A few are found in the north: Mr. Storrs Fox notes a freshly used

earth on Curbar Edge in 1895 and saw a badger which had been caught by a keeper not far from Bakewell in 1891, and they are occasionally trapped in Lathkill Dale. In the Dove valley they are not common, but stray individuals are sometimes trapped and one or two earths are known.

The amount of earth which badgers remove when excavating is extraordinary. I visited one colony last July consisting of several earths at the edge of a small wood. In the adjoining field were three great mounds of excavated soil which were estimated to contain eight or nine cartloads. About eighteen months or two years previously all the earth thrown out (amounting to four loads) had been removed and the ground levelled, so that all this mass had accumulated since that time.

19. Otter. *Lutra lutra* (Linn.).

Bell—*Lutra vulgaris*.

Probably the otter exists in rather larger numbers in the Dove valley at the present time than for many years past. This is owing to the protection extended to it by one or two riparian owners on the river Dove and a certain amount of toleration or indifference on the part of others.

References to the otter occur as far back as 1773 in the shooting diary of the Rev. Frances Gisborne of Staveley. On February 1 the rector shot a dog otter weighing about 14lb., and three years later he mentions having 'shot at a large otter at 11 yds. distant (with No. 1) upon the water' (*Journ. Derb. Arch. and Nat. Hist. Soc.* 1892, pp. 197, 206). Glover (1829) describes them as frequently found in the Trent, the Derwent and the smaller rivers communicating with them.

By 1863 its numbers had been much diminished in south Derbyshire, but it was still occasionally found in the Dove and Trent, according to Mr. E. Brown. Sir O. Mosley describes how a relative of his, while duck-shooting on the Dove, started two otters, which plunged into the water from the trees where they were lying. Both were shot: one was successfully brought to land, but the other was carried down stream and lost.

It is however on the Dove that otters have increased in numbers so much of late. One was killed in 1898 by a keeper on the Norbury water, but none have been touched there since. Now they are so numerous that as many as eight have been seen by the keeper in one day. In December 1898 two young otters were captured by a labourer

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while making their way across a field, but were replaced in Calwich pond which communicates with the Dove. On the upper Dove otters are relentlessly shot and trapped. No less than four were killed between Christmas 1899 and March 1900 on the Alstonefield waters, and a dog otter weighing 22 lb. was also killed at Okeover in the following April. Mr. Storer informs me that otters have been met with in the Trent at Burton quite recently, even within the borough boundaries. One was seen near the weir in November 1899, and though chased managed

to escape. In the Derwent and its tributaries otters are comparatively scarce. Now and then one is killed, but instances are few and far between.

The favourite prey of the otter in our rivers appears to be the eel, though other fish are taken as well. A 3 lb. eel which had been killed in this way was found by Mr. G. M. Bond near the Dove in 1900.

In the Rolleston Hall Museum is a white otter which formed part of the old Burton Museum collection and is believed to have been captured in the Trent.

RODENTIA

20. Squirrel. *Sciurus leucourus* (Kerr.).

Bell—*Sciurus vulgaris*.

Generally distributed over all the well-timbered parts of the county, and where protected exceedingly common. I have known a pair of squirrels to take possession of a newly finished magpies' nest and eject the original occupants.

21. Dormouse. *Muscardinus avellanarius* (Linn.).

Bell—*Myoxus avellanarius*.

Although this species appears to have been tolerably numerous in former times, at the present day it is exceedingly local and scarce except in one or two places. In the shooting diary of the Rev. F. Gisborne the following entry occurs under the date of October 29, 1774: 'Caught a dormouse alive in Stubbing Wood [near Chesterfield].' Both Pilkington and Glover include the dormouse in their lists; the latter adds, 'found in oat ricks.' J. J. Briggs, writing in 1862, says: 'The dormouse is becoming annually more rare . . . was formerly abundant, and more especially in the larger woods of southern Derbyshire. It is now however, as far as I am aware, seldom met with' (*Reliquary*, 1862, p. 159). Mr. E. Brown omits this species altogether from his account of the fauna of Burton, but Sir O. Mosley speaks of it as resident in woods but considered rare (*Nat. Hist. of Tutbury*, p. 27).

In 1876 I found dormice in Lea Wood near Derwent in the High Peak. Unfortunately this wood is being partly destroyed in connection with the Derwent valley reservoir works. Mr. W. Boulsover informs me that they are found in the Lea valley near Cromford, and in the Alderwasley and High Tor woods they are tolerably common. Probably further research would result in

the discovery of other colonies, as Mr. J. Whitaker has reported this species from Worksop, just over the Nottingham boundary (*Zool.* 1885, p. 207), and it is known to exist in various parts of Staffordshire, Cheshire, Yorkshire and Leicestershire.

22. Brown or Common Rat. *Mus decumanus*, Pallas.

Introduced into England about the beginning of the eighteenth century, but well established in the county in Pilkington's time (1789). At the present time common almost everywhere and terribly destructive.

23. Black Rat. *Mus rattus*, Linn.

This species is also said to have been introduced into our country, but has been completely exterminated in Derbyshire for many years. Even in 1789 Pilkington wrote: 'Of rats there are very few of the black species' (*A View of the present state of Derbyshire*, p. 318). Most of the later evidence is either of a negative character or else is based upon misconception. For instance, Mr. J. J. Briggs writes thus: 'These mounds [i.e. the British barrows in north Derbyshire] too contain the bones of the black rat in great abundance, showing that although it is now nearly extinct in this country, it was formerly met with in great abundance' (*Reliquary*, i. 180). The bones in question are of course those of the water vole (*Microtus amphibius*).

24. House Mouse. *Mus musculus*, Linn. Common in almost all inhabited places.

25. Long-tailed Field Mouse. *Mus sylvaticus*, Linn. Locally, Wood Mouse.

Commonly distributed over the more fertile parts of the county.

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[Harvest Mouse. *Mus minutus*, Pallas.

Although I am tolerably certain that this mouse does exist in small numbers and very locally in south Derbyshire, it must be confessed that the evidence is somewhat meagre. Glover mentions it when treating of the short-tailed field mouse, and gives some account of its habits. J. J. Briggs (*Reliquary*, 1862, p. 160) remarks: 'Is occasionally found in this county.' Mr. E. Brown was satisfied that a nest found near Burton, and described to him, belonged to this species. Some nests which were brought to me about 1880 certainly appeared to be those of harvest mice, and I am assured that several nests were found in cornfields at Snelston in 1900 and that the mice themselves were identified.]

26. Water Vole. *Microtus amphibius*, Linn.

Bell—*Arvicola amphibius*.

Locally, Water Rat.

Remains of this species have been found, often in large numbers, in the barrows of Derbyshire. At the present time it is found commonly in all our slow flowing streams, but becomes scarcer where the fall is rapid and the bottom stony. Its remains are sometimes, but rarely, found in owl pellets.

27. Field Vole. *Microtus agrestis*, Linn.

Found commonly in meadows, especially those which lie low. Although in some years very numerous we have never yet experienced a vole plague in Derbyshire. Many hundreds are destroyed annually by the owls which escape the pole trap and the gun.

28. Bank Vole. *Evotomys glareolus*, Schreber.

Bell—*Arvicola glareolus*.

Locally, Fox Mouse.

This species was overlooked by earlier writers on Derbyshire zoology, but in 1863 the Rev. H. H. Crewe took six specimens in a plantation near Calke Abbey (*Nat. Hist. of*

Tutbury, Addenda, p. 407). Since that time it has been found in several parts of the county, and its remains have been identified in considerable numbers in owl pellets from the Dove valley (L. E. Adams). I find it rather local in south-west Derbyshire, but not uncommon, haunting the neighbourhood of woods and gardens.

29. Hare. *Lepus europæus*, Pallas.

Bell—*Lepus timidus*.

Still fairly common in some parts, but greatly diminished in numbers except where preserved for sporting purposes. Mr. E. Brown notes a light buff variety as occasionally met with.

30. Varying or Blue Hare. *Lepus timidus*, Linn.

Bell—*Lepus variabilis*.

Locally, Moor Hare.

A recent introduction to the Yorkshire moors, where it is now established and has extended its range to the moors of north Derbyshire. Mr. T. A. Coward informs me that some time in the sixties Colonel J. Crompton Lees turned out some blue hares on his moors at Greenfield, Yorkshire, but they gradually decreased in number and finally became extinct. About 1880-2 a further consignment of fifty Perthshire hares was received, and these have steadily increased in numbers since that time and have now spread over a large tract of moorland in Yorkshire, Cheshire and Derbyshire. At the present time they are very numerous on the Derwent moors (cf. *Zool.* 1895, p. 176; 1901, pp. 73, 223).

31. Rabbit. *Lepus cuniculus*, Linn.

Locally, Coney.

Common in most parts of the county, especially where the soil is light and sandy. Black individuals occur not infrequently, and formerly Sudbury Park was inhabited entirely by this variety.

UNGULATA

32. Red Deer. *Cervus elaphus*, Linn.

At the present time this species only exists in a semi-domesticated condition in the parks at Chatsworth, Hardwick and Calke Abbey. As Chatsworth was enclosed early in the fifteenth century and the wild red deer of the Peak Forest are known to have survived till about the year 1600 it is possible that this herd may be partly descended from the old Derbyshire stock. Pilkington however in

1789 wrote thus: 'Yet I believe the fallow deer are the only species now to be met with in Derbyshire' (perhaps meaning in a wild state). Glover says: 'A few are kept in parks. . . . This species of animal, now almost if not quite extinct in this country, at one period inhabited the Peak Forest,' etc. R. Garner, on the authority of Sir O. Mosley, says that after the enclosure of Needwood Forest at the beginning of the last

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century some of the wild red deer took refuge in the woods of Foremarke where they survived for several years (*Nat. Hist. of Stafford*, p. 249).

Most of the Peak Forest deer are said to have perished in a great snow about the beginning of the seventeenth century (*Glover*, i. 132).

Mr. J. Whitaker in 1892 estimated the numbers of the three herds as follows :—

Chatsworth 61
Average weight of stag 238 lb., hind 182 lb.

Hardwick Park 22
Average weight of stag 196 lb., hind 154 lb.

Calke Abbey 30
Average weight of stag 235 lb. (max. 280 lb., min. 190 lb.), hind 110 lb.

A few hybrids between the red deer and wapiti are also kept at Osmaston Manor, descendants of a herd of twenty of the latter species imported from British Columbia by Sir P. Walker.

33. Fallow Deer. *Cervus dama*, Linn.

At the present time there are about twelve herds of fallow deer in different parts of Derbyshire. The following particulars are extracted from Mr. J. Whitaker's work on deer parks :—

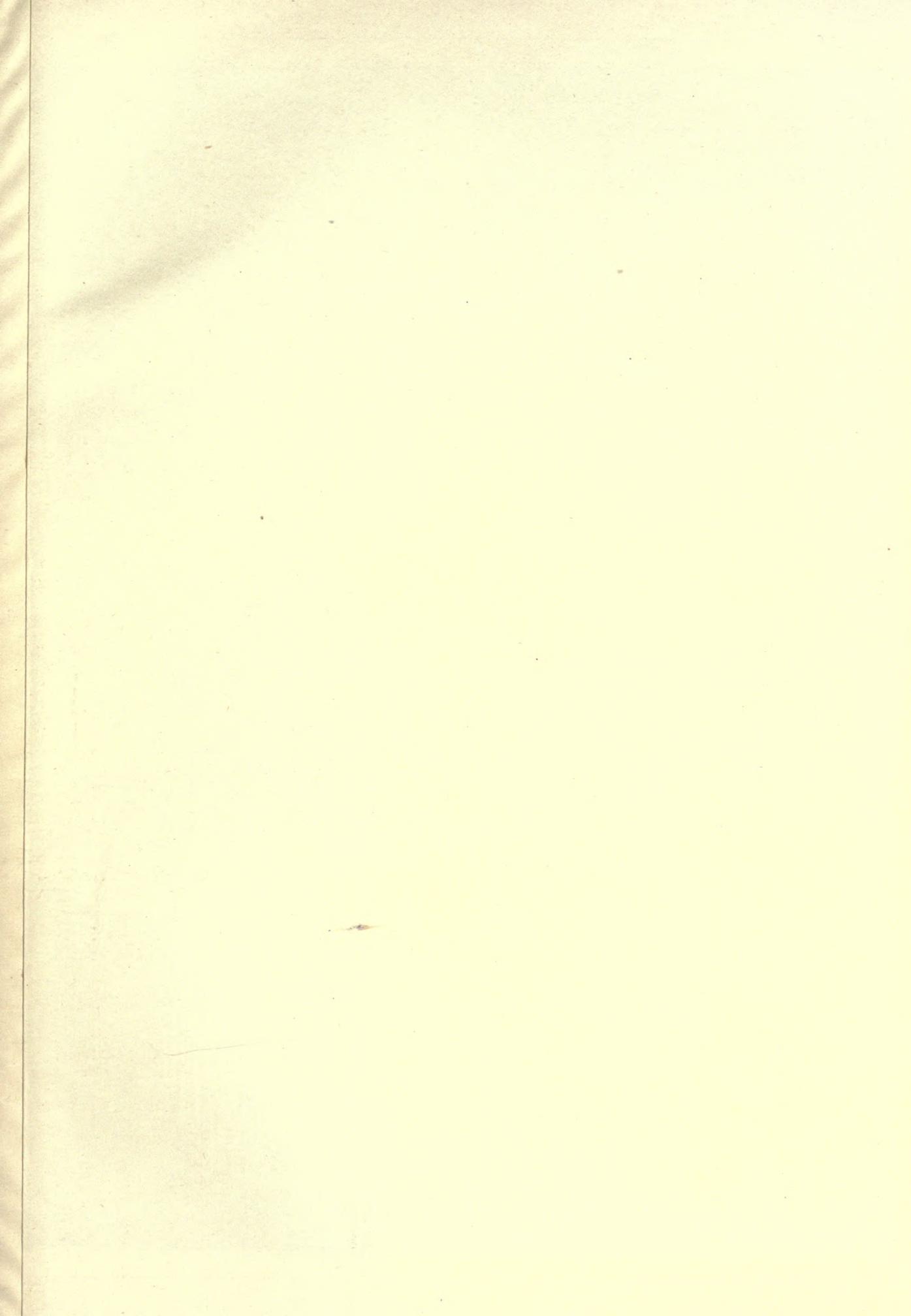
Name of Park	Extent : acres	No. of fallow deer
Chatsworth	1200	140
Hardwick Park	700	200
Sudbury Park	615	70
Kedleston Park	520	300
Bretby Park	450	185
Calke Abbey	327	400
Locko Park	about 300	200
Sutton Scarsdale	" 260	80-100
Alderwasley Park	194	80-90
Drakelowe Park	175	160
Alfreton Park	about 160	50
Stanton-in-the-Peak Park	" 114	70 ¹

A few are also kept at Ashgate House, Chesterfield.

The Stanton herd consists entirely of the black variety. At the present time the largest herd is that at Calke Abbey, but twenty years ago the Kedleston herd were nearly 600 strong. The finest bucks are those from Locko Park which average 115 lb., but the heaviest killed at Calke Abbey weighed 125 lb.

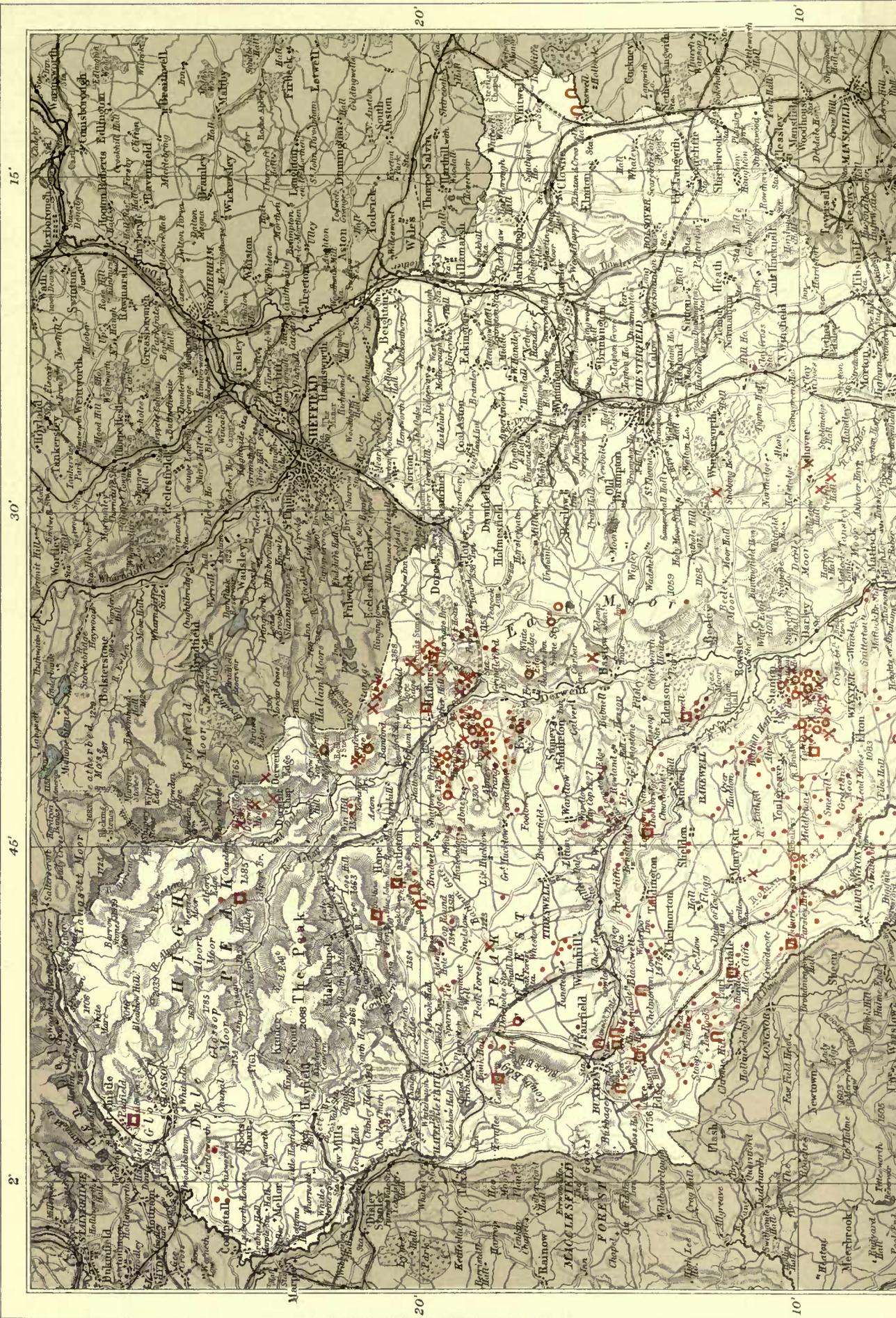
No doubt many of these herds are descended from the wild fallow deer which existed in the Peak Forest, Sherwood Forest and Needwood Forest.

¹ Black variety.



HISTORY OF DERBYSHIRE

PRE-HISTORIC REMAINS





REFERENCE

- The sites marked are only approximate
- Caves and Figurines with Remains
- Camps and Intrenchments
- Circles
- × Rocking-stones, Venerated Stones, etc.
- Barrows



EARLY MAN

IN theory, the period covered in this section is that which began with the first appearance of man in Derbyshire and ended with the dawn of the Roman occupation, but it is doubtful whether the remains which will herein be marshalled before the reader are in their origin coterminous with it. The earliest may, for anything we know to the contrary, fall short of its beginning by thousands of years, and the latest may carry us into the Romano-British period or even beyond. Nor is their story even or continuous; some portions of this stretch of pre-historic time were less prolific than others in relics which have survived to our day, and we know of at least one long interval unrepresented in this country by remains indicating the presence of man. Then there are differences of opinion as to the relative ages of whole groups. The great circles, for instance, are regarded as Neolithic, as of the Bronze age and even as post-Roman. The innumerable ancient camps, other than Roman, are probably legacies of all these ages, but so little have they been the subject of systematic comparative study that the sequence of their different types is about as obscure as ever. Then there are difficulties arising from local shortcomings. In studying the pre-historic remains of Derbyshire we have too often cause to regret the insufficiency of the investigations and the uncertainties of the published descriptions.

These ancient remains are very unevenly distributed in the county, being most numerous in the mountainous region which lies north of Ashbourne and Wirksworth and west of Tansley, Darley and East Moors—the ‘Peak Country,’ familiar to the tourist. The geological structure of this region is an irregular dome elongated in a north-west and south-west direction and sending out at its southern extremity a long spur into Staffordshire. The nucleus of this dome consists of mountain limestone, traversed by the ravines and rock-girt valleys for which the district is famous, and abounding with water-worn cavities; and bordering it are the successive outcrops of Yoredale shales, millstone grits and coal-measures.

Why the remains we are considering should crowd this hill-country and forsake the lowlands is uncertain. It has been suggested that the primitive inhabitants clung to the former because it was more easily defended than the latter against the marauding incursions of other tribes. It is more likely however that agriculture is responsible for the uneven distribution. The wear and tear of the elements have undoubtedly had a

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destructive effect upon these ancient monuments, but this is insignificant compared with the havoc wrought by the hand of man, as is proved in a general way by the fact that those monuments which are in the midst of wild moors are usually in a more perfect state than those which are nearer the haunts of man. Burial cairns have served as convenient quarries for materials for the construction of field walls and the repair of roads, while the large stones of cists and circles have been removed for gateposts.

Many examples of these acts of 'vandalism' could be given, but the following will suffice. Major Rooke, writing in 1783, had occasion to deplore that of the circles on Abney and the adjacent moors described by Dr. Pegge in 1761, the largest had been wholly and a smaller one partly, robbed of their stones in the interval. Thirty years ago, one of the Abney moor circles, consisting of a rampart surmounted with ten standing stones and enclosing a small mound, was in a state of fair preservation, but in 1877, Mr. Rooke Pennington reported that it had been 'destroyed to build a wall.' When six years later the present writer visited the spot, two stones alone remained to mark the site, while of the other circles on these moors only the traces of one were discernable. There is, however, reason to think that the devastation wrought against these Peakland monuments in recent times, is really small compared with that which followed the numerous enclosures of wastes a century or more ago. This being the experience in the wilder parts, the sparseness of these remains in the more fertile lowlands is not surprising, for assuming that they were once equally strewn over the county, few could have survived the long and thorough cultivation to which these have been subjected.

A brief history of archæological research and discovery in this county will appropriately follow these introductory remarks.

The two writers who first made a special study of its pre-historic antiquities and brought them into general notice were Major Hayman Rooke, F.R.S., and the Rev. Samuel Pegge, LL.D. The former resided at Mansfield Woodhouse, where he died in 1806 at the age of eighty-four, after devoting many years to the antiquities and natural history of this and the neighbouring county of Nottingham. The latter was the celebrated rector of Whittington near Chesterfield, who died at the ripe age of ninety-two in 1796. The contributions of these pioneer antiquaries, which come within the scope of our subject, were mostly published in *Archæologia* (vols. vi.-x., xii.). Although their speculations are of little interest to us, except as reflecting the views of the old school of antiquaries, their descriptions are, as a rule, precise and valuable. Dr. Pegge's paper on the 'Lows and Barrows of Derbyshire,' for instance, is singularly replete with information, considering how few of these barrows had been investigated at that time.

Contemporary with Rooke and Pegge was Mr. John Wilson of Broomhead Hall near Penistone (died 1783), who drew up in manuscript form many observations and discoveries of an antiquarian nature in Yorkshire and Derbyshire. Such portions as relate to early man in the latter

EARLY MAN

county are given *verbatim* in *Ten Years' Diggings*, a work which will be referred to again shortly. Bray's *Tour in Derbyshire and Yorkshire* (1778) and Pilkington's *Present State of Derbyshire* (1789) share with the early volumes of *Archæologia* in containing the first published accounts of many of these pre-historic remains. Nearer the close of this century the names of the Rev. Bache Thornhill of Stanton and Mr. White Watson, F.L.S., of Bakewell, better known for his geological pursuits, are associated with archæological discoveries on Stanton Moor.

After a lull of twenty years came another period of activity. Again the change was brought about by two individuals, Mr. William Bateman, F.S.A., of Youlgreave, and Mr. Samuel Mitchell of Sheffield, who appear to have been close friends. Mr. Bateman came of an old Hartington family, which, about the beginning of the last century, became possessed of the manor of Middleton-by-Youlgreave, which is situated in a region singularly rich in ancient remains. Between the years 1821 and 1827 he, singly or with Mr. Mitchell, opened a dozen or more of the barrows in the vicinity. After his death, the latter gentleman opened many barrows around Hathersage, contributing an occasional paper upon his discoveries to the Sheffield Literary and Philosophical Society. Many of his memoranda of these are bound in the last of five manuscript volumes relating to the district of that city, which passed to the British Museum upon his death in 1868.¹ About the same period (1827-8) a Mr. Thomas Bird of Eyam opened barrows on Leam and Eyam Moors.

After another lull we enter in 1843 upon a third period of activity which curiously was again brought about by two men working in friendly concert. The first to appear on the scene was Mr. Thomas Bateman, F.S.A., son of the above Mr. Bateman and author of *Vestiges of the Antiquities of Derbyshire* (1848) and *Ten Years' Diggings in Celtic and Saxon Grave Hills in the Counties of Derby, Stafford and York* (1861). These books 'record the systematic opening of more than four hundred tumuli,' most of which were in Derbyshire. His 'zealous and intelligent fellow-labourer' in the first two counties was Mr. Samuel Carrington, a village schoolmaster and geologist of Wetton in Staffordshire, whose barrow-diggings covered ten years (1848-58), while Mr. Bateman's continued until the year before his early death in 1861. The scene of their labours in these two counties lay, with few exceptions, between Tideswell on the north, Ashbourne on the south, Rowsley on the east and Leek on the west, a region bisected by Dove Dale and characterized by its limestone scenery. The proceeds of these explorations were preserved in Mr. Bateman's private museum at Lomberdale House near Youlgreave, but some years after his death they, or rather the larger portion of them,² were placed on loan in the Sheffield Museum, and became the property of that city by purchase in 1893.

¹ Add. MSS. 28, 112.

² Some years ago the writer was credibly informed that all the smaller and imperfect human bones and most of the potsherds were buried in the garden at Lomberdale upon the removal of the collection to Sheffield.

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Recently the director of the museum, Mr. E. Howarth, compiled a useful *Catalogue to the Bateman Collection of Antiquities*, in which are incorporated copious extracts from the above two books, as well as from the old Lomberdale catalogue.

In the 'sixties' a few but extremely interesting barrows were opened in the vicinity of Buxton, Tissington and Stanton by the late Mr. Llewellyn Jewitt, F.S.A., the founder, and for many years the editor, of the *Reliquary*, and Mr. J. Fossick Lucas of Fenny Bentley, whose early death at thirty-five in 1873 cut short a career which promised much for local archæology. They are described in that magazine, and the 'finds' are now in the British Museum. It may be mentioned that in this decade two barrows near Bradley were explored by Mr. C. S. Greaves, Q.C., and several near Eyam by Mr. B. Bagshaw.

The earlier 'seventies' were distinguished by the investigations of the late Mr. Rooke Pennington around Castleton, which formed the chief subject of his *Notes on the Barrows and Bone Cavés of Derbyshire*. Mr. Pennington was a Bolton solicitor who had a country house at Castleton, in which village he established an excellent little museum which was open to the public. Shortly after his death in 1888, the collection was dispersed, the local antiquities going to the Bolton Museum. The years 1875-6 were memorable for the highly important work conducted by the Rev. J. Magens Mello, Professor W. Boyd Dawkins, F.R.S., and others, in the caves of the Creswell Crags on the Derbyshire border near Work-sop, and fully described in the *Journal of the Geological Society* and elsewhere. Then followed a ten-years' lull.

The next period of activity opened with the present writer's exploration of barrows near Upper Haddon, followed by that of Rains' Cave and other remains near Brassington. Throughout the 'nineties' Mr. Micah Salt of Buxton engaged in similar operations in his district, the writer frequently joining him. His most notable work was the excavation of the Deepdale Cave. Most of the Derbyshire discoveries during the past fifteen years have been described by the writer in the *Reliquary*, the *Reliquary and Illustrated Archæologist*, the *Journal of the Derbyshire Archæological and Natural History Society*, the *Proceedings of the Society of Antiquaries* and the *Journal of the British Archæological Association*. In 1901, those effected by Mr. Salt were reprinted and added to under the title of *Ancient Remains near Buxton* by Mr. W. Turner, F.S.S. During the last two autumns a number of trenches have been cut upon the site of the circle of Arborlow by Mr. H. St. George Gray on behalf of the British Association, and Mr. I. Chalkley Gould has recently written about some of the ancient defensive earthworks of the county in the *Journals* of the British Archæological Association and the Derbyshire Archæological and Natural History Society.

In the following pages the Derbyshire pre-historic remains are grouped according to their affinities, and these groups are arranged in their approximate chronological order; but allowance must be made for the overlapping of some and the uncertainty of the age of others. The

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division of the era into Stone, Bronze and Iron ages is convenient, but it fails to express changes of a more sweeping nature than these terms imply. Human time in Derbyshire, as in the north-west of Europe generally, is divisible into two well-marked *æons* corresponding with the Pleistocene and the Recent eras of the geologist. The climate of the former alternated between the extremes of arctic coldness and sub-tropical heat, and these alternations were associated with changes as striking in the fauna and flora. Forms now confined to more northern and others to more southern latitudes, replaced one another with comparative rapidity, while some remarkable mammals, as the mammoth, woolly rhinoceros and sabre-toothed lion, have since become extinct. The configuration of the land also went through great changes, chiefly through glacial action, so that in many respects it differed from that with which we are familiar. During the Recent era on the other hand, the conditions as to climate, surface and life have undergone but little change and are substantially those of to-day. Although *recent* to the geologist, this period is so ancient that it includes all pre-historic time from the Neolithic to the early Iron ages and all subsequent historic time. It is a curious and well known fact that in Britain at least, there is no evidence that the one set of conditions gradually passed into the other. The dividing line appears sharp and well defined ; but for anything we know, it represents a period of unknown duration, possibly that of the last glaciation of the great Ice age. It falls across the Stone age of the archæologist, dividing it into its Palæolithic and Neolithic divisions.

I. PLEISTOCENE TIME

PALÆOLITHIC MAN

The Pleistocene deposits of Derbyshire, as may be seen upon reference to the section which treats of the geology of the county, are comparatively meagre. Glacial drift occurs here and there in sheltered places in the Peak, but it is more evident in the south, especially in the Trent basin, where it forms a discontinuous veneer. River-gravels and terraces, presumably of this age, also occur, but again mostly in the south. The limestone regions are famous for their caverns and fissures, and a few of the deposits—‘fox-earths,’ breccias, stalagmites, etc.—of these have yielded Pleistocene remains ; but the smallness of the number is remarkable, owing perhaps to the circumstance that only a few of the caverns and fissures have been scientifically excavated.

No discovery of a ‘river-drift’ implement has been recorded in Derbyshire. A few years ago such a discovery would have been regarded as impossible, for the opinion prevailed that these implements were confined to the south-eastern and southern parts of the island. The discovery of a quartzite implement of the type at Saltley near Birmingham in 1890, however, makes it well worth the attention of Derbyshire archæologists to examine thoroughly their ancient river-gravels.

It is remarkable that, so far as is known, no trace of Palæolithic

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man or his handiwork has been found in the caverns and fissures of the carboniferous limestone in the county, but several small cavities in the magnesian limestone at Creswell on the north-eastern border have yielded results unsurpassed in this country, except by those of Kent's Hole at Torquay. The discovery that these cavities contained relics of the past was made by the Rev. J. Magens Mello, M.A., in April, 1875, and this led to his excavation of one of them, a fissure known as the Pin Hole. In this he found, underlying a thin surface soil which contained relics ranging from Roman times to the present, a thick damp sand charged with a multitude of mammalian bones of Pleistocene age. He then proceeded to excavate a neighbouring cavity, known as Robin Hood's Cave, finding there several distinct beds with numerous rude implements associated with these mammalian bones, and overlaid as before with a veneer of surface soil containing 'Recent' remains. In the following year, 1876, the work was carried on under the auspices of a committee, with Mr. Mello as director, and Professor Boyd Dawkins and the late Mr. Thomas Heath, Curator of the Derby Museum, as superintendents. By the end of the summer, Robin Hood's Cave and another cave, the Church Hole, were thoroughly investigated, with results similar to those of the preceding year.

The number of bones and implements found during this investigation was enormous. In 1876 2,726 bones and 1,040 implements were obtained from the Pleistocene deposits of Robin Hood's Cave, while from those of the Church Hole the numbers were 1,604 and 234 respectively. The implements had a general resemblance to those of the same age in Kent's Cavern and many of the continental caves. Those of the lowest beds were of the 'rudest possible construction,' consisting of quartzite pebbles which had been used without any preparation for hammers, crushers and pot-boilers; or rudely chipped, so as to enable them to be more easily handled; or the flakes therefrom adapted, by a little additional chipping, for scrapers, knives or hatchets. In the higher (and newer) beds, quartzite was replaced by flint, fabricated into simple forms at first, then more complex as the topmost beds were reached—'well-made lance-heads, chipped on both faces,' and 'delicately-made borers and scrapers,' implements approaching the Solutré type, in fact. With these occurred bone needles, pins, awls and arrow-heads, such as have been found in Kent's Cavern. But the most remarkable object was the incised sketch of the head and forequarters of an unmistakable Pleistocene horse on a piece of flat bone, 'the first trace of pictorial art yet discovered in Great Britain.' The similarity of this Derbyshire drawing and the associated implements to those found in deposits of the same era in Switzerland and Aquitaine 'affords the clearest proof that the hunters of Southern France and Switzerland had found their way along the eastern valley now covered with the waters of the German ocean, and wandered as far north as the borders of Yorkshire.'

Not only did the investigation prove beyond a doubt the co-existence of man with the migrated and extinct mammals of the Pleistocene,

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but it proved also that that era was of immense duration, with clearly marked periods, during which there 'were successive races of men exhibiting a progressive civilization,' the whole however being late Pleistocene or post-Glacial, according to Professor Boyd Dawkins.¹

II. POST-PLEISTOCENE TIME

NEOLITHIC, BRONZE AND EARLY-IRON MAN

The dawn of this era opened with the temperate climate we still enjoy, and a fauna and flora substantially those with which we are surrounded. Throughout its course, human culture has advanced to its present position with an unbroken progression, so that the ages—Neolithic, Bronze and Early Iron—into which its pre-historic portion is usually divided must not be regarded as sharply defined from one another, nor even in any given locality as necessarily consecutive; they represent stages in an evolution.

The vestiges of this era in Derbyshire consist mostly of burial mounds² and other sepulchral remains, of which the county possesses an unusual wealth, but it is impossible to form an estimate of their number. The experienced eye will often detect on the Peak moorlands, the slight rise of the surface which may represent an ancient burial-place, unmarked on the Ordnance Survey and unrecognized as of possible archaeological interest. As already intimated, these mounds have been plundered in a wholesale manner of their stone for building and other purposes. In many cases only the finer débris and mould have remained, and as these are liable to be spread beyond the limits of the mound in the process of despoliation, a few years vegetable growth is sufficient to obliterate any remaining indications of the nature of the site. Such unmarked graves have been found from time to time, and there is little doubt that there are hundreds more. The number of the pre-historic burial-places which have been opened in the interests of science in this county is little short of 300, and this sufficiently shows how important an element they are in the local archæology.

In Derbyshire the pre-historic folk almost invariably raised mounds over the resting-places of their dead. The first impression the literature of these remains gives rise to is their great diversity, a diversity which the reader will not unnaturally connect with differences of age or of race, or of both combined; but he will soon find their classification a difficult task. Very few of those which have been explored were in a reasonably

¹ Full reports of the work by Mr. Mello supplemented by others on the 'finds,' first by Prof. Busk and afterwards by Prof. Dawkins, appeared in the *Journal of the Geological Society* for 1875-7 (vols. xxxi.-xxxiii.). An account by the first mentioned gentleman also appeared in the *Journal of the Derbyshire Archæological and Natural History Society*, vol. i.; and another by Mr. Heath in vol. iv. of the same journal, who was also the author of a brochure, *An Abstract Description and History of the Bone Caves of Creswell Crags*.

² The common term for a burial-mound in this county is 'low,' from the Anglo-Saxon *hlæw*, a small hill or heap. It occurs abundantly as a suffix in the place-names. Many of these place-names refer to existing barrows, but how far the rest can be regarded as evidence for the former presence of these burial-mounds is uncertain.

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perfect condition to begin with, while apart from this the explorations have often been insufficient and the descriptions inexact. In spite of these drawbacks, however, the Derbyshire barrows are susceptible of satisfactory classification. They fall into three divisions: (1) a small number containing megalithic chambers, and with general consent assigned to the Neolithic stage of culture; (2) a large and varied group which belong to the Bronze stage; and (3) a few which are of late type, if not actually referable to the period of the Roman occupation. These groups, it should be remarked, merge into one another by transitional forms, and there is a residue which from insufficient data cannot be assigned to any particular class.

Chambered Barrows.—About a dozen barrows now existing in the county, or which have existed within the last century, may, with more or less certainty, be placed under this head. The three which have yielded the best results are at Mininglow and Harborough Rocks near Brassington, and Five-Wells near Taddington. All three, unfortunately, were in an exceedingly ruined condition when they first attracted archaeological notice, but by piecing together the fragmentary evidence they have afforded, a fair idea may be gained of their original state. As the Five-Wells barrow is the least ruined, and has recently been thoroughly explored by Mr. Salt and the writer, some account of this will now be given.¹

The mound is circular, about 56 feet in diameter, and is constructed of quarried stones, laid in courses, so disposed at the margin as to form a vertical wall-like podium, still remaining in places to the height of 3 feet. Near the middle are the remains of two chambers, each about 6 feet long, constructed of great slabs of stone resting upon the old natural surface. Each had a paved floor, and was reached by a gallery which had an abrupt porthole-like entrance in the podium, one on each side of the mound, thus contrasting with the incurved entrances observed elsewhere. Each chamber was somewhat wedge-shaped, the wider end being that into which the gallery opened; and immediately within this wider end were two pillar-like stones, one on each side, which structurally formed the last pair of side stones of the gallery, but they differed from the others in their greater height. The writer has suggested that between these 'pillars' was placed a drop-stone, which when raised to allow of access to the chamber was received into the upper space.

The Mininglow barrow, the largest in the county, is also circular, and seems to have had five chambers, of which at least two closely resembled the above, except that they appear to have lacked the 'pillars.' Mr. Thomas Bateman,² who examined this barrow in 1843, discovered that it had a podium similar to that of Five-Wells, and he traced one of the galleries to its orifice in this podium. Had he pushed his investigations further it is probable he would have found that the mound was

¹ *Reliq. and Illus. Arch.* vii. 229.

² *Vestiges*, p. 39; *Ten Years' Diggings*, pp. 54, 82.

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also of built construction. The Harborough Rocks barrow was excavated by the present writer in 1889,¹ but it was in too ruined a condition for its shape and the number of its chambers to be determined. One, however, remained, and this also resembled those at Five-Wells; but it was doubtful whether it ever possessed 'pillars.' A portion of the gallery was traced, and a mass of built material near it was apparently a fragment of the original mound or of its podium.

Of the structure of the other barrows of the class little can be said. Several have been opened or destroyed by labourers searching for stone, and the residue have been only slightly examined. They all appear to have been constructed of stone, and all with one exception were circular. Mr. Bateman examined barrows of the class at Ringham-low near Moneyash, Bolehill near Bakewell, Stony-low and Green-low near Brassington, Smerrill near Youlgreave, and a second one at Mininglow. The chambers of all these appear to have been on a megalithic scale. He makes no reference to galleries, but as his efforts were confined to clearing out the ruined chambers he might easily have overlooked their traces. His sketched plan of the Ringham-low barrow has a curiously irregular outline, but here again no attempt seems to have been made to ascertain whether the irregularities related to the original mound or to additions to it. The remaining three barrows—the great one near Chelmorton,² one near Wardlow³ and one on Derwent Moor⁴—have only a doubtful claim to the chambered class. They were broken into a century or more ago, and the accounts of the discoveries are very meagre.

All the Derbyshire chambers which have been searched from scientific motives had already been rifled, but that at Harborough Rocks had suffered least. There the capstone had been removed, and many of the skeletons thrown out, but fortunately six remained *in situ*. These were laid on their sides across the space, in the usual contracted or doubled-up attitude. On the clayey floor of the gallery were several broken leaf-shaped arrow-heads of flint, extremely thin and beautifully wrought, one or more being calcined, and many fragments of charcoal. Mr. Bateman found in the more perfect chamber at Five-Wells, when he cleared it out in 1843, remains of about twelve skeletons, all in a state of confusion. He also found indications of a similar number in one of the Ringham-low chambers, and in that at Smerrill, and a still larger number at Stony-low. The chambers of the Green-low and the two Mininglow barrows had been so completely rifled that only a few scattered fragments remained. In the Wardlow barrow seventeen skeletons were laid upon 'long flat stones,' 'inclosed by two side walls'; and in that on Derwent Moor a quantity of human bones, said to be a cart-load, occupied 'a large trench above a yard wide.' Several fine leaf-shaped arrow-heads were found in two of the Ringham-low chambers; and Mr. Salt found the point of another, and in addition, a delicate

¹ *Journ. Derb. Arch. and Nat. Hist. Soc.* xii. 118.

² *Pilkington*, ii. 424.

³ *Philosoph. Trans.* 1759.

⁴ *Diggings*, p. 254.

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knife of similar workmanship, in one or those at Five-Wells. No arrow-heads of other shapes have, so far as is known, been found in the Derbyshire chambers. Fragments of coarse hand-made pottery were scattered on the Five-Wells site, but it is probable that they were derived from destroyed secondary burials at a higher level. The skulls in every case, when sufficiently perfect for their form to be made out, were long or dolichocephalic. Unfortunately, no measurements of the long bones from which the stature might be determined are available, these bones being usually in a very broken condition. The femora which have come under the writer's notice have invariably had the *linea aspera* developed into a pilaster-like ridge, and the tibiæ have exhibited in greater or less degree the flattening of the shin (*platycnemism*), which is a common feature in these ancient skeletons. Another feature may be noted—the remarkable immunity of these Neolithic people from dental caries. Out of 148 teeth from the Harborough Rocks chamber, many of which were much worn, some indeed so much that they must have been almost level with the gums in life, there were only five or six which showed any signs of caries.

The association of numerous skeletons, dolichocephalic skulls and delicate leaf-shaped arrow-heads, with Neolithic chambers, has been observed elsewhere in Britain. We need only cross the Derbyshire border a few miles for an excellent example to the point. Mr. Carrington opened a large and little disturbed chamber at Wetton in 1849, and found therein about thirteen dolichocephalic skeletons and several of these arrow-heads. Further afield, at Rodmarton in Gloucestershire, these arrow-heads were all broken, apparently purposely, as seems to have been the case at Harborough Rocks. In one respect however the Derbyshire barrows of the class which have been best investigated—namely those of Mininglow, Five-Wells and Harborough Rocks—differ from those elsewhere in being circular instead of elongated, and in having abrupt instead of incurved entrances. In these features, coupled with the wedge-shaped plans and inward-leaning sides of their chambers, we seem to have a distinct local type; but it is not safe to assume that the less known Derbyshire examples, although probably circular in every case, are of this type. The absence of mention of galleries may *not* be due to want of investigation or to oversight, and certainly the Ringhamlow chambers appear to have little in common with those just referred to. A gallery is not the only form of access in a chambered tumulus, as has been proved by excavations in other parts of the country.

Bronze-Age Interments.—Published accounts have appeared of about 250 barrows of our second class, which have been examined in Derbyshire from motives more or less scientific. They differed greatly in size and construction, and their interments showed that during the period when they were raised, both inhumation and cremation were practised, sometimes together. In fact, they may be said to have little in common,

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except in the relics associated with their interments, which have the impress of a common age.

It is impossible to separate these from the chambered barrows by any hard and fast line ; but, as a class, they are smaller and of less elaborate construction, while more marked is the difference in their internal arrangements. The chambered barrows suggest the idea that they were erected *to receive* the dead ; the Bronze-age barrows, that they were *piled up over* the dead. It is generally considered that the chamber was used for *successive* interments (hence the need for an access), whereas the grave or cist of the second class, having received its charge, was permanently closed. This only applies to the actual receptacle for the dead ; the mound once raised was used again and again for interments, even after intervals so long that the mode of burial had undergone great changes.

So far as can be judged from the usually worn-down and mutilated condition of these mounds, the prevailing original form was that of a shallow dome or inverted bowl, but various transitions ending with the disc-shaped types of Dr. Thurnam, occur. The outline is circular, unless rendered irregular from the addition of secondary mounds, or from the depredations of a later age. The size is not often stated, or is only expressed as 'large' or 'small,' but when the dimensions are given the diameter varies between the extremes of 12 and 120 feet, and the existing height between those of 1 and 18 feet ; but in the majority of instances the diameter falls within the limits of 30 and 60 feet, and the height rarely exceeds 6 feet. With very few exceptions the mound is of stone, or of stone with an admixture of earth, but how far we should regard the latter as an original ingredient is doubtful, as it may be merely blown soil and vegetable mould ; broadly speaking, therefore, these Bronze-age barrows are cairns. In most instances the construction is extremely simple, consisting of stones, such as may be picked from the surrounding waste, thrown together anyhow. A slight advance is the introduction of a kerb of larger stones laid upon the ground to confine the proposed mound. In a further advance, the protective kerb is formed of one or more rings of large flag-stones set on end in the ground and leaning inwards. If, as often has happened, the summit of such a barrow be removed by natural or other means, the result will be a raised and more or less flat-topped platform with a well-marked shoulder. Carry the destructive process further, the kerb will stand out as a raised verge ; still further, it alone may remain as a ring of stones easily mistaken for a 'circle.' In a still further constructional advance, the whole mound is built up of concentric rings of such inclined stones, starting from the central interment. Good examples of all these variations and stages have been met with in Derbyshire.

Barrows may be further defined by certain external members, as a ditch, bank, or ring of stones, or by a combination of two or all of these. So far as is known, no Bronze-age barrow in Derbyshire is surrounded by a ditch, but such an appendage is likely to be silted up, and so not

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be evident without excavation. A few have been noted as closely invested with an annular bank. Of these, 'Hob Hurst's House' on Baslow Moor is a good example,¹ and the writer once saw a very perfect little barrow of the variety on Eyam Moor. In others, the investing bank is placed at some distance and is usually capped or lined with a row of standing stones a few feet or yards apart; and of this variety the barrow opened by Mr. Pennington on Abney Moor, and already referred to as destroyed, was a fine example. As the ring expanded, the enclosed mound seems to have become smaller and consequently more easily removed by the accidents of time, so that the ring has often survived it. This extreme variant of the barrow will be further considered under *circles*.

The placing of the interments was equally diverse. In the simplest mode of burial, the body (for the moment we disregard cremated remains) was deposited upon the ground and over it was heaped the mound. But often—more often, perhaps, than is suspected—something was done to fence it off from the surrounding space, or to protect it from the material of the mound. The fence in its simplest form consisted of larger stones than those of the cairn, placed around the body; and from this we pass through gradual transitions to the symmetrical enclosure formed of well-selected natural flag-stones set on edge. Similarly, when it was intended to protect the body from the weight of the mound, it was placed beside a large stone or a ledge of rock, against which flat stones were reared, pent-wise over it, or large stones were made to incline against one another from opposite sides like a gable roof, and from these simple devices we can pass through another series of transitions which ends with the box-like cist, constructed, it may be, with considerable skill.² Then there was burial in a grave, shallow or deep, large or small, simply filled up with soil or stones, or roofed with one or more flag-stones to form a vault; and the vault when lined with other flag-stones became an underground cist. Examples of all these have been frequently found in Derbyshire, where, from the abundance of stone, cists and other receptacles constructed of stone have been relatively more numerous than elsewhere.

We say *of stone*, because it must not be overlooked that timber may often have been used for the same purpose. On several occasions it has been noted that a grave or an enclosure was filled with loose stones and soil intermixed with displaced human bones, as though they had rolled into it in a haphazard manner. It is reasonable to think that in these cases the receptacle was originally roofed with timber, which, having decayed, allowed a portion of the mound (with any secondary inter-

¹ *Diggings*, p. 87.

² The term 'cist' unfortunately is often used in an indefinite manner. In *Vestiges*, for instance, a rock-grave is frequently described as a cist; and in *Ten Years' Diggings* it is indiscriminately applied to any sort of enclosure with sides formed of flag-stones or walling, whether roofed or otherwise. It would be best to confine the term to the box-like receptacle formed of slabs, *enclosure* to any enclosed space without a roof, and *vault* to a roofed grave, *chamber* being used exclusively for the larger Neolithic receptacle.

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ments) immediately above, to fall into it. The collapse of such roofs may also be responsible for the concave or dished summits frequently mentioned by the older writers, who presumably saw many of the barrows in a more perfect condition than we see them to-day. On the other hand, these hollows may represent the openings made by treasure seekers and others in ancient times.

The bodies were buried in a more or less contracted posture varying from a slight flexure of the knees to such a bending as to bring them close to the breast, nearly always lying on the side, and very rarely sitting. This may be said to be the invariable rule for Derbyshire, for the only apparent exception—an extended interment at Crosslow¹—may possibly belong to a later period than that we are considering.

What has been said above will apply in great measure to the cremated remains. Occasionally they are found in graves, cists, or other receptacles as large as those used for the unburnt interments, but more usually the receptacles are smaller and better proportioned to the small compass of the remains. Perhaps these large receptacles are legacies of a time when cremation was a new fashion; to-day, we, by force of habit, transfer the few handfuls of ashes from the crematorium to an ordinary coffin, instead of an urn, for burial.

When the funeral pile was raised on the spot where the burial was to take place, it was commonly the custom to collect the calcined bones into a little heap on the surface, or to sweep them into a shallow depression made before or after the burning. In either case the remains were sometimes deposited on a flat stone, and there is reason to think that they were often tied up in a cloth or placed in a basket. This would be especially convenient when they had to be transferred to a different site for burial from that where the body was burned, as seems to have been more often the case in Derbyshire. But the most notable receptacle for these burnt remains was the cinerary urn, which in this county partakes of the well known stereotyped form, tall and flower-pot like, with the characteristic deep and overhanging rim to which the decoration is mostly confined. These urns vary considerably in size, ranging from the extremes of 5 inches to 2 feet in height, the smaller ones probably being intended for the ashes of children. When found upright, as is most frequently the case in this county, the mouth is nearly always covered with a stone, and occasionally the weight of this cover is borne by two upright stones, one on each side of the vessel. When reversed over the remains, the mouth usually rests upon a flat stone. Occasionally the urn has been found to occupy a circular hole, somewhat larger than itself, the intervening space being filled up with carbonaceous earth, apparently derived from the site of the pile. The fierceness of the heat to which the bodies were exposed varied considerably, leaving the bones in some instances in pieces sufficiently large to admit of easy identification, in others reducing them to a coarse powder.

¹ *Vestiges*, p. 57.

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While on the one hand the pre-historic people of Derbyshire may often have buried their dead without any attempt to mark off the interment from the surrounding soil, there is evidence on the other hand that their regard sometimes went beyond the mere providing of protective devices in stone or wood. Occasionally the receptacle was paved, or it contained finely broken stones, gravel, clay, or fine earth, upon which the body was laid, or in which it was embedded. On Stanton and Hartle Moors several cists containing cremated remains were filled with fine sand which in one rested upon a bed of heath. In a grave at Shuttlestone near Parwich¹ the body had been wrapped in a skin and laid upon a couch of fern leaves, traces of both of which still remained. In another grave near Kings Sterndale² Mr. Salt found a tenacious clay mixed with grass and leaves which still retained their greenness, but the skeleton had almost disappeared. The preservation of these perishable substances, which under ordinary circumstances must have long since disappeared, was due in the one case to the unusual depth of the grave, and in the other to the clay. It is probable, therefore, that instead of being an exceptional feature they represent a general custom.

From the occasional presence of weapons, pins, buttons, studs and the like, occupying positions in natural relation to the body unburnt when associated with unburnt skeletons, and in a burnt condition when mixed with cremated remains, we may infer that the bodies were buried in the one case, and burned in the other, in their ordinary clothing.

Burial in barrows in Derbyshire was not confined to one sex or to any particular age. The remains of women and children are found in graves and cists as carefully prepared and associated with implements and ornaments as elaborate as those which appertain to the men, indicating, surely, that the family tie was strong and that the lot of the women was not servile. Many of the interments have consisted of more than a single individual. The frequency with which an infant has been found buried with an adult, usually a woman, and presumably the mother, points to infanticide upon the demise of the parent. Similarly, the presence of a woman's remains with those of a man seems to indicate suttee. In other cases we meet with a deposit of burnt bones placed with a skeleton, representing probably a human sacrifice. These in themselves do not necessarily indicate a state of savagery, as the recent prevalence of the practice of suttee in India and of infanticide in China amply prove.

Little significance can be attached to the direction of the body and the side upon which it was laid, to judge from the comparatively few cases in which these positions have been recorded. They certainly had no reference to age or sex, at least in Derbyshire; and this is the Rev. Canon Greenwell's experience in the north. The following table expresses the direction of the body in the 58 known Derbyshire examples:—

¹ *Diggings*, p. 34.

² *Proc. Soc. Ant.* ser. 2, vol. xvii.

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7	with heads pointing to the	north
8	”	north-east
7	”	east
8	”	south-east
10	”	south
7	”	south-west
8	”	west
3	”	north-west

Of 74 instances in which the side upon which the body lay has been specified, 38 were on the left side and 36 were on the right.

The Rev. Dr. Greenwell, who drew his conclusions from a much larger number of examples, found that in the majority of instances the body had been so placed as to face the sun during some part of the day; that is, while the fewest faces looked towards the north-east, the most were directed to the south, nearly 60 per cent of the whole number having their gaze confined to directions ranging from south-west to south-east. If we analyze the 44 Derbyshire cases in which both the direction of the body and the side upon which it lay are given, we obtain a similar result. Here again the north-east was the most avoided point of the compass, but instead of the south the largest number faced the west, the south closely following; while over 60 per cent of the total number looked in directions between the west and the south-east. It seems clear therefore that no importance was attached to the direction of the body and the side upon which it lay, except so far as they enabled it to face the source of light and life. But this was not a rule strongly insisted upon.

The various objects which have been conveniently termed ‘grave-goods,’ associated with the different interments, have, as already stated, all the characteristics of a common age. The most remarkable and interesting of these objects are the earthen vessels. Besides the cinerary urns referred to above, vessels of other shapes, but of the same rude, hand-made, and imperfectly fired ware, have been frequently found, and are known as ‘drinking cups,’ ‘food vases’ and ‘incense cups.’ The first two are, with little doubt, rightly named, for both in Derbyshire and elsewhere traces indicating the former presence of liquids or foods have been observed in them. The term ‘incense cup’ is a fanciful one, for the use of these changeful little vessels is uncertain. The decoration of all these vessels, although varying greatly in elaboration, is essentially identical in technique and design. It is made up of extremely simple elements, in which the right line plays a chief part. These lines have most frequently been impressed from twisted thongs or notched stamps; less frequently they are simply grooves. Their combinations are extremely varied, consisting of simple bands of parallel lines; parallel lines in alternate series, horizontal and vertical; zig-zags and triangles of varying degrees of complexity; ‘herring-bone’ and latticed diapers, etc. Dots from simple punches and impressions of the finger nail and tip occur, but they play a very subordinate part. The drinking cups are, as a class, the most carefully and elaborately decorated,

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and the cinerary urns the least. Some of these Derbyshire vessels are cited by Mr. Romilly Allen, F.S.A., in a recent article in which he has systematized the decoration of the Bronze-age funeral ware.¹

The most frequent accompaniments, however, are implements, flakes, and fragments of flint. The implements comprise all the ordinary forms of the period : arrow, javelin and spear-heads, daggers, knives, scrapers, fabricators, axes or chisels, and others which are simply described as 'implements,' of every grade of workmanship down to doubtful pieces which simulate recognized forms. About 300 implements and pieces of flint are recorded as having been found associated with Bronze-age interments in Derbyshire. Of these, about 64 have been described as arrow, javelin, and spear-heads, 32 as scrapers, 47 as simply 'implements,' and about half as flakes, 'flints,' flint-chippings, etc. That so many of these should be of an indeterminate nature or simply flakes and chippings, seems to indicate that the placing with the dead of things useful in life had degenerated into a merely symbolic ceremony during the course of the period.

The objects of bronze follow next, but a long way behind, as only 38 have been reported. Of these, nearly half have been described as the blades of knife-daggers; 6 as awls; 4 as pins; 3 as axes or celts; 1 each as a knife, ear-ring, ring, tube, strip, and spear; and 3 as 'fragments.' The knife-daggers were of the early form in which the blade was attached to the handle by two or three rivets. The object described as a 'spear' was probably also one of these blades, for its identification as such rested upon the evidence of the rustics who broke into the vault which contained it, years before they were interrogated.² The axes were of the early flat or slightly flanged forms. Next come objects of bone and deer-horn, the former consisting mostly of pins and borers, and the latter of hammers. Then follow jet and Kimmeridge-coal beads, studs, and necklaces of which six have been recorded, several being elaborate examples of pre-historic personal ornaments. Besides the above, drilled and polished basalt and granite axe-hammers, whetstones, rubbers, quartz pebbles, red ochre and iron ore, have been occasionally met with. The animal remains associated with the interments have been those of still-existing species in Europe, and they include the present domesticated animals—the ox, sheep, goat, pig, horse and dog. So frequently has the presence of a tooth, described as that of an ox or a horse, been reported, that there can be little doubt that its introduction had some ceremonial significance.

The absence of Roman influence from these 'grave-goods' is noteworthy, as also is the absence of articles belonging to the later Bronze age, as swords, palstaves and socketed axes. In the aggregate they indicate a period when stone implements were going out of use, and bronze was confined to only a few light implements—the period of the bronze flat and flanged axes and the simple knife-dagger. These objects must not

¹ *Archæologia Cambrensis*, ser. 6, ii. 182.

² *Vestiges*, p. 47.

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be confused with those which are often found amongst the material of the mounds, some of which may have been brought with the material itself, and so be of greater age than the barrow ; while others may have been derived from disturbed secondary interments, or have been casually dropped, and so be of less age than the barrow.

The following table gives the approximate percentages of Derbyshire Bronze-age interments¹ which have yielded the above accompaniments :—

Drinking cups	with	6·9	per cent	of the interments
Food vases	”	14·0	”	”
Cinerary urns	”	22·6	”	”
Incense cups	”	2·4	”	”
Flint and other stone objects	”	33·0	”	”
Bronze objects	”	8·5	”	”
Bone ”	”	7·6	”	”
Jet and amber objects	”	3·3	”	”

As already intimated, some barrows have been used again and again for burial purposes, and these successive interments sometimes cover a period so long that modes of burial had time to undergo a considerable change. For this reason, these ‘multiple’ barrows are of great interest to the archæologist, as the superposition of the interments, the displacement of some by others, and the distance that others are away from the central and presumably primary interment, throw much light upon the sequence of the modes and customs. Derbyshire is peculiarly rich in examples to the point, but there is only space here for a few typical ones.

In a barrow at Parsley Hay, Mr. Bateman found a skeleton in a vault, and immediately above its cover-stones was another accompanied by a bronze knife-dagger and a polished granite axe-hammer.² This was a case of simple superposition, in which the older interment was unharmed by the introduction of the later one ; but more frequently it has been otherwise. At Gray Cop near Monsal Dale, for instance, the original interment was that of a woman and child. Subsequently the remains of a cremated body were introduced so deeply in the barrow that the woman’s pelvic bones were dispersed and the cremated remains deposited in their place.³ Sometimes the havoc wrought by the introduction of new interments has been too great to render interpretation easy. At Flaxdale near Youlgreave a fine cinerary urn with its burnt deposit was found in a depression of the rocky floor of a barrow, and to a casual observer this might have been taken for the original interment ; but in its vicinity were a few pieces of bone and pottery that told of a displaced and scattered earlier interment.⁴ When there has been a succession of several interments, the result may be exceedingly confusing, and the interpretation correspondingly doubtful.

¹ In Messrs. Bateman and Carrington’s Staffordshire Bronze-age interments the corresponding approximate percentages were as follows : drinking cups with 5, food vases with 7, cinerary urns with 13, flint with 44, and bronze with 6 per cent of the interments.

² *Diggings*, p. 23.

³ *Reliquary*, 1867.

⁴ *Vestiges*, p. 100.

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The normal position of the primary interment—that over which the mound was raised—is the centre of the site, and upon or below the old natural surface; whereas secondary interments are found in any position, central or otherwise. In the following, it cannot be doubted that the central were the primary interments: In a small barrow at Lidlow near Youlgreave, a skeleton occupied a cist in the centre, while near the edge of the mound was a deposit of burnt bones under a cinerary urn.¹ In another at Blakelow, a central grave contained the skeletons of a woman and infant, with a drinking cup, while in a cist at a higher level near the edge were six more skeletons with a food vase.² In another on Hartle Moor was a deposit of burnt bones with a food vase in a central cist, and near the margin a cinerary urn with its contents.³ In these cases all the interments were of the Bronze age, but in a dozen or more barrows containing, in addition, interments known to belong to later times, these were found to occupy higher levels or other positions marking them as the latest introductions in their respective mounds.

While the centre is the normal position of the primary interment, it has occasionally happened that no interment was found at that point. In some cases we may suspect that the explorers forgot that the primary interment is frequently in a grave below the old natural level. On the other hand, a little carelessness on the part of those who originally raised the mound might easily have resulted in this interment being out of centre. The same result may also have been brought about by additions to the original mound. These additions were really new mounds raised over secondary interments. Their effect was to increase the height of the barrow, when the secondary interment was placed upon the original summit, and to extend it when it was on one side. Derbyshire has supplied examples of both. On some of the Bronze-age barrows containing interments of a later age, have been observed perceptible cappings of earth which appertained to these later interments, and it is likely enough that the alternation of materials in some barrows which have yielded only Bronze-age relics may be due to a similar cause, and not to a peculiarity of the original structure. A barrow on Ballidon Moor⁴ consisted of an inner cairn surmounted with a thickness of earth. The cairn contained several interments, while upon its summit was an ashy layer representing the site of a funeral pile, and in the earth above, the remains of a cremated interment, from which it would seem that the earth was introduced upon the occasion of this interment. The addition of new material to one side of the mound is probably responsible for the half-dozen or more elongated and oval barrows in the county, and several such additions might produce the irregular outline of the great Ringhamlow barrow. A curious barrow at Crakendale Pasture near Bakewell,⁵ with three radiating prolongations, may have owed its form to the same cause. The fact that in the accounts

¹ *Vestiges*, p. 33.

² *Diggings*, p. 41.

³ *Vestiges*, p. 72.

⁴ *Diggings*, p. 57.

⁵ *Ibid.* p. 71.

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of some of these the unusual shape is assumed to be original does not militate against this explanation, for if the added material was similar to that of the parent mound the difference of age might well be overlooked. We have however several interesting examples which admit of no doubt. The smaller Mininglow barrow was originally a circular cairn enclosing a central chamber ; but at some later date, a mound of earth was ' cast up against the side of the original mound.' This new mound was raised over the spot where a man was cremated, and with his remains (which still remained on the natural surface near the foot of the old cairn) were a bronze dagger, part of a bone implement, and some ' good flints,' all of which had passed through the fire with their owner.¹ At Five-Wells, Mr. Salt found a secondary interment of Bronze-age type placed against the chambered cairn there. It consisted of a contracted skeleton associated with a piece of flint, in a small cist built against the podium, and covered with earth and stones. Another barrow at Mininglow and one at Galley-low have extensions which proved upon excavation to be due to additions.²

The remarkable differences in the Bronze-age burials have been variously explained. The common view is that the different modes were practised simultaneously by different tribes, and even simultaneously by the same people. The double interments, consisting of cremated remains associated with an unburnt skeleton in the same grave, may seem to countenance this view ; but a careful study of the Derbyshire Bronze-age interments shows that it is not tenable. In these graves, the one deposit must certainly be regarded as subordinate to the other, and if it represents, as is supposed, a human sacrifice, we cannot imagine that the ceremonies attaching to the immolation and burial of the victim would also apply to the principal interment ; in other words, we must regard the one deposit as an ' accompaniment ' of the other. If inhumation and cremation were practised simultaneously, we should expect to find the two classes of interments regularly intermixed ; whereas the contrary is the rule. For instance, on and round Stanton Moor, and throughout the country between Eyam, Castleton and Sheffield, cremated interments greatly predominate ; while in many districts of the western parts of the county the interments are as exclusively unburnt. The ' multiple ' barrows also show a marked partiality for like rather than unlike interments, more than two-thirds of them having been found to contain burials of the same sort, whether by inhumation or after cremation. So far, the trend of evidence may seem to indicate that these differences are local or tribal differences ; but as we push the inquiry further it will appear that some variations at least were consecutive.

The distribution of the vessels among the interments is particularly instructive, as the following table³ will show :—

¹ *Diggings*, p. 57.

² *Vestiges*, pp. 37, 41.

³ Messrs. Bateman and Carrington's Staffordshire Bronze-age diggings yielded 10 drinking cups (whole or in fragments), all associated with unburnt interments ; 14 food vases, of which 10 were associated with unburnt and 4 with burnt interments ; and 1 incense cup, associated with a burnt interment.

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- 29 drinking cups, all associated with unburnt interments ;
 65 food vessels, of which 48 were associated with unburnt, and 17 with burnt interments ;
 11 incense cups, all associated with burnt interments.

These numbers must be taken as approximate only ; and it is a question whether some of the smaller food vases associated with the burnt interments should not be regarded as incense cups, but the numbers are sufficiently trustworthy for the present purpose.

The association of certain types of vessels with certain modes of burial is not confined to Derbyshire, but appears to be general throughout the country ; it suggests therefore a progress in time rather than local or tribal peculiarities. Far back in the Bronze age, inhumation, it would seem, was the sole mode of sepulture, and that during the earlier part of that stage the drinking cup was first used and was afterwards supplanted by the food vase. Then during the reign of the latter, cremation, which had hitherto been confined to certain subsidiary interments referred to above, passed into a general fashion. But it must not be inferred from this that cremation *supplanted* inhumation. For anything we know to the contrary, the two modes may have continued side by side until the Roman occupation. At first, it would seem, the cremated remains were deposited in cists or were otherwise disposed of after the manner of inhumated bodies ; but soon they were placed in or under the familiar cinerary urns and were sometimes accompanied by the little incense cups.

That the table represents a sequence, has much of a confirmatory nature from other sources. In no 'multiple' barrow in our area has a drinking cup interment been found under conditions which can be said to prove that it was of later introduction than a neighbouring food vase or urned interment, if present ; nor is there an example of a food vase inhumated interment succeeding an urned cremated one ; whereas the converse has been frequently noted.

If we apply the tests of vertical and horizontal positions, we get similar results. The usual position of a primary interment is on or *below* the old natural surface ; of a secondary, on or *above* that level. The following table gives the percentages of these positions, *when ascertainable*.¹

Interments	Below	On	Above natural level
Drinking cups	83	17	0
Food vases	43	31	26
Cinerary urns	36.5	36.5	27

It will be observed that in passing from the drinking cup to the urned interments, the proportion of those below the old natural level

¹ Tabulated in the same manner, Messrs. Bateman and Carrington's Staffordshire excavations give the following results :—

Interments with	Below	On	Above natural level
Drinking cups	85	15	0
Food vases	50	13	37
Cinerary urns	7	33	60

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decreases, and of those above increases, the inference being that the ratio of primary to secondary interments decreases. The other test gives a similar preponderance of primary interments to the drinking cup group, for that group had the largest proportion of central to lateral interments.

There are yet other features which differentiate the groups. While the flint implements and chippings have a common *facies*, their distribution among these groups presents certain differences. They have occurred with 69 per cent of the drinking cup interments, with 36 per cent of the vased, with 11 per cent of the urned. More striking are the average numbers of these objects to the different interments. These numbers work out as follows: About three to each drinking cup interment, one to each inhumated vased, one-third to each cremated vased, and one-fifth to each urned. Nor is this all; the flint implements found with the first mentioned interments appear to have been more carefully wrought, as a rule, than those associated with the others. Two other peculiarities of these interments may be mentioned. With five of them was an instrument described as a mesh-rule or a modelling tool made from the rib of some animal; but these instruments have not been associated with other Bronze-age interments in the county.¹ The other is that in these drinking cup interments the skeleton in every case when recorded lay upon its left side, whereas in the rest of the inhumated interments no preference appears to have been given to one side over the other.

These different interments afford some interesting particulars of the Bronze-age inhabitants of Derbyshire. Appended to *Ten Years' Diggings* is a list of skeletons or portions of skeletons then preserved at Lomerdale, which were obtained by Mr. Bateman and his colleagues from their various diggings. Confining our attention to those Derbyshire examples which may, with more or less certainty, be assigned to the Bronze age, we observe that in seventy entries the skulls were sufficiently perfect to allow of short descriptive notes, and that in thirty-three the lengths of the femora are given. A variety of terms are used in describing the skull-form, as 'boat-shaped,' 'long oval,' 'oval and elevated,' 'medium,' 'short,' 'rather short,' 'brachycephalic,' 'platycephalic,' and 'evenly rounded'; while in a few instances they are of a comparative nature, as 'more oval' and 'shorter form.' In the absence of measurements it is impossible to determine the precise meanings of these terms; probably Mr. Bateman himself attached no exact value to any of them. Twenty-eight of these skulls appear on the Sheffield catalogue, the rest apparently not having been transferred to that museum. In that list the cephalic index is given in most instances, and the skull-form as based

¹ What has been said in the above paragraph of the distribution of flint implements among the different kinds of Bronze-age interments in Derbyshire is substantially true of the Staffordshire series of the same age opened by Messrs. Bateman and Carrington. These yielded one 'mesh-rule,' and it was associated with a drinking-cup interment; and in the three cases in which the position of the skeleton in these drinking-cup interments is stated, it lay on the left side.

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upon it—dolichocephalic, mesaticephalic and brachycephalic—is also given. In several instances the two lists clash, a skull which is described as ‘oval’ on the one appearing as brachycephalic on the other, and *vice versa*, but these contradictions may be more apparent than real. The cephalic index alone is of little value, unless checked by observation, for these barrow skulls have frequently suffered posthumous distortion. A comparison of the two lists, however, amply proves that though Mr. Bateman’s notes fall short of the demands of present-day anthropology, they were carefully drawn up and may be accepted as substantially correct.

It is not a difficult matter to arrange his seventy skulls in a roughly graduated series beginning with his boat-shaped, and ending with his extremely short form. Where the dividing lines should be placed in the series, between the dolichocephalic, mesaticephalic, and brachycephalic, is necessarily conjectural, but the Sheffield list helps us considerably, and we shall not be far wrong if we attribute to the first type, fourteen skulls ; to the second, sixteen ; and to the last, forty. To Mr. Bateman’s list may be added thirteen other skulls of known form, subsequently obtained from Bronze-age burials, making up the following totals for Derbyshire¹ :—

Dolichocephalic skulls, approximately	16
Mesaticephalic ” ”	25
Brachycephalic ” ”	44
	85

This intermixture of skull-forms has long been observed in the barrows of this age elsewhere in the country, and is generally recognized as indicating the intrusion of a round-head people upon the Neolithic long-heads, the intermediate form being the result of intermarriages between the two stocks. The proportion of the different types of skulls in Derbyshire is of peculiar interest. The Rev. Dr. Greenwell observes that in the round barrows of the wolds, the skulls of the two types are about equal in number, whereas in those of the south-west of the island the brachycephalic greatly preponderate. In Derbyshire the ratio, like the geographical position, is roughly intermediate, thus materially confirming the Doctor’s conclusion, ‘that the earlier long-headed people were more completely eradicated by the intrusive roundheads in Wiltshire, than they were in East Yorkshire.’

The general experience has been that the long-headed people were of shorter and feebler build than the other. Unfortunately Derbyshire

¹ Messrs. Bateman and Carrington’s investigations in the Staffordshire Bronze-age tumuli gave similar results, as the following table compiled from Mr. Bateman’s list will show :—

Dolichocephalic skulls, approximately	5
Mesaticephalic ” ”	10
Brachycephalic ” ”	18
	33

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affords no satisfactory evidence in this respect, except that brachycephalic skeletons have occasionally been described as powerful and large. The fact is, any conclusion drawn from a comparison of the available femoral lengths is vitiated by the frequent uncertainty as to sex and head-form; and more so by the circumstance that very few of these lengths have been recorded in the case of the distinctively dolichocephalic skeletons, whether of the Neolithic or the Bronze age.

A comparison, however, of these femoral lengths in which the sex is known leads to an interesting result. In twenty-one maleskeletons the average length was 18.53 in.; in seven female skeletons, 16.75 in. These lengths, taken as 27.5 per cent of the stature in life, represent an average stature of 5 ft. 7 $\frac{1}{3}$ in. for the men, and of 5 ft. 0 $\frac{1}{2}$ in. for the women. The difference between these average statures, nearly 7 in., considerably exceeds that which obtains to-day in England and other civilized countries, and must probably be set down to the effects of early child-bearing and hard work on a poor and irregular diet, in the case of the Bronze-age women. On the other hand the Bronze age compares favourably in this respect with the Neolithic age, from which we may infer that with advancing civilization woman's lot had already undergone amelioration.

With regard to the distribution of funeral vessels in respect to head-form, the data are too slender to afford reliable inferences, for in only eight interments with drinking cups and eleven with food vessels, is the shape of the associated skull given. But it is noteworthy that the former vessels are relatively more frequent with long and medium skulls, and the latter with broad skulls.

Circles.—Of the dozen or more structures in the county popularly known as 'Druidical circles' two are conspicuous for their magnitude, and are among the finest in the country. These are the famous circle of Arborlow near Hartington, and the little known 'Bull-ring' at Dove Holes near Chapel-en-le-Frith. The literature of the former is voluminous, no other antiquity in the county having been so much written about, while the latter has only been noticed by one writer, Pilkington, in his *Present State of Derbyshire*, 1789. Allowing for the circumstance that the one retains its 'megaliths' and the other is shorn of them, these circles so closely resemble one another that it is beyond doubt they were the work of the same age, if not of the same hands; and the similarity is not confined to the structures themselves, each being closely associated with a barrow or mound of unusually large size. Each consists of a central circular area of the natural surface, bounded by a wide but shallow ditch, on the outer margin of which is a rampart consisting of its throw-out, both being discontinued on opposite sides to form entrances. These entrances or causeways are approximately north-west and south-east at Arborlow, and are more nearly north and south at Dove Holes. The dimensions of the two circles are practically identical. In each the diameter from crest to crest of the rampart is 250 ft., and the extreme diameter is from 20 to 30 ft. greater, while that of the central

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area averages 160 ft. In each the curve of the rampart crest closely accords to that of a circle, the deviations at Dove Holes rarely exceeding 2 ft., but the outline of the central area is less regular. The present average height of the rampart above the old surface level at Arborlow is 6 ft., and depth of the ditch 4 ft. 6 in., according to Mr. H. St. George Gray, who carried out a number of excavations on the spot in 1901 and 1902 on behalf of the British Association. At Dove Holes these measurements are somewhat less, but on the whole this circle, or rather its remaining earthworks, are more symmetrical in plan and less disturbed by the accidents of time. Arborlow has the advantage of still retaining most of its original stones, but they are in a more or less recumbent position. Of those which formed the inner circle (a few feet within the inner brink of the ditch) about forty remain, the largest of which is about 13 ft. long; while near the centre of the enclosed area are several still larger stones, the remains of a fallen megalithic structure of some sort. All these stones are of the local limestone, rugged and much weather-worn. There is little doubt that those of the circle, at least, were once erect, and there are uncertain traditions that some were still standing in the eighteenth century.

As might be expected, the present shallow condition of the ditch is in each case due to slipped soil from the banks, and silt. Mr. Gray found that the original bottom at Arborlow was in the limestone, extremely irregular, and from 2 to 4 ft. below the present surface. At Dove Holes, Mr. Salt, the writer and others recently cut a trench across the ditch and found a similar irregular rocky bottom at a depth of from 2 to 3 ft. 6 in.; and there were indications that the rocky surface had been long exposed. These excavations have thrown little light upon the age of these monuments. Mr. Gray found many implements and pieces of flint in the filling of the former ditch, and the general conclusion he and his colleagues came to, was that the circle was of late Neolithic age. We also found at Dove Holes a few pieces of flint, one slightly trimmed, and several potsherds of pre-historic character, the latter resting upon the old bottom. A more reliable gauge of the antiquity of these monuments is furnished by the presence of a Bronze-age barrow upon the rampart at Arborlow, and partly made of its materials. This was successfully opened in 1848, when it was found to contain a cremated interment accompanied by two small food vessels and other relics in a cist. This shows that the period of the circle cannot be later than the Bronze age.

About 1,000 ft. to the west of Arborlow is a large bowl-shaped barrow known as Gib Hill, about 15 ft. high, which according to the older writers was connected with the circle by 'a serpentine rampire' of earth. Probably this was so, for a slight bank starts from the rampart of the circle on the south-west side, in a southerly direction, but is soon lost, probably having been obliterated through cultivation. This great mound was explored by Mr. Thomas Bateman in 1848,¹ when he found that

¹ *Digging*, p. 17.

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it was of stones and earth 'raised over four smaller mounds, each consisting of indurated clay intermixed with wood and charcoal.' The only interment he met with was one of cremated remains in a large cist near the summit, and with them was a small food vase. It is curious that there also is a great mound associated with the circle of Dove Holes. In this case it is about 100 ft. to the south-west of the circle, but unlike Gib Hill, it is square, the sides being each about 75 ft. and the height about 8 ft.

The other circles of the county are smaller and slighter. The largest of these is one on Wet-withens Moor near Eyam, consisting of a slight annular bank with sixteen stones standing on its inner edge, nearly 100 ft. in diameter. There was formerly a large stone in the centre. On Offerton Moor near by, is a similar bank only shorn of its stones, and somewhat oval in plan, about 85 ft. in its longer diameter. Reference has already been made to others which formerly existed on this and Abney Moor. A small and well known circle of nine stones, 'The Nine Ladies,' on Stanton Moor, is about 33 ft. in diameter. A woodcut of this circle in Bateman's *Vestiges*¹ shows it with an annular bank and a small central mound, a combination which recalls that on Abney Moor, referred to on page 160. Ringed barrows of this type have been noted on Eyam Moor.² Another woodcut of a circle on Stanton Moor, in the same book, presents an annular bank without stones or central mound. Mr. Bateman made some excavations in the central area of another on this moor, and found just below the surface several cinerary urns with their deposits of burnt bones and as many incense cups.³ On Hartle Moor adjoining are about six upright stones of large size, all that remain of a circle of about 39 ft. in diameter, which fifty years ago had some traces of a central mound.⁴ There was formerly a circle of similar diameter, and another 22 ft., on Brassington Moor. On Froggatt Edge, and on East Moor near the Bar Brook, are, or were, two circles, one about 36 ft. and the other 40 ft. in diameter; also others on Hathersage Moor and Hordron Edge. Mr. W. J. Andrew has recently discovered three more (circles), namely, one on Froggatt Edge; another near Park Gate, Beeley Moor, above Chatsworth; and another near Ramsley Lodge, on East Moor.⁵ All three are untouched, in good preservation, and of the same character. They are from 30 to 33 ft. in diameter, with (originally) upright stones standing on a small vallum with two openings, not immediately opposite each other. The stones vary from 2 ft. to 3 ft. in height, and are placed at nearly regular intervals of about 6 ft. Many are still standing upright, and all have evidently been carefully selected for uniformity in shape though not in length. Doubtless remains of other circles would be found in the Peak if diligently searched for. It should be noticed that with several are associated one or more large standing stones. About 100 ft. from the

¹ p. 112.

² Several plans are given in *Diggings*, p. 248.

³ *Ibid.* p. 84.

⁴ This circle is figured in one of the plates of Moore's *Picturesque Excursions*, 1818.

⁵ This circle however may be that referred to above as near the Bar Brook.

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Nine Ladies is such a stone known as the 'King,' and near that on Hathersage Moor is a similar isolated stone ; while 240 ft. from the Nine Stones are two. Within the Wet-withens and Froggat Edge circles is (or was) a single upright stone, and within one on Offerton Moor are four such stones. Probably these stones marked interments.

The distribution of these smaller circles is noteworthy, for unlike those of Arborlow and Dove Holes, they are confined to districts where cremation prevailed. There is no reasonable doubt that they are of sepulchral origin. As already suggested, they appear to have been derived from the bowl-shaped barrows through a series of transitions. Their distribution and Mr. Bateman's actual 'finds' connect them with cremated burials of the cinerary-urn stage of the Bronze-age. It is worthy of consideration whether these smaller circles are of the same origin and age as the two larger Derbyshire examples.

Early Fortifications.—There are in the county ten or a dozen defensive works which are certainly not of Roman origin, but it is not easy to fix their age. Some may have been constructed by the natives during the English invasion, and possibly some by the English themselves to resist the Danes ; but it seems more likely that, as a group, they are pre-Roman and of great antiquity. The large size and careful construction of some of these hill-forts, indicate that they were not raised as temporary barriers against foreign invasion, but as refuges in a permanent state of insecurity, such as tribal warfare would give rise to. In neither the number nor the magnitude of these forts does Derbyshire vie with some of the western counties ; but two—that which conspicuously crowns Mam Tor near Castleton and the Carl's Wark near Hathersage—are fine and noteworthy. The former is about 16 acres in area, and is enclosed by a double line of rampart on three sides and a triple line on the fourth, on which side is the entrance, approached by a sunken way.¹ The Carl's Wark may be described as a natural fortress improved by art. Crowning a gentle hill is a natural rocky platform about 600 ft. long, which presents on three sides an almost vertical scarp, the gaps of which have been filled with rude masonry. Across the neck which connects this platform with the high ground to the west is thrown an earthen rampart, faced with a cyclopean wall about 8 ft. in height, built of huge natural stones, and in front of this is a slight ditch. The western end of Combs Moss near Dove Holes has been similarly converted into a fort, the neck there being defended by a double rampart.² Other defensive works occur at Pilsbury near Hartington, Calton near Chatsworth, Camp Green at Hathersage, and on Fin Cop, Hartle Moor, and Cronkstone, Alport and Tapton Hills. At Staden-low near Buxton are some curious

¹ For a recent account and plan of this camp see paper by Mr. I. Chalkley Gould in *Journ. Derby. Arch. and Nat. Hist. Soc.* xxiv. 27.

² Mr. Chalkley Gould has also recently described these two camps (*Journ. Brit. Arch. Assoc.* 1901, and *Journ. Derby. Arch. and Nat. Hist. Soc.* xxiii. 108), giving plans in each case.

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earthworks, which however do not appear to have been of a defensive nature.

Between Bradwell and Brough may be traced, especially on the slope to Shatton Moor, a line of ditch and rampart known as Grey Ditch. According to Bray and Pilkington¹ it extended to Mam Tor, and was a barrier or defence against the south. Its history and use are unknown, but recently Rev. Thomas Barns, M.A., referred to it as possibly a work connected with the 'Limes Britannicus.'²

Cave Remains.—Rains Cave, a small cave in the Longcliffe ridge near Brassington, yielded during its excavation under the writer's superintendence in 1890-2, many objects of the British period anterior to the Roman occupation.³ The investigation proved that the cave had been used by men at various times, first as a dwelling-place, probably as far back as the Neolithic age, then as a burial-place, then as a temporary residence, then again as a burial-place. The fragments of the pottery which accompanied the interments were of the ordinary Bronze-age sepulchral type, two of the vessels represented apparently being food vases, hence they served to fix the period when the cave was used for burial purposes. A nearly perfect vessel of similar ware but of very different shape was also found in this cave, but it was not associated with the human remains. It was $8\frac{1}{2}$ in. in diameter, had a rounded bottom, a slightly contracted neck, and an out-curved lip, the edge of which was 'milled' with indented notches. The lower surface was blackened by smoke, from which and from the general form of the vessel it was inferred that it had been used as a stew-pot. This lay at a high level, in which position were also found a turned spindle-whorl of hard shale and several potsherds (hand and wheel-made) all having a late Celtic character, and thus indicating that the cave had been frequented by man during a long period.

'Thirst-House,' in Deep Dale near Buxton, a cave remarkable for the numerous Romano-British objects which it has yielded to the spade of Mr. Salt and other diggers, is another example of long occupancy. The objects, however, which may reasonably be regarded as of the Neolithic and Bronze ages are few and insignificant; but many of the bronze objects which were more or less associated with the Romano-British bear late Celtic ornamentation, and some of the pottery must certainly be classed under this head.⁴ Mr. Salt has also explored several small caves and rock-shelters round that town, and some of the things which he has obtained from them may be of pre-historic age.

Mr. Rooke Pennington obtained from two small caves in Cave Dale, Castleton, animal remains, associated with rude pottery, flint flakes, jet, a perforated stone hammer, and a bronze axe of peculiar form and alloy,

¹ *Present State of Derbyshire*, ii. 403.

² *Trans. N. Staff. Field Club*, xxxvi. 102.

³ *Journ. Derb. Arch. and Nat. Hist. Soc.* xi. 45, xiv. 228, xv. 161.

⁴ *Ibid.* xvii. 60, and xii. 228, xiii. 194, xvi. 185; also *Ancient Remains near Buxton*.

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all presumably pre-Roman. The same gentleman obtained from a cave in Hartle Dale near Bradwell rude pre-historic pottery.¹ At Creswell nothing apparently intervened between the Pleistocene and the Romano-British remains.

Pit Dwellings, Sites of Habitations, etc.—Very little has been done to elucidate this class of Derbyshire antiquities, but it is obvious that there must be many remains of this kind in a county so rich in pre-historic archæology. Writer after writer has enlarged upon the ‘supposed site of a British town’ at Linda-spring near Crich, but no one seems to have thought of applying the evidence of the spade to the depressions.² The sites of ancient huts have been recorded on Hartle and Abney Moors, and at Over Oldhams and Smerill Grange, near Youlgreave. On these sites have been found a great variety of objects indicating a lengthened occupancy, extending from pre-historic times into the Roman period.³ The writer excavated such a site on Harborough Rocks, and concluded that it was British of late pre-Roman or Roman age,⁴ and Mr. Salt has in hand some curious and most promising pits on Ravenslow near Buxton.

‘*Late*’ *Interments.*—In Derbyshire the interval between the barrows last described and those of the Pagan English, presents many difficulties. In the first place, the sepulchral remains which can with certainty be assigned to this interval are singularly few; and next, there is a doubt as to how far they can be regarded as pre-Roman, hence how far they come within the purview of this section.

These remains consist of barrows, of which barely two dozen have been opened in this county. From their extremely ruined condition, little could have been gathered as to their original state, except by comparison with the much larger number which have been investigated in the adjacent parts of Staffordshire. They have certain points of resemblance among themselves, which mark them off as a class from those already considered. They are wholly or largely built up of fine materials, as earth, clay, sand and gravel; and if large stones enter into their composition, these are not intermixed with the finer ingredients, but form a platform, a layer or a capping.

In every known instance, the interment over which the mound was originally raised had undergone cremation, and this applies to the few secondary interments which have been observed. These interments had invariably been burned on the spot, whereas those of the earlier barrows were more often cremated elsewhere; in fact, the hard baked floors, strewn with charcoal and ashes, are a notable feature of these ‘late’ barrows. The excessive heat to which the bodies were subjected has resulted in calcined fragments of bone so small as often to escape detection, hence these mounds have sometimes been regarded as cenotaphs.

¹ *Barrows and Bone Caves*, pp. 53–8.

² *Vestiges*, pp. 126 et seq.

³ *Archæologia*, x. 114.

⁴ *Journ. Derb. Arch. and Nat. Hist. Soc.* xii. 109.

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These fragments have generally been found scattered over the site of the pile, but in a few instances they have occupied a shallow circular hole in the natural surface, into which they had been swept after the fire was extinguished. This may have been a common practice, for the presence of a small depression of the kind might easily be overlooked by the explorer. On the other hand, there is evidence that in some of these barrows, the human ashes had been collected and placed near the summit of the mound, the stones which are occasionally present in this position probably being the relics of the receptacle which contained them. This, again, may have been a common practice, for being near the summit it is surprising that even the indications of these 'high-level' interments should have survived.¹ The placing of the burnt bones in depressions or in these elevated positions may explain the general paucity of the human remains on the sites of the funeral piles.

The general trend of investigation has shown that some effort was made to seal down, so to speak, the site of the pyre and its contents. Usually this was accomplished by a layer of puddled clay or earth, which was hardened by a great fire made upon it. Sometimes large stones were used instead, occasionally being laid like a rude pavement. Whatever the material, this first layer is readily distinguishable from that of the mound above, but frequently the latter itself discloses the curious constructional feature of two or more different materials in alternate layers. A remarkable example to the point was a barrow opened at Gorsey Close near Tissington, in 1845.² Here, Mr. Bateman found that the soil was interspersed with alternate layers of moss and grass, both of which retained in a great measure their original colour and texture, and upon the surface of the ground were many pieces of wood, hazel-sticks, fungi, etc. A still larger barrow, Roylow near Sheen, examined by Mr. Bateman in 1849, and again by Mr. J. P. Sheldon in 1894,³ gave similar results.

The articles associated with the interments, or rather found upon the sites of the pyres, are meagre and poor. They are mostly potsherds and rude implements and chippings of flint, both of which are usually described as burnt. Unlike the occasional potsherds found in the earlier barrows, which are derived from perfect vessels accidentally broken and scattered through the introduction of secondary interments, these appear in every case to have been introduced *as potsherds*. It is a pity these potsherds have not been more fully described by their finders, but it is tolerably certain that the vessels they related to had little in common with the sepulchral ware of the earlier period. They appear to have belonged to the ordinary domestic vessels of the time. The potsherds and flints, also the pebbles which have occasionally been observed, were evidently placed or thrown upon the funeral pile with some religious intent; and doubtless it is to this custom, reversed in its meaning under the Christian *régime*, that a much-quoted passage in *Hamlet*, relative to

¹ *Diggings*, p. 130.

² *Vestiges*, p. 80.

³ *Proc. Soc. Ant.* 2, xv. p. 425.

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the burial of Ophelia, refers. Other objects than these very rarely occur in these barrows, and they mostly relate to the personal attire of the dead. Two bronze dagger-blades and a pin, and a bone pin or two, have been found, all burnt; but the most remarkable 'find' consisted of twenty-eight convex bone objects marked with dots, and described as draftsmen, and two ornamented bone combs, which also had passed through the fire.¹ Fragments of iron, a Roman coin of the Lower Empire, and the upper stone of a quern have also been found. The only earthen vessel noted was a diminutive incense cup decorated in the usual manner, which was laid upon a deposit of burnt bones within a circular hole under one of these barrows.²

The exact age of these barrows is an interesting question. While the incense cup on the one hand links them with the Bronze age, the Roman coin on the other carries the series far into the Roman period. Querns and the use of iron are admittedly of late introduction. The bone combs have a distinct Roman *facies*. The two bronze dagger-blades are mentioned as different from the ordinary type found in the Bronze-age series. The terms in which the potsherds are described, as 'wheel-made,' 'hard,' 'firmly baked,' 'compact,' and 'Romano-British,' suggest the period of the occupation or its near approach.

Since the barrows of the second class are by a consensus of opinion assigned to the *earlier* portion of the Bronze age, these of the third class extend, it would seem from the above evidence, from that time far into the Roman period. Their small number, however, is a difficulty. While the former may be counted by the hundred in Derbyshire, less than two dozen of the latter have been observed. This would seem to indicate that the period of these barrows was very short, whereas the large number of socketed axes (the characteristic implement of the later Bronze age) which have been found in Britain seems to contradict this, implying that their portion alone of this period was of considerable duration. It may have been that the use of bronze was far more common in the later than in the earlier portion of the age, so that the relative abundance of the 'finds' is no test of time. The pre-Roman Iron age too may have been very short, and have been overlapped by the socketed axes. Again, while there can be no question that many, perhaps most, of the interments of the second class belong to the period of the flat and the flanged axes, some—as the inurned cremated deposits—may have witnessed the introduction of their socketed successors. It was observed above that as the Bronze age advanced there was a tendency for the 'grave goods' to become fewer, and less such as would be used in life. The general absence, therefore, of bronze axes of any kind from these inurned interments is what might be expected. Another tendency has been noticed—that in the direction of small mounds and slight circles enclosing diminutive mounds. These may have been numerous, and may represent a common type of burial in the later Bronze age;

¹ *Diggings*, p. 179.

² *Ibid.* p. 130.

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for if the larger tumuli have suffered so severely from the hand of time it is reasonable to think that comparatively few of these slighter memorials could have escaped sufficiently unscathed to be recognizable at the present day.

On the other hand, these barrows of the third class show no sign of having been derived from those of the second class. They appear suddenly upon the scene, large in size as a rule, and of earth or other fine materials. They seem to have been imported into our area from without, ready-made, so to speak. For anything we know to the contrary, they may be the tombs of a new aristocracy introduced by conquest or otherwise, contrasting in size and structure with those of the natives.

There is another group of Derbyshire burials which *may* be of late pre-Roman date. They consist of inhumated interments contracted or flexed like those of the Bronze age, but accompanied by iron objects, usually knives; and they are mostly found at high levels in the older cairns. As however they are usually regarded as post-Roman, they will be described in that section.

'Finds' of Implements.—In Derbyshire large numbers of ancient implements have been found on or near the surface. Most of these were, with little doubt, casually lost, and so have little archæological interest beyond their intrinsic worth. Flint implements especially are abundant in certain localities. The writer knows of farmers in the western portion of the county who in a remarkably short time picked up considerable numbers from their ploughed fields—one in particular, near Brassington, who obtained from several fields quite a large and varied collection, containing many finely worked examples.¹ But to attempt to enumerate these sporadic 'finds' would lead to no useful result.

On the other hand, the conditions under which the objects occurred have sometimes a distinct archæological significance. For instance, Mr. Salt has observed that while flint implements and chippings are generally diffused throughout his district, they are occasionally congregated in large numbers in comparatively small areas. Within a space of a quarter of an acre, $2\frac{1}{2}$ miles south-east of Buxton, he found nearly 400 pieces of flint associated with many coarse potsherds. As flint is not indigenous to the county, he has wisely preserved all the fragments found upon these sites. These, upon examination, are found to contain perfect implements, pieces more or less worked, suggestive of unfinished implements or implements spoiled in the making, and rough cores; the residue, forming by far the larger proportion, being mere chippings. The inference is that flint implements were made on these sites. Mr. Turner designates them 'pre-historic workshops,' but the 'wasters' are too few to indicate a lengthened manufacture, or a manufactory comparable with that at Cissbury.

Nothing of the nature of a founder's hoard of newly-cast bronze

¹ *Journ. Derb. Arch. and Nat. Hist. Soc.* xi. 41.

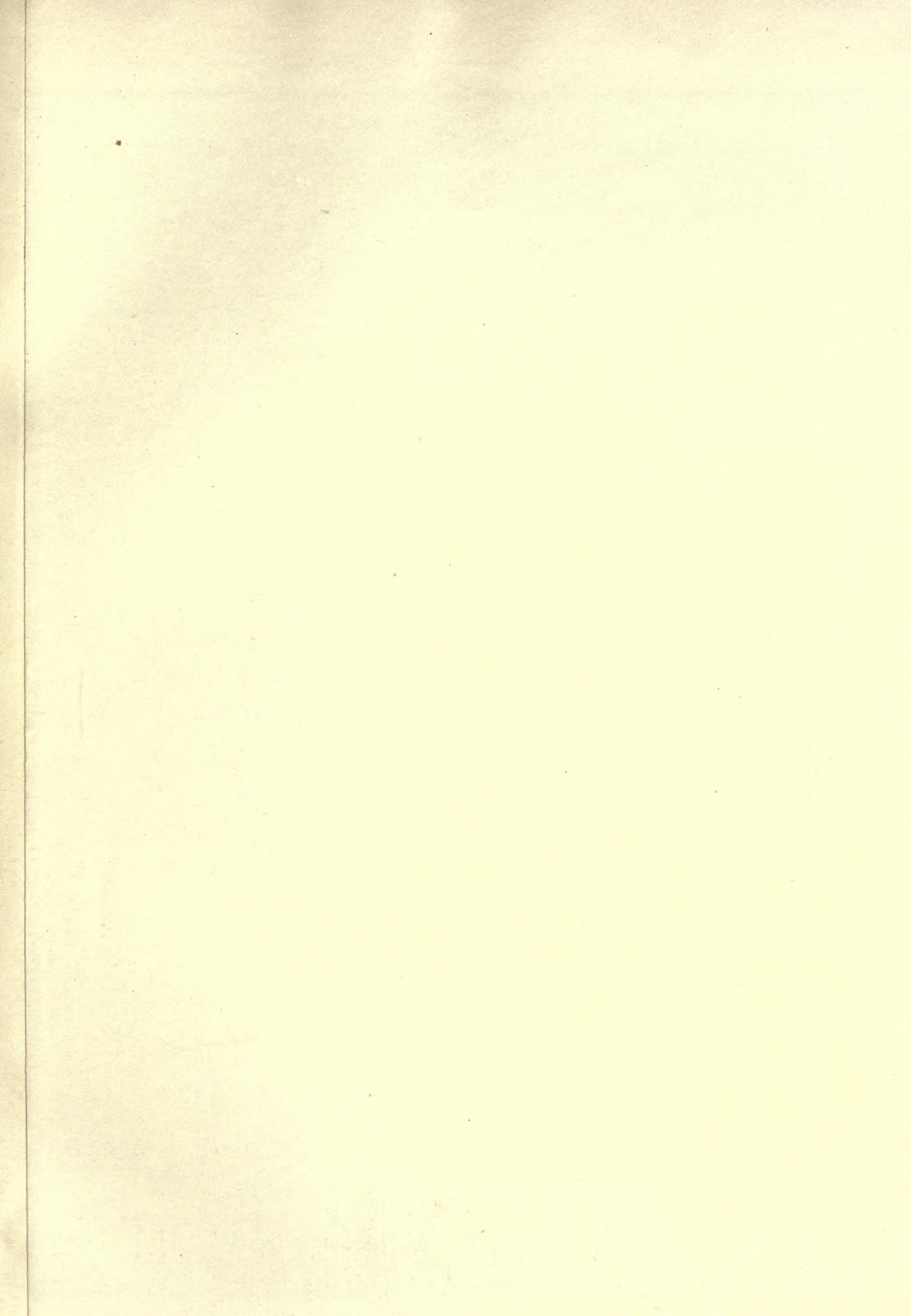
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implements or of waste bronze, has been recorded as discovered in Derbyshire, nor any ancient British coins.

Maenbirs, Rocking-Stones, Venerated Stones, Rock Basins, Altars, Idols, etc.—At various places along the lines of the outcrop of the millstone-grit, particularly in the vicinity of Stanton, Eyam, Hathersage and Ashover, are fantastic blocks and masses of rock, which have been descanted upon by the older antiquaries as ‘Druidical.’ Some of these are rocking-stones; others have been designated, according to their fancied resemblances, as altars, idols, basins, etc. Most, if not all, of these are of natural origin, the result of weathering; but it is quite possible that some few were altered by man in ancient times. The well known rocking-stones and other blocks at Rowtor near Birchover were ‘improved’ about two centuries ago by Thomas Eyre, who included these rocks in the grounds of a house that he built below them. Standing-stones, which appear to have been artificially placed, are to be met with in the Peak, but as yet no antiquary has systematically investigated them. The writer has observed several, one in particular on the left side of the road from Wirksworth to Brassington. Others associated with circles have already been noticed. In the Buxton Gardens may be seen two stones (the one a ‘holed’ stone) which were removed from a place in the vicinity of the town and set up in these gardens with much learned ceremony some years ago, but they appear to have been simply gate-posts, and the hole has been formed naturally.

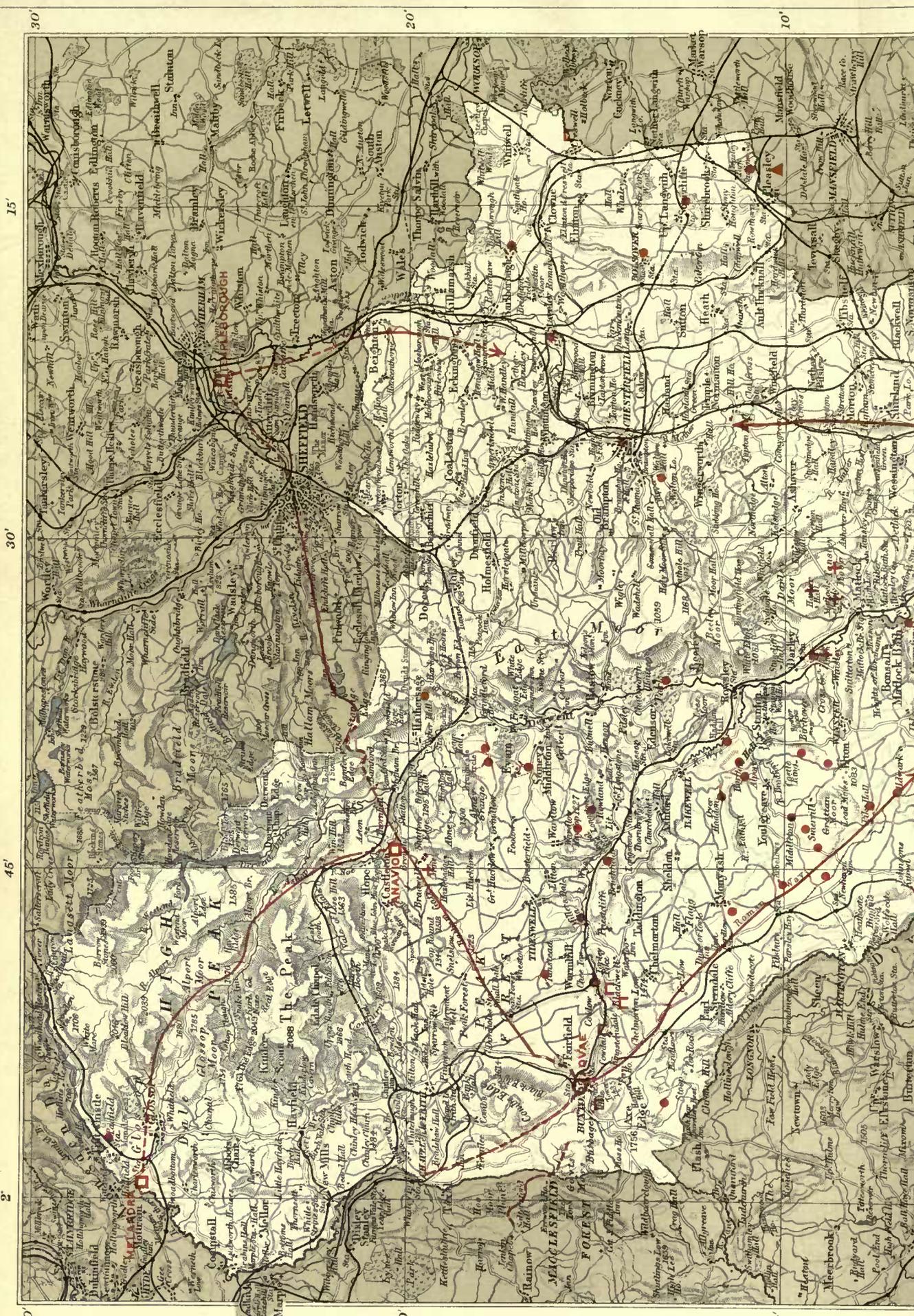
It is strange that in a county with such a wealth of moorland and of suitable rocks and stones, there should apparently be no cup-markings and kindred sculptures, or, if there are any, they have in a most remarkable manner escaped notice. On the new 6 in. to 1 mile ordnance survey (sheet 16, N.E.) and near the circle on Wetwithens Moor is marked, ‘Site of Cup-and-Ring Stone,’ and this is the only reference to a stone of the sort known to the writer.¹

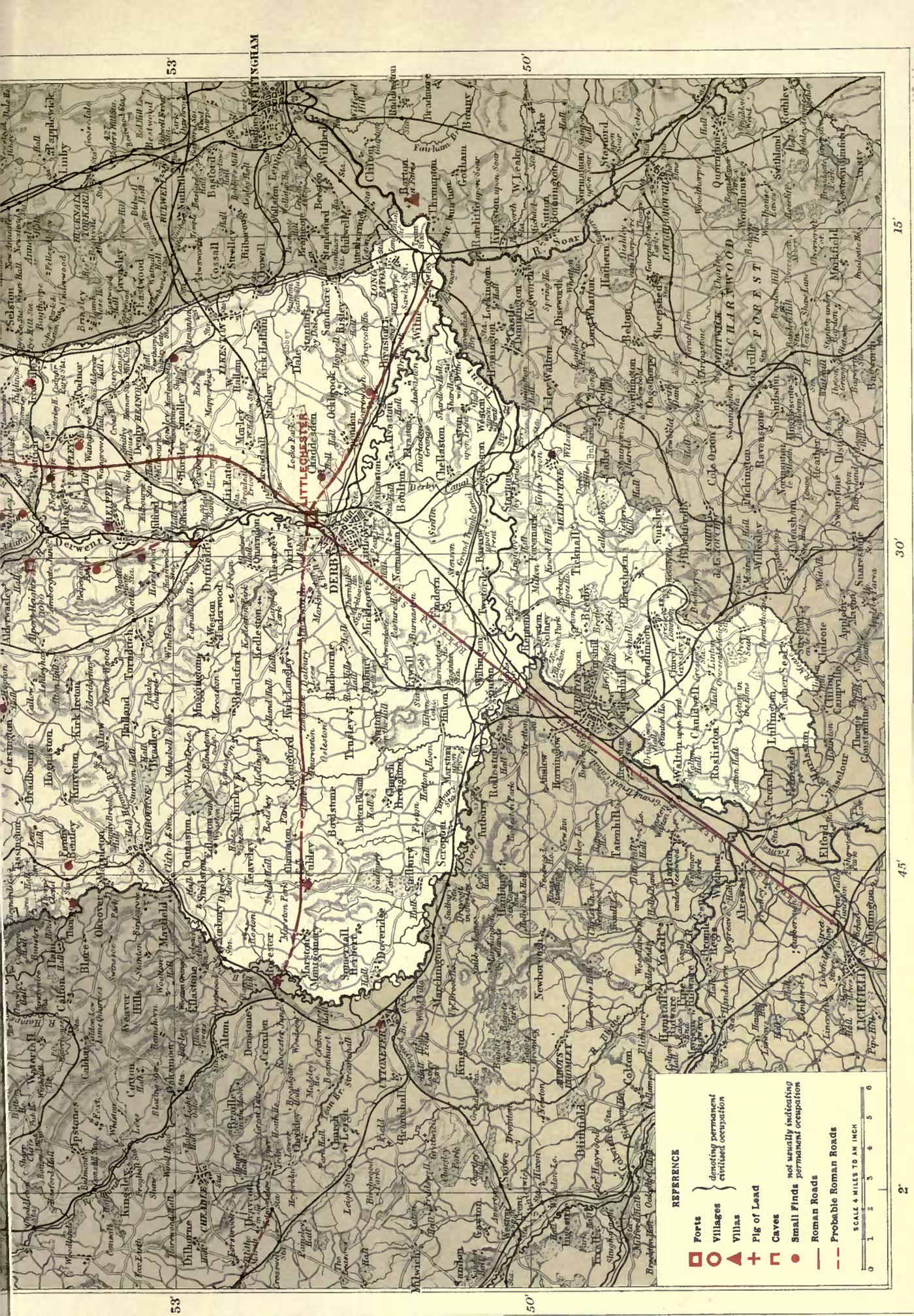
¹ Since the above went to press, a paper by the Hon. J. Abercrombie, F.S.A., Scot., has appeared in the *Journal* of the Anthropological Institute (vol. xxxii.), entitled ‘The Oldest Bronze-Age Ceramic Type in Britain.’ This paper has an interesting and confirmatory bearing upon the views which have been advanced in these pages regarding the succession of the Bronze-age burials. Mr. Abercrombie arrives at the same conclusion, namely, that the drinking cup is ‘the oldest form of fictilia in the Bronze age of this country,’ but by a different route. This conclusion is mainly based upon a comparison of the implements and ornaments which accompany these cups, not only in this country but also on the continent, with those found in the Neolithic chambers on the one hand, and those associated with the food vases and the cinerary urns on the other. He connects the drinking cup with ‘the advent of a people of a new stock, distinguished from the older Neolithic inhabitants by taller stature and a moderately brachycephalous head,’ and he refers its origin to Central Europe, tracing by its means the course of the invaders from thence along the Rhine and through Holland to Britain. Whether this pre-historic invasion of Britain was warlike or bloodless is quite uncertain; but from the association of dolichocephalic as well as brachycephalic skulls with the drinking cups in Derbyshire and Staffordshire, we may reasonably infer that, so far from there being any displacement of population, the two races were soon upon a friendly footing with one another, the natives intermingling with and adopting the customs (funeral, at all events) of the new-comers.



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ROMAN REMAINS.





ROMANO-BRITISH DERBYSHIRE

1. Sketch of Roman Britain. 2. Sketch of Roman Derbyshire. 3. Brough. 4. Melandra. 5. Little Chester. 6. Buxton. 7. Roman lead-mining in Derbyshire. 8. Inhabited Caves. 9. Roads. 10. Special items and alphabetical index.

I. SKETCH OF ROMAN BRITAIN

AMONG the physical features which have seriously affected the internal history of our island, not the least notable is the division of the country into upland and lowland. Geographers and historians have not always adequately recognized this feature, and indeed its influence upon the fortunes of Britain has varied much at various periods. But it has never been wholly insignificant, and sometimes, as in the Roman age, it has proved all important.

In the part of Britain which fell within the Roman Empire, that is, in the part lying south of the Forth and the Clyde, the uplands and lowlands form two more or less equal districts. The English midlands, the south, and the east coast constitute the lowland district. The moors of the west country, the hills of Wales, the Pennine Chain, and the larger part of the north belong to the uplands. The dividing line between the two districts may be drawn from York by Derby to Chester and from Chester by Shrewsbury to the Bristol Channel. This line provides only a rough boundary. Hills lie to the south of it in the lowland region and lowlands may be found to the west or north of it in the domain of the uplands. But, with a few obvious exceptions, it actually divides two different kinds of country.

The lowland region is not, in general, level and unbroken plain. Much of it, indeed, is covered with hills. But the hills are small; they seldom rise above 600 feet and their slopes are gentle and easy. The vegetation is lowland in character. The soil and climate, if not always favourable, is always tolerant of serious agriculture and settled habitation, and towns, villages, country houses and farms have at all times abounded. This lowland district has one further characteristic: it looks east and south, towards the Continent. In this direction its rivers flow and its hills slope gentlest down. Its easiest dealings are with the coasts of the opposite mainland, and it affords ready access up its river valleys to visitors from those coasts. On the other hand the uplands present a very different picture. Usually they rise above the 600-foot contour-line, and often they attain considerable heights. Their geological formations admit of deep

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valleys, steep slopes, and even precipitous gorges, and their general aspect is broken and mountainous. The climate discourages serious agriculture. The population is pastoral and sparse. Towns—other than the creations of modern manufacturing industry—are comparatively few, and many of the inhabitants dwell apart in scattered cots and homesteads. These wild uplands, moreover, look westwards. Their connexions are with Ireland or with the Atlantic. They receive neither immigrants nor influences from the parts of Europe that lie nearest to Britain.

These two districts, so diverse in their geographical character, were no less diverse in their history during the Roman period. The differences begin from the first moment of conquest. The lowlands, occupied by comparatively civilized tribes and presenting no serious obstacle to the march of armies, were subdued quickly and easily. The Romans landed in Kent A.D. 43. Within four or five years, by A.D. 47 or 48, they had overrun the midlands, the south, and the east of Britain, and advanced at least as far as the Severn and the Humber. It remained to reduce the uplands. The task was begun in A.D. 48 or shortly afterwards. But it was not completed with ease and speed. Instead of four years, it needed nearly forty. The hill-tribes of Wales were not tamed till A.D. 78. The resistance of the northern tribes was not seriously weakened till the years immediately following. Even when conquered, these uplands remained imperfectly subdued. Wales, it would seem, lay quiet. But the hills of Derbyshire and Lancashire and Yorkshire were the scenes of fighting on many occasions during the second century. Even the organization of the Caledonian frontier, at which the emperors Hadrian, Pius, and Septimius Severus, in turn laboured, did not secure peace for the land between the Humber and the Tyne.

In the development of Britain which followed the conquest, lowlands and uplands remained sharply contrasted (fig. 1). The lowlands were rapidly

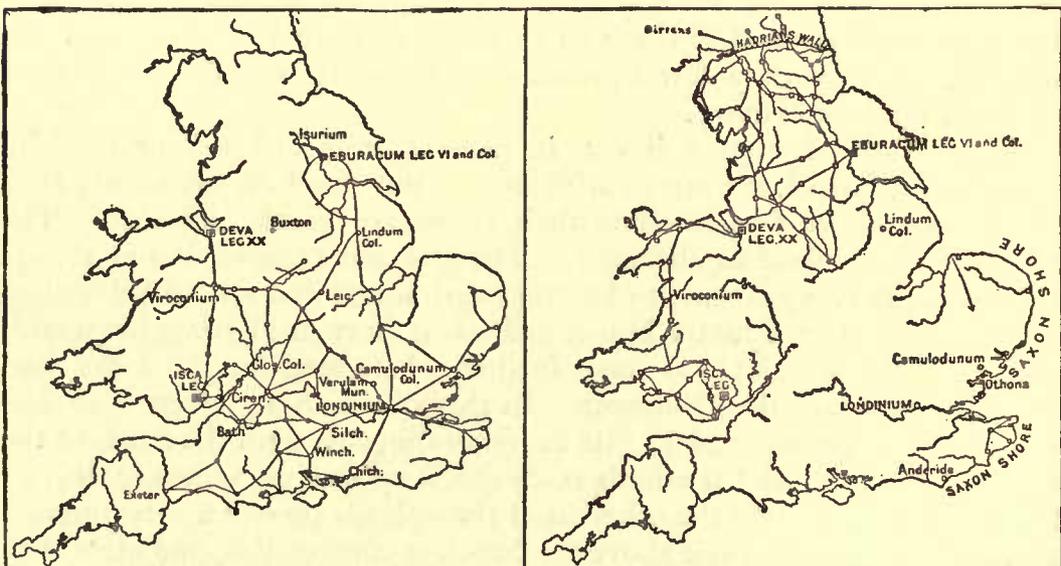


FIG. 1.—THE CIVILIAN AND MILITARY DISTRICTS OF BRITAIN.

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civilized. The districts nearest to the Continent—all that we should now call Kent and Essex and the valley of the lower Thames—had learnt somewhat of Roman culture even before the landing of the Roman armies. After the conquest the remoter lowland districts readily imitated them. Progress was necessarily not uniform. Some stretches of country, like the Warwickshire midlands, were too thinly inhabited to show much result. Some corners lay outside the main current or preserved with more than average tenacity their native ways. There was a difference, too, between class and class. The wealthier and the better educated doubtless accepted Roman speech and fashions more fully and truly than the untaught shepherd or ploughman. But in the main the lowlands embraced the civilization which Rome offered them. The picture that rises before the student is that of a settled and Romanized population, living on the land in peace. There are small towns here and there, and outside of them numerous 'villas,' country-houses, and farms. Comfort is apparent, if not wealth; agriculture, if not industry, is actively practised, and an orderly civil life prevails. No military element intrudes. No troops are quartered in this part of Britain. Till the fourth-century brings the need for defences along the south-east coast, no forts or fortresses are visible in it. The lowlands belong to the civilian.

Far otherwise the uplands. Here towns and villages, 'villas' and farms, agriculture and indications of settled life, are almost wholly wanting. Towards the north-east, no Romano-British town occurs beyond Isurium, that is, Aldborough in the vale of York, and no 'villa' beyond Wall, near Ripon. Towards the north-west the traces of civil life cease even further south. Towards the west they fail as we enter Wales, and as we approach Exeter. Everywhere the civilian stops where the hills commence. Instead, we find a military occupation. Its normal elements are not towns or 'villas,' but forts and fortresses. Here are concentrated all the troops which formed the army of Roman Britain. At need they could be led down into the lowlands to repress disorder, but no case is known where this need arose. Their proper work was to overawe the wild hill-men and to keep the frontiers against Caledonian or Irish enemies. This, indeed, was the Roman method throughout the Empire. The peaceful districts of civilian life were left to administer themselves with the aid of their own local police, while the provincial armies were posted along the frontiers or in restless and difficult regions.

The system which the Romans employed in garrisoning these military districts was very simple. It had two main features, a large number of small forts and a small number of large ones, and it corresponds closely to the system of the Roman army under the Empire. For this army comprised two principal classes of troops, legions and auxilia. The fundamental distinction between these two classes lay in the fact that the legions represented the old citizen army of the Roman Republic, while the 'auxilia' were levied from among the subjects, not the citizens of Rome. The legionaries were naturally the more important. They were superior alike in birth and civilization, in morale and fighting

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power, in pay, privileges, and conditions of service. The legion itself was a brigade of five or six thousand heavy infantry, with no cavalry save a handful used perhaps as scouts or despatch riders. Its rank and file were recruited—at least in theory—from free Roman citizens, who were sometimes Italian born, but more usually Romanized provincials. Its general was a senator of high rank. Its chief officers were six tribunes— young men of some social standing and much inexperience—and sixty centurions, who had served up from below and bore the real labours of command. The ‘auxilia’ were differently constituted. The unit was a comparatively small body of 500 or (not seldom) 1,000 men, called a ‘cohort’ if infantry and an ‘ala’ if cavalry. The men were levied, not always voluntarily, from the less quiet and civilized lands of the Empire, and not least from Britain. As a rule they were not citizens of Rome, but subjects, devoid of the Roman franchise till they received it as a reward on their discharge from active service. Only the officers were Romans, and these ranked naturally far below the general of the legion. The whole auxiliary status was that of an inferior grade of soldiers.

Both these classes of troops were stationed together in those provinces in which frontiers were perilous or populations unquiet. Probably, though direct evidence on the point is lacking, they were employed in about equal numbers or with a small preponderance of ‘auxilia.’ That is, if the province contained three legions, it would contain also fifteen or twenty thousand auxiliaries. But they were not habitually quartered together. Legions and auxilia were provided with two different kinds of permanent cantonment. The picture presented by any ordinary province having a large army consists of two elements, a few large fortresses and a number of small forts. The fortresses (*hiberna*) were occupied by the legions. Each fortress covered some 50 or 60 acres, and (except occasionally in the earlier Empire) accommodated one legion. The forts (*castella*), on the other hand, were occupied by the ‘auxilia.’ They varied in size from 3 or 4 to 7 or 8 acres, and were garrisoned generally by single cohorts or ‘alæ,’ but sometimes by smaller forces. The legionary fortresses formed, as it were, the headquarters and the strongholds of the provincial defence. The auxiliary forts were dotted about the country according to need. Some stood at intervals along important roads running through disturbed and difficult districts. Others guarded strategic points. Others, not the least important, constituted the cordon along the frontier which kept the province safe from external foes. The disposition of the British army well exemplifies the system. Three legions were cantoned in three fortresses—the Second Augusta at Caerleon (*Isca Silurum*), in Monmouthshire; the Twentieth Valeria Victrix at Chester (*Deva*); and the Sixth Victrix at York (*Eburacum*). These three legions, therefore, were not posted actually in the thick of the danger. They held strategic positions where the lowlands merged in the uplands and served as headquarters and centres. Corresponding to them were three or four dozen auxiliary forts, some guarding the frontier walls

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and some securing the roads which led to them or which traversed the restless hill country in the north or in Wales.

It must be observed that in this system it was not only the forts that were permanent, but also their garrisons. Our English regiments relieve one another periodically at brief intervals in India or South Africa. The Roman legions or cohorts were not thus moved about. The same Roman corps stayed in the same province and in the same garrison for scores of years, and possibly for centuries. Thus the three British legions mentioned in the last paragraph remained in the same places for over two centuries each, and the cohorts and 'alæ,' which are named as garrisoning the Roman wall between Tyne and Solway near the end of the Roman dominion, are largely the same that we find there in the second century.

The whole of this arrangement was based on the presumption that the principal task of the troops was to act as garrisons. For this purpose it served well enough. But it allowed no provision for a large field force. When such was required it was collected by reducing the strength of individual garrisons or by withdrawing troops from quieter provinces. This, however, was a temporary makeshift. The crisis over, the detachments went back to their forts and fortresses and resumed their permanent duties. Here we touch the characteristic point of the system. The Roman army in each province was a garrison army, and the essential feature was the fort or fortress in which each unit was stationed.

These forts and fortresses were laid out according to one model. Their internal arrangements were not left to the genius or the whims of particular commanders, but followed a prescribed and uniform pattern. The origin of this pattern may be found in the fixed scheme used since Republican days by the Romans for the encampments of their soldiers in the field. Under the Empire this pattern may be said to consist of a square or oblong enclosure with four symmetrically-planted gates and four main streets running from the four gates towards the centre of the whole. At the centre stood the headquarters buildings, the offices, and the residence of the commanding officer. Near these came the quarters of other high officers and various storehouses, while the rest of the enclosure was filled with barracks and other buildings for the use of the common soldiers and lower officers. No provision was made for traders or for womanfolk. In this, as in many other points, the plan of the permanent fort or fortresses preserves the tradition of the encampment of the marching army, and exhibits the strictness of Roman discipline. But traders and women were none the less inevitable, and there usually grew up outside the fortress gates a 'civil settlement' of camp followers, and not unfrequently old soldiers settled here after their discharge, preferring to remain in the familiar scenes of their active life.

This general plan of fortress was used equally for the large legionary fortress and the smaller fort of an 'ala' or cohort. But the great difference in area naturally produced differences in internal detail. A fortress intended for 5,000 men with important officers and elaborate

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organization must necessarily vary widely from a fort one-tenth or even one-twentieth of the size, capable of holding a few hundred men. For our present purpose it is more important to consider the latter class, which, indeed, is far the better known to us through numerous excavations in many lands.

It is a large class, and it is not surprising that its abundant examples show considerable differences. All of them are based on the same skeleton plan. All have the same general outline of a rectangle with rounded corners. But sizes and shapes fluctuate within wide limits. On the Rhenish and Danubian frontier the internal areas of the forts seem

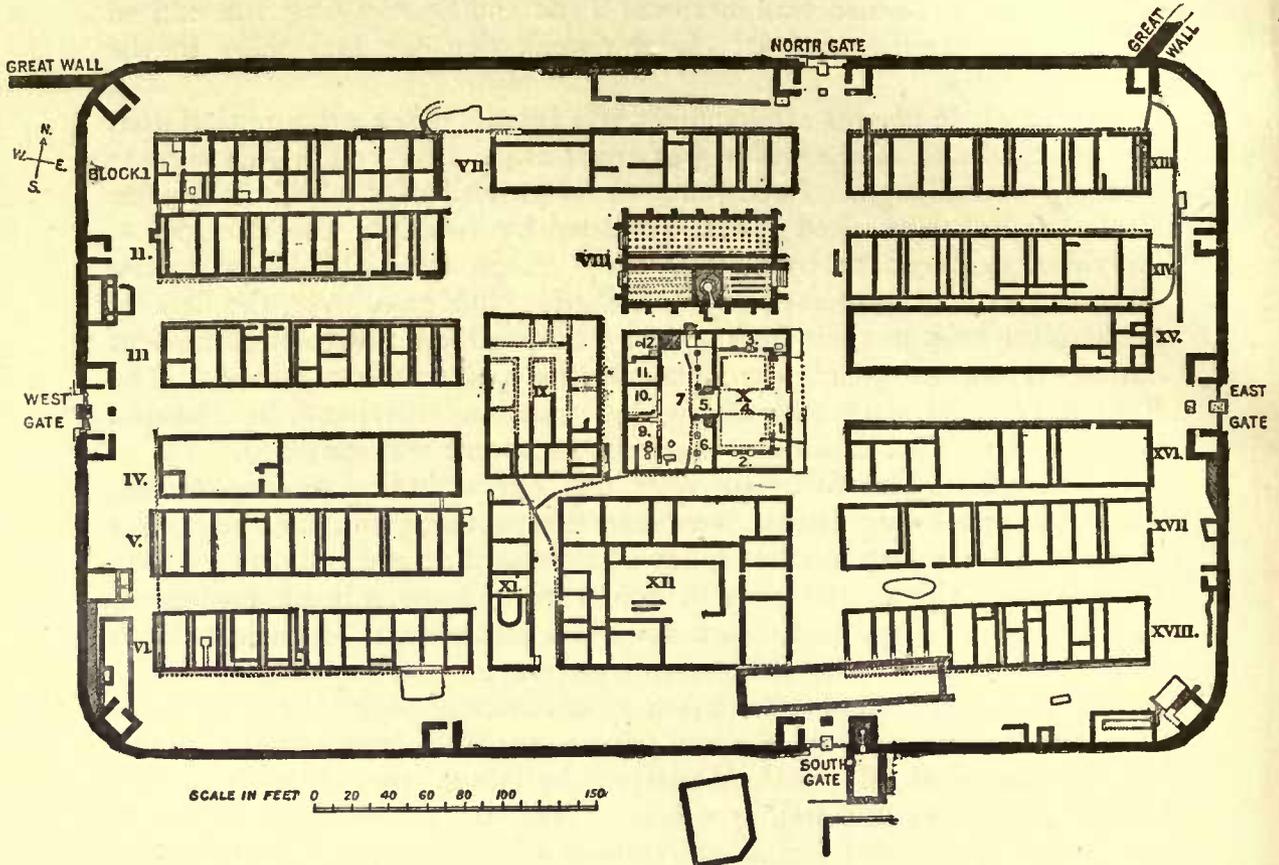


FIG. 4.—HOUSESTEADS FORT ON HADRIAN'S WALL, EXCAVATED IN 1898 BY MR. R. C. BOSANQUET. (I.—VI. and XIII.—XVIII. Barracks. VIII. Stores. X. Headquarters. IX.—XII. Probably officers' quarters.)

in general to range between $4\frac{1}{2}$ and 7 acres. But several are much smaller ($1\frac{1}{2}$ to 2 acres), and a few are distinctly larger. On the British frontier between Tyne and Solway, called Hadrian's Wall, the average size is smaller than in Germany. The areas range, for the most part, between 3 and $5\frac{1}{2}$ acres, but one or two are smaller and several are larger. These fluctuations are partly due, perhaps, to accidents—to the spaciousness of the site, or the local abundance of stone or labour, or the views of a particular officer. But in the main they seem to correspond to the various sizes of the garrisons, that is, of the auxiliary regiments. A cohort or 'ala' might be either 500 or 1000 men; a cohort was infantry,

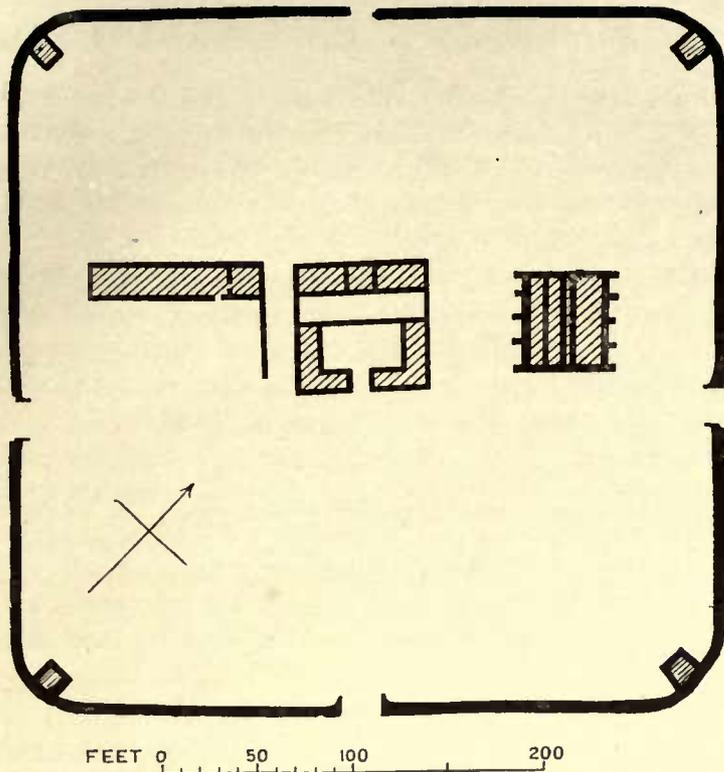


FIG. 2.—HARDKNOTT FORT, CUMBERLAND.
 (An instance of the simpler type of auxiliary fort with few buildings of stone.)

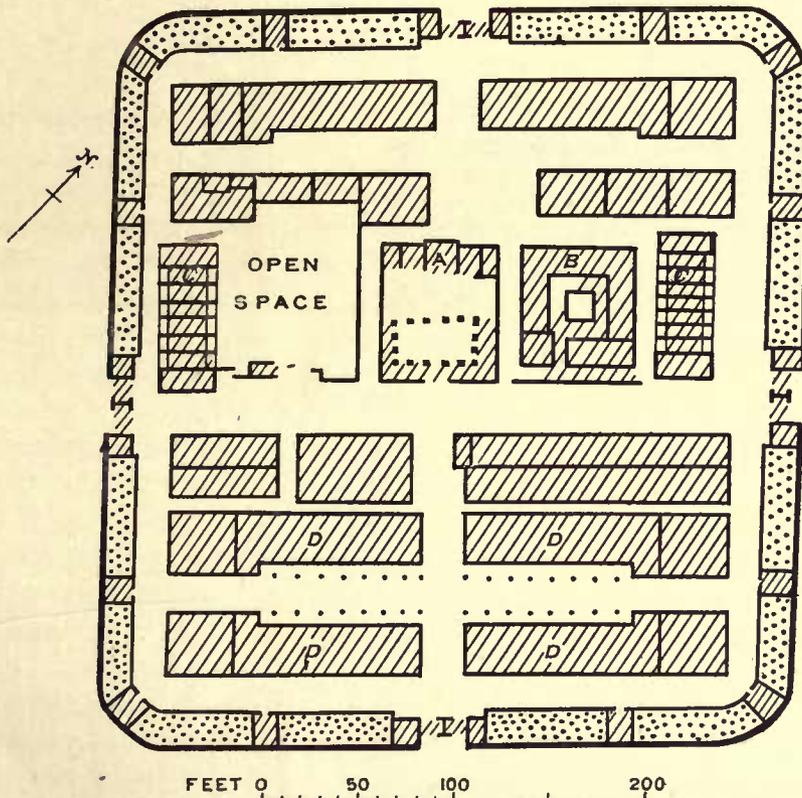


FIG. 3.—GELLYGAER FORT, GLAMORGAN.
 (An instance of the more elaborate type of fort, filled entirely with stone buildings. A. Shrine of Headquarters. B. Commandant's quarters. C. Stores. D. Barracks with colonnades.)

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an 'ala' mounted. One fort might, therefore, house no more than 500 infantry; another might have to accommodate 1,000 men with all their horses and stablemen. The shapes of the forts also vary, though less widely. They are almost invariably rectangles. But some are square, or nearly so; others are definitely oblong. It is possible, though it is not certain, that the square shape was preferred in the earlier Empire, and the oblong in the second and third centuries. But local questions, as of space, must at all times have had great weight.

The ramparts of the forts were banks of earth or of regularly laid sods, or walls of stone. In this point different periods had apparently different preferences. In the first century earth or sods were much employed, and sometimes a skin or facing of stone was added to ensure strength and a steeper slope to the rampart. During the second century the advantages of stone became gradually recognized. By the opening of the third century stone was universally used, and older earthen forts were rebuilt to suit the modern fashion. In front of the ramparts were deep V-shaped ditches, often two in number, and usually separated from the ramparts by level intervening bermes. As a whole, these defences admitted of considerable elaboration, and provinces probably differed somewhat in the treatment of them. In North Britain, for example, we meet with numerous ditches, massive ramparts, and substantial ravelins. Such occur hardly anywhere else in the Roman Empire, and we may be tempted to think that even in Roman days the Highland charge was uniquely fierce and irresistible.

The entrance to the interior of the forts was by four—or very rarely by six—gates, disposed symmetrically, one in each side. From each of the four gates a street ran straight towards the centre of the fort, and other smaller lanes and passages divided the various buildings of the interior. These streets and lanes were all parallel to one or other side of the ramparts, and the internal arrangements of the fort preserved the same rectangular character as its outline. At the centre stood the chief buildings, the head-

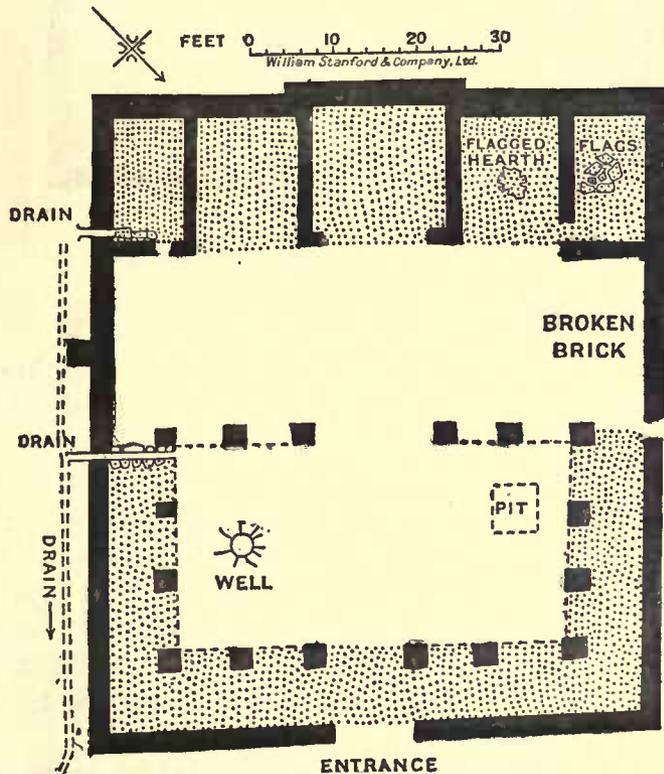


FIG. 5.—HEADQUARTERS BUILDING AT GELLYGAER.

(The part shaded was roofed.)

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quarters, or, as it is often (not perhaps correctly) styled, Prætorium. This was a square or oblong structure, varying in size in various forts: a small specimen might measure 70 by 80 feet, and a large one 140 by 180 feet. As an important edifice, it was built almost invariably of

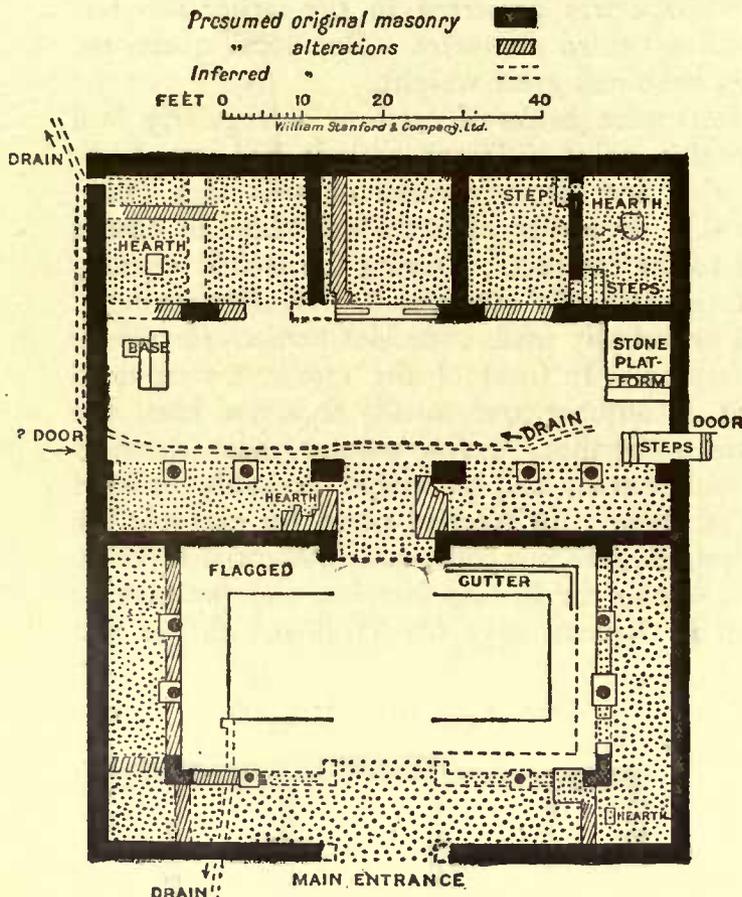


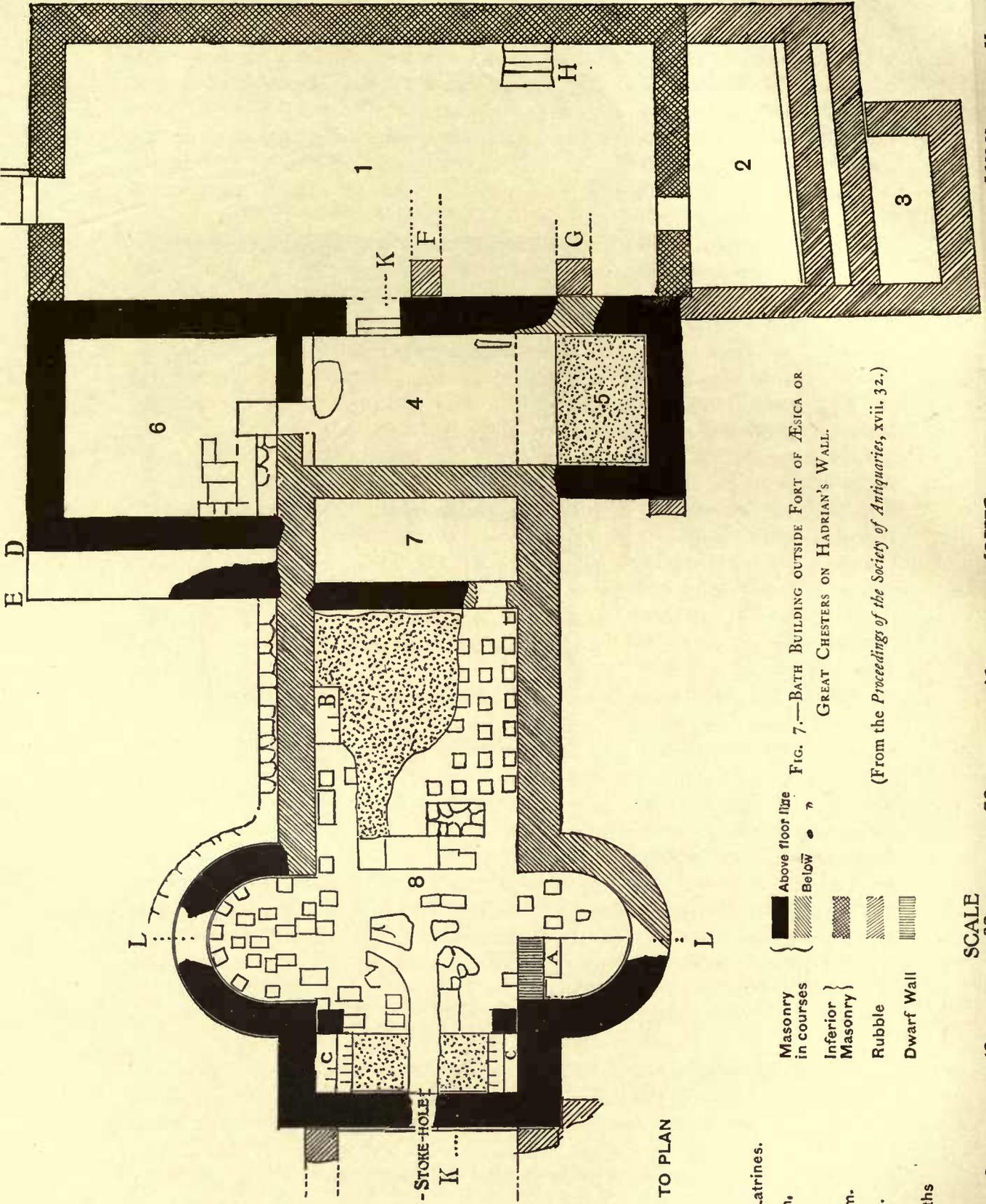
FIG. 6.—HEADQUARTERS BUILDING AT HOUSESTEADS.
(The part shaded was roofed.)

for weapons. Such is the general scheme, but the details naturally vary slightly between fort and fort and between province and province. In particular we seem able to distinguish two types of headquarters, a simpler one in which the division between the two courts is made merely by an arcade or wall, and a more elaborate one in which a roofed passage intervenes. It is possible, though it cannot be called certain, that the simpler is the earlier type. See figs. 5 and 6.

Close to the headquarters stood other important buildings, usually of stone. Two of these are constant features—the officers' quarters, a residential structure comfortably fitted with hypocausts and sometimes

stone. Its entrance, or at least its chief entrance, was in the middle of one side, usually one of the shorter sides. Through it the visitor reached first an open yard encircled by a cloister, and then an inner and smaller yard.¹ Behind this, at the back of the whole structure, was a row of some five rooms looking out on to the inner court. The middle room was the shrine where the standards of the regiment were preserved, where the gods of the army were officially worshipped, and where the military chest was kept in a sunk strong box or cellar. The other rooms, which usually have heating apparatus of one sort or another, were apparently offices for clerks and, occasionally, store-rooms

¹ Some archæologists have thought that the inner yard was roofed and resembled a large hall. So Constantin Koenen in his account of Novæsium (*Bonner Jahrbücher*, 111, 112 : 1904), and Ward in his account of Gellygaer (*Cardiff Naturalists' Soc.* xxxv. 1903). But Koenen's plans do not seem to me to justify his conclusion, and for Gellygaer I may refer to my note in Mr. Ward's report, p. 56.



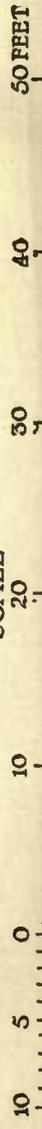
REFERENCE TO PLAN

- 1. Courtyard.
- 2. Latrines.
- 3. Cesspit of Latrines.
- 4. Frigidarium.
- 5. Cold Bath.
- 6. Apodyterium.
- 7. Tepidarium.
- 8. Caldarium with hot baths

Masonry in courses	{	█	Above floor line
		▨	Below
Inferior Masonry	}	▩	Rubble
		▧	Dwarf Wall

FIG. 7.—BATH BUILDING OUTSIDE FORT OF AESICA OR GREAT CHESTERS ON HADRIAN'S WALL.
(From the *Proceedings of the Society of Antiquaries*, xvii. 32.)

SCALE



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with baths; and the store-houses, one or more long buttressed buildings fitted with damp-proof basements, in which traces of wheat stores have occasionally been discovered. The remainder of the fort was occupied by barracks and other apartments for the use of the soldiers. The barracks, when built in stone, were usually long, narrow edifices divided up into numerous rooms, fronted by a colonnade (see fig. 3, D), and terminated at one end by a piece of building as broad as the other rooms and colonnade together. But the employment of stone for these barracks is not at all universal. We find it on Hadrian's Wall and in many British forts, in which the whole interior, except the streets and one or two open spaces, is covered by stone buildings. But in other British forts wood was freely used, and on the German frontier stone-built barracks seem hardly ever to occur. Here again, therefore, we seem to have two types of forts, one simpler than the other. (See figs. 2 and 3.)

The interior of the fort accommodated only the fighting men and their weapons, stores, and horses. Other elements of the soldier's life found their place outside the ramparts. One constant feature was the bath-house, often mis-described as a 'villa.' It was a detached building some 50 or 100 yards from the fort, perhaps 40 by 90 feet in extent, fitted with the usual arrangements of the Roman bath—a furnace to heat the air, hot rooms providing vapour baths, a small tank for the cold-water plunge, which completed the bathing process, dressing-rooms, and offices (fig. 7). Not infrequently two or three shrines stood near, and sometimes a cave of Mithras. Here, too, was the civil settlement of camp followers, women and traders, and perhaps an old soldier or two and a few slaves and natives.

Such in its main features was the fort occupied by auxiliary troops. The legionary fortress was much like it. It was, indeed, only the auxiliary fort magnified and enlarged. The two together formed the chief elements in the Roman occupation of disturbed and dangerous districts. Other elements might be added—frontier walls, as between Tyne and Solway, or blockhouses along unsafe highways. But these belong to special conditions of place or of time. The fort and fortress remain the primary and permanent features. In any unquiet region throughout the Empire, especially on its frontiers, we may expect to find a few legionary fortresses and many auxiliary forts. That, substantially, is what we do find in the uplands of Britain.

2. SKETCH OF ROMAN DERBYSHIRE

Derbyshire belongs to the hill-country of Britain. Its dominant physical feature is an elevated limestone plateau which covers most of its area. The highest points of this plateau are in the north, where the Peak and Bleaklow summits exceed 2,000 feet. Thence, varied by undulating downs and scored by sudden precipitous valleys, it sinks gradually and irregularly towards the south and east. In general it maintains an elevation of over 900 feet. Its climate is cold. Its soil produces little

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but grass, though the cliffs of its gorges are often thick with trees. Its whole aspect is that of an upland. Only as it approaches the borders of Leicestershire and Nottinghamshire does it fall away into lowland, and true agricultural life becomes easy.

Being thus part of the hill-country, Derbyshire was occupied by the Romans in military fashion. Roads were constructed through the district, and forts garrisoned by auxiliary regiments were built at points on these roads. Three of such forts are known within the limits of the county. One was at Little Chester, now a northern suburb of Derby, beside the Derwent. Though planted in a level, low-lying plain, it stood, nevertheless, near the beginning of the hills, and guarded the opening of the Derwent valley, while it also protected a junction of not unimportant roads running from north to south. A second fort at Brough, near Hope, in the pleasant valley of the Noe, performed a similar double duty. It watched the rough hills of High Peak, and it maintained communication between South Yorkshire on the east and Manchester on the west. A third fort hard by Glossop, now known as Melandra, held the northern gate to the same wild country, and further formed another link in the defence of the route from east to west. With these forts we may join two others which lie outside of Derbyshire, the fort at Manchester, and the fort at Templeborough, in Rotherham, slightly north of Sheffield. The five were united by a definite scheme of roads. The Rycknield Street ran from the south past Little Chester, to Templeborough and the north. The Long Causeway and Doctor Gate ran from Templeborough westwards near Brough and Melandra down to Manchester. A third, now nameless, road connected Manchester by way of Buxton with Little Chester, and finally the cross road Bathamgate joined Buxton to Brough.

These forts and roads plainly served two needs. They helped to coerce the hill-men, and they facilitated the general communications of the province. The second was perhaps the less serious matter, for the Roman roads which traversed Derbyshire were neither parts of important through routes, nor did they directly connect together important sites. The need for coercion, on the other hand, was real. We do not, unfortunately, know the facts well enough to write the history in detail. Most of the forts and roads were probably established during the first century. Certainly they were in full use during the second century. That was a time when the north of Britain was not yet peaceful. The Brigantes, for instance, who lived in what is now Yorkshire, Lancashire, Durham, and Cumberland, were at open war with their Roman masters at some not precisely known date in the reign of Pius (A.D. 138-161). During this period the Derbyshire forts seem to have been fully garrisoned. Brough, as we know from an inscription, was either built or rebuilt in A.D. 158, perhaps in connexion with the Brigantian insurrection, and was again altered or repaired a generation or two later. It was still necessary, it would seem, in the early years of the third century to maintain troops in these regions.

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But Roman Derbyshire included other features which were not military. One is the mineral springs at Buxton. These were known and used during the Romano-British period, though they enjoyed far less popularity than the hotter and more accessible springs which rise in the agreeable climate of Bath. Another is the lead-mining industry. The limestone hills of Derbyshire, like those of Somerset, were rich in lead, and the Romans worked it freely in the neighbourhood of Matlock, and probably also on many sites north of it, as near Monyash, Stony Middleton, and Brough. With this mining we may connect various traces of casual inhabitation at or near these places, and others round them; but of the period and the organization of the industry we know very little.

A third, less important but very curious feature is presented by the traces of cave life, which occur especially near Buxton. This cave life is not, as has often been supposed, the result of the Saxon conquest of England. It does not belong to the fifth century, nor is it the remains of fugitive Britons sheltering in holes of the earth from barbaric pursuers. It may be dated rather to the period between the late first century and the middle of the third century, and it appears, in some caves at least, to have persisted for many years. Parallels to it, of similar date in the main, may be quoted from the caves near Settle and Arncliffe in Yorkshire and from a few other sites, and it must be accepted as a feature, though not a common or predominant feature, in the civilization of Roman Britain.

It is possible that further investigations may some day add one more element to the Roman remains of the county. The extreme south and east of Derbyshire, as has been said above (p. 200), are low-lying and suitable to agriculture, and we might expect to find a few villas here. That none have yet been discovered may well be due to accident. Villas occur only a little way outside the boundary of the county, as at Barton in Fabis and Mansfield Woodhouse in Nottinghamshire. It is, however, certain that many parts of the Midlands were but thinly inhabited in the Roman period, and it is likely enough that the absence of villas in any part of it may be due to this and not to the chances of discovery.

3. BROUGH

From this general sketch we pass on to describe in detail the Roman remains found in the county and, first, the three forts of Brough, Melandra, and Little Chester.

Brough is a tiny village hidden among the High Peak hills some ten miles west of Sheffield. Its position is significant. Here the deep valley of the little river Noe broadens out round Hope, Castleton, Bradwell and the mouth of Derwentdale, and forms the one real gap in the continuous uplands of north Derbyshire. Here is a little space of low, well-watered ground, fit for habitation, and here, if anywhere, a garrison might well be stationed to control the encircling hills.

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The actual point chosen for this garrison is characteristic of Roman methods. It is no isolated impregnable peak, but a gentle eminence in the

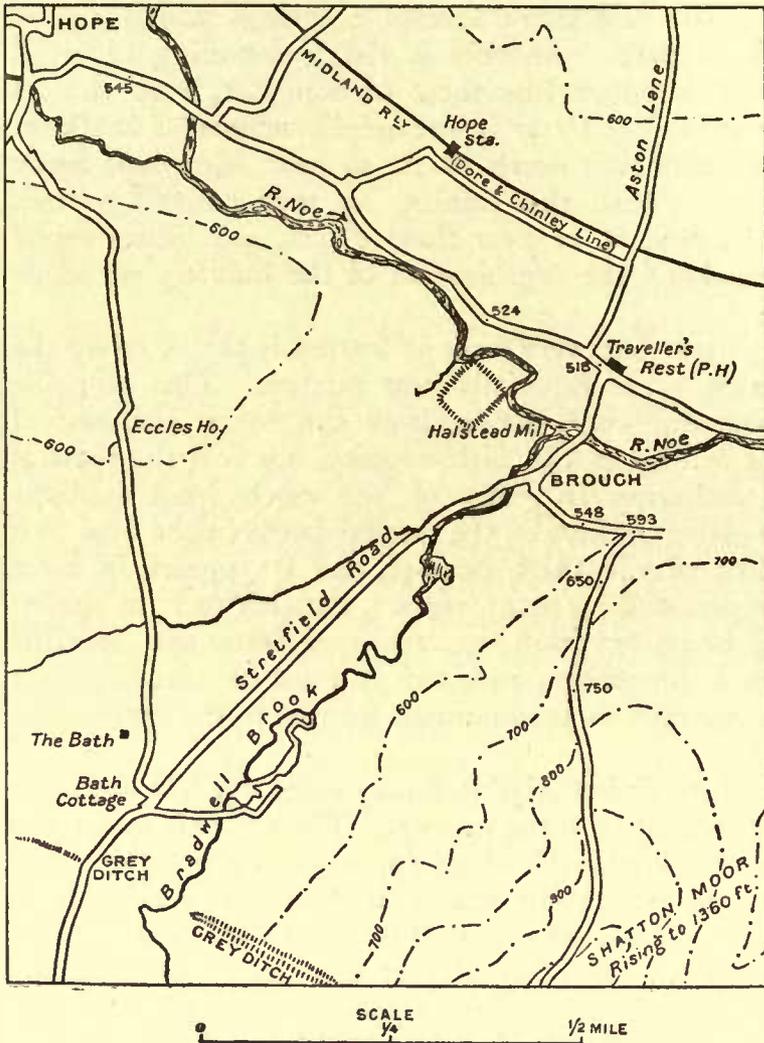


FIG. 8.—SITE OF BROUGH FORT, ANAVIO.
(The heights are in English feet.)

middle of the valley, which a modern eye might easily neglect (fig. 8.) The ground falls away from it more or less slightly on all sides. On the north-east, twenty or thirty feet below it, runs the Noe. On the north-west is the gully of a little nameless burn. On the south-east, a few score yards away, is the Bradwell Brook. Only on the south-west does the fall change quickly to a gradual rise to higher ground. In such a site in the upper of two fields called the Halsteads, the fort was planted, low enough to be near the water, high

enough to command an outlook over almost all the valley, and guarded by nature on three of its four sides. For Roman purposes this was sufficient. It mattered not that the hills tower high on either side of the valley, and command a view right into the Roman lines. Under the conditions of ancient warfare they were too far away to weaken the Roman defence.

The site has long been recognized as ancient. For generations the dwellers near have known the ruins as a convenient quarry, and the names Brough (at least as old as the twelfth century) and the Castle witness to a popular consciousness of antiquity. Archæological recognition came later. Camden may have had some notion of the Roman associations of Brough when he mentions it as one end of the Roman road Bathamgate. But its true character was not realized till the second

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half of the eighteenth century. About 1760–80 the site was several times visited and described—by the Derbyshire antiquary Samuel Pegge, in 1761; by John Whitaker, historian of Manchester, in 1767; by William Bray, afterwards historian of Surrey, about 1777—and its military character was correctly understood. To this period of recognition succeeded 120 years of neglect. Little (as it seems) was found, and certainly little was recorded. Finally, in August, 1903, Mr. John Garstang made a brief trial of excavation on behalf of the county archæological society.

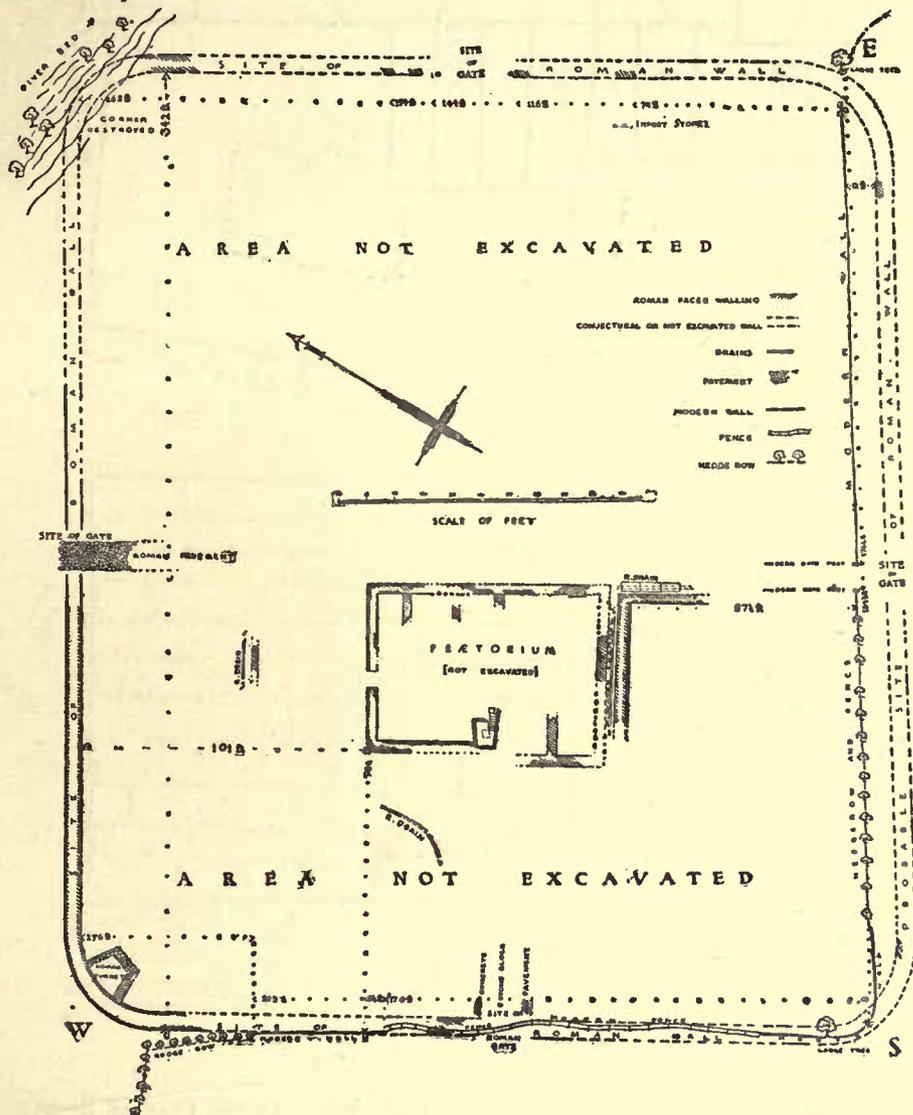


FIG. 9.—THE FORT AT BROUGH, AS EXCAVATED BY MR. GARSTANG IN 1903.
(*Derbyshire Archæological Journal.*)

The remains at present known to us exhibit an auxiliary fort of the ordinary type, though of somewhat small dimensions (fig. 9). In shape this fort was a rectangular oblong with rounded corners; in size it measured about 285 feet by 340 feet, and its internal area, exclusive of the defences, amounted to some $2\frac{1}{4}$ acres. With an inaccuracy which is common in

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Roman military works, the angles of plotting were not strict right angles, and the opposite sides are therefore not mathematically parallel. The fort was defended by a stone wall 6 feet thick, faced with courses of gritstone and filled inside with rubble and concrete in the usual Roman fashion (fig. 12.) In the middle of the two shorter sides and near the middle of the two longer ones were the four gateways—not yet excavated. The west corner of the fort and presumably each of the other corners contained a turret. What manner of fosse encircled the rampart is unknown.

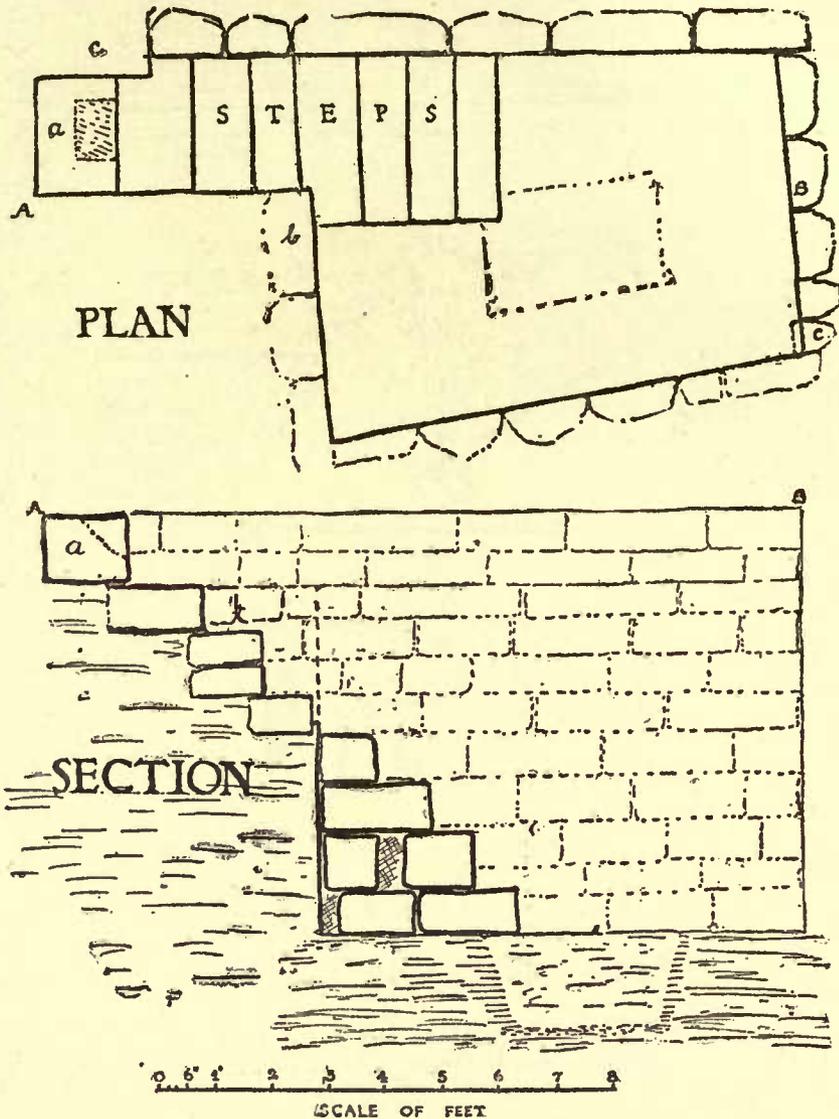


FIG. 10.—PLAN AND SECTION OF SUNK CHAMBER OR VAULT IN THE FORT AT BROUGH.
(*Derbyshire Archaeological Journal.*)

Of the interior little has been uncovered. We know only the outline and one detail of the central building or headquarters. This building was found in 1903 to be an oblong, though not quite mathematically rectangular, and to measure, roughly, 60 feet by 85 feet. Its back wall showed traces of two periods of building. Of its internal arrangements only one part has been examined. This is a sunk pit or vault,

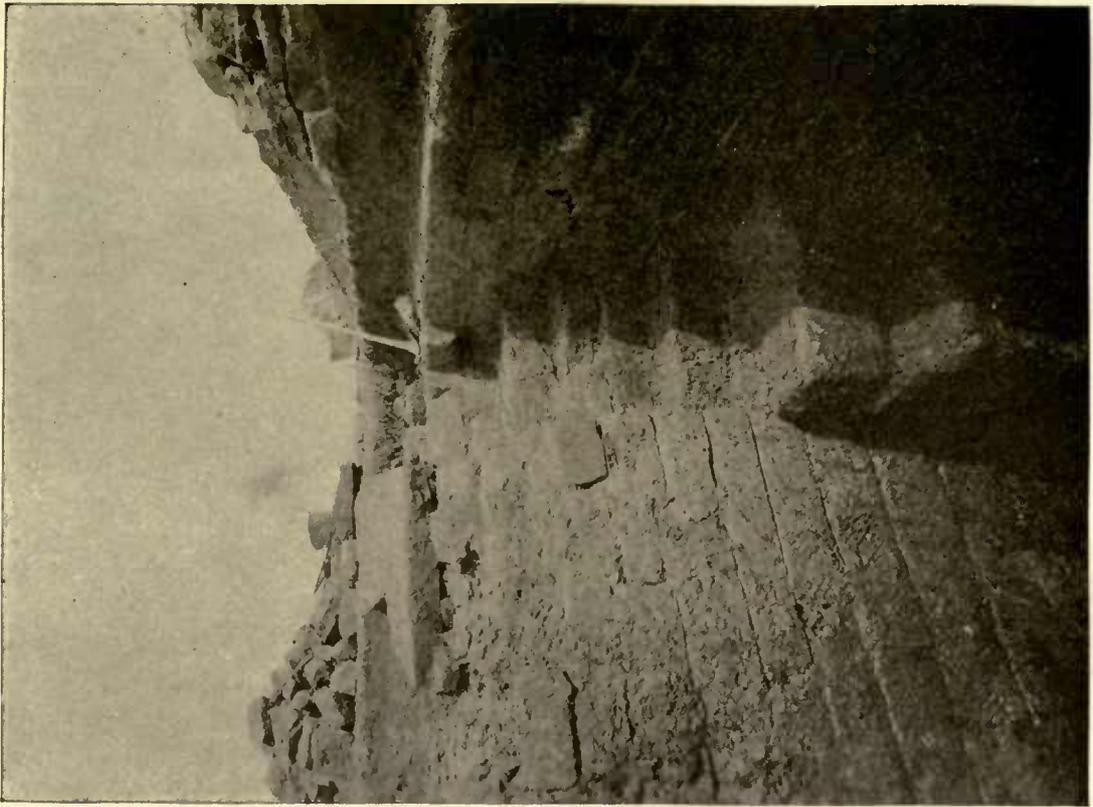
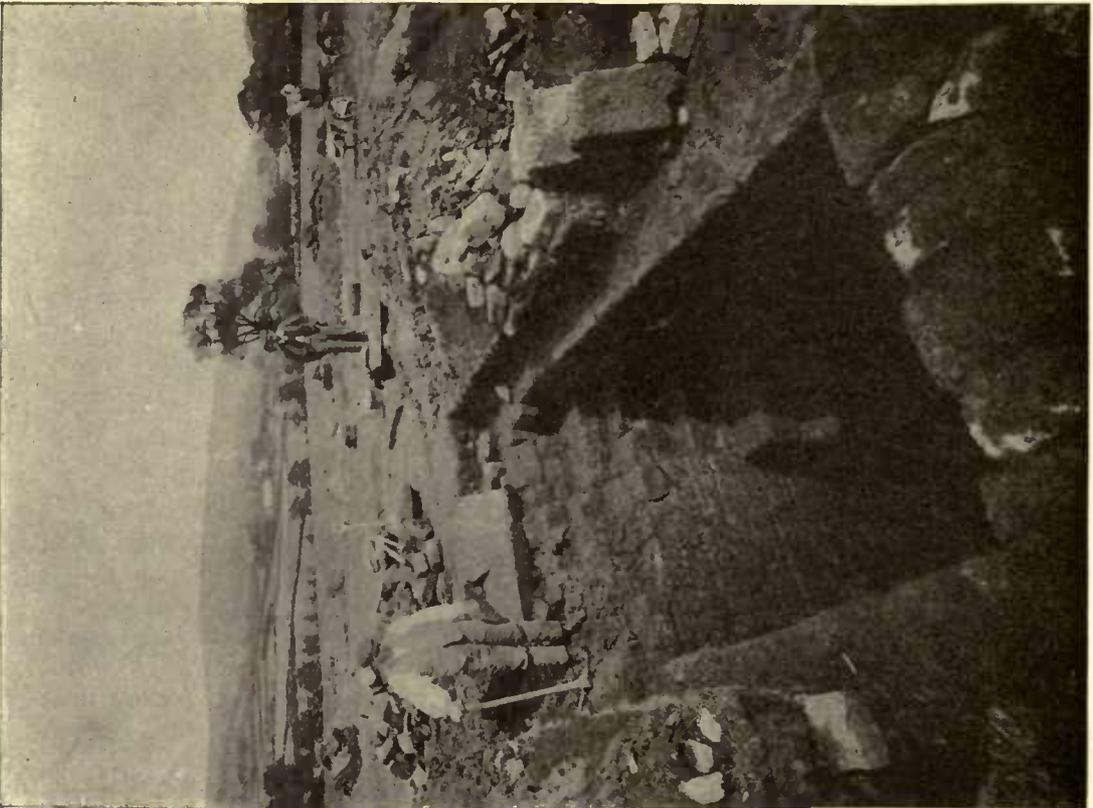


FIG. 11.—TWO VIEWS OF THE SUNK CHAMBER OR VAULT AT BROUGH. (*Derbyshire Archeological Journal.*)

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nearly rectangular in shape, 8 feet long by 5 to 7 feet wide and 8 feet deep, walled with eleven courses of good masonry, floored with cement, and entered by eight steps (figs. 10, 11.) The walling contained a fragment of an inscribed slab, dated about A.D. 158, which had been broken up and used as building material. The vault was therefore constructed or reconstructed some years later than that time. When excavated it was found to be full of mixed stuff. On the top were bits of building stone, fragments perhaps of the vaulting or the structures above it. Lower down were three other fragments of the inscribed slab, a drum of a column, a stone trough, a few corroded coins ascribed conjecturally to the fourth century, some potsherds, numerous bones, some of Roman date (*bos longifrons*, etc.) and some judged by Professor Boyd Dawkins to be later, and at the bottom a wooden tub and broken concrete slabs, apparently the original flooring.

The meaning of the vault is not doubtful. It corresponds to various vaults or sunk chambers which have been detected inside other forts in this island and abroad. These vaults lie under or very near the shrine of the headquarters building (p. 198), where the regimental standards and the military chest were kept. They have been reasonably explained as strong rooms, and in point of date appear to belong particularly to the late second and early third centuries. In its details—size, shape, steps, position, and date—the Brough pit agrees well with other specimens of these vaults, and we may fairly consider that it was built as a strong room. It may have been somewhat damp for its purpose, since in 1903 it filled quickly with water. But when the Roman drains of the fort were in order it was probably drier. Similarly the vault at Chesters, when first opened by the late Mr. John Clayton, filled at once, and a drain was required to clear it; but it plainly was not below water level in Roman times. We may be tempted, however to think that ultimately, either in late Roman days or perhaps afterwards, it came to be used as a well, and the bucket at the bottom may be a trace of this stage in its history. Finally it became filled with rubbish and débris, and if Professor Dawkins has dated the bones rightly, a good part, if not all, of this process, must have occurred in post-Roman times.¹

Of other structures inside the fort or without it we know little. The excavators of 1903 revealed, but did not explore, a well-built edifice, almost touching the headquarters building on the south-east. Of other edifices in the fort nothing is yet known. Outside the fort we have, however, indications (as it seems) of the usual bath-house, placed to the south-east near Brough Mill and the union of the Noe and Bradwell Brook. Here Pegge saw in 1761 an oblong building with brick walls

¹ Mr. Garstang, in his report, supposes that the pit was first built without steps; then, long after A.D. 158, the steps were added, the centre deepened, and the pit converted into a well. I do not understand why the steps should not be here, as elsewhere, part of the original vault, or why they should have been constructed when the pit was converted into a well. The fact that the four lower steps are built up against the wall of the vault is not, in itself, conclusive of any view. The steps might at first have been wooden. Or it might have been desirable, for strength or dryness, to build the lower part of the walling round the vault continuously on all four sides.

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and gritstone quoins, and a pavement of tiles and cement, and Bray records a 'pavement of small bits of brick and pebble strongly cemented,' and 'a double row of gritstone pillars wide enough for three people to walk abreast between them,' destroyed before his day, but remembered by tradition. Bray's pavement is doubtless the same as Pegge's, and his pillars may be taken to be the *pilæ* of the hypocaust required for the bath-house.¹ Among the tiles of this building were one or two with the letters COH or the like, broken and imperfect. Of the cemetery and the camp-followers' village, both of which we should expect to meet outside the fort, no definite traces have yet been noticed. Urns with ashes have, however, been found occasionally, and the Ordnance Survey places some such on the further side of Bradwell Brook.

The finds of smaller objects include some inscriptions and architectural fragments, querns, stone balls suitable for catapults, glass, potsherds (amongst which are some bits of embossed Samian bowls of a second-century type),² a few coins, and some minor fragments. The coins are: a gold coin of 'Augustus'; another of Vespasian (A.D. 71, Cohen 97); a 'Second Bronze' of perhaps the second century, found in 1903 near the headquarters; and some undecipherable Third Brass, conjecturally assigned to the fourth century, found in the filling of the vault.³ They throw no light on the history of the fort.

More importance attaches to the inscribed and architectural fragments, and especially to the inscriptions. These are as follows:—

(1) Four pieces of an inscribed slab, which when perfect was an oblong panel with a plainly-moulded border, 30 or 32 inches tall, 54 inches long, and 4 inches thick. They were found in the vault in 1903. The piece inscribed SCOPRAF was walled in, as a bit of old building material, at the point *b* on fig. 10. The other three pieces were found in the débris which filled the vault, about halfway down. The largest piece had obviously been used at one time as a flooring slab, no doubt by the Romans themselves, before it was thrown into the vault. The whole when perfect was inscribed with six lines of lettering, the first five lines 2 inches high and the sixth $2\frac{1}{2}$ inches (figs. 13, 14.) The text is:—

Im[p.] Caesari T. [Ael. Hadr. An]tonino A[ug. pio. p.p] cob. i Aquita[norum] sub Iulio V[ero leg.] Aug. pr. pr., inst[ant]e [?] Ca]pitonio [Fu]sco pra(e)f.⁴ 'In honour of the emperor Titus Aelius Hadrianus Antoninus Augustus Pius, *pater patriæ*; (erected

¹ Pegge, *Roads through the Coritani*, p. 40; Bray, *Tour*, p. 210. With these we may connect the cement, etc., seen by John Whitaker on the Lower Halsteads (*Hist. of Manchester*, i. App. p. lx.); the 'tesselated pavement' mentioned by Bateman as found in 1773 (*Vestiges*, p. 153); the pavement near the river mentioned by John Wilson (cited in Bateman's *Ten Years' Diggings*, p. 251), and the tiles, etc., found near Brough Mill in 1892 (*Derbyshire Courier*, 26 Nov. 1892; *Antiquary*, Jan. 1893; *Derbyshire N. & Q.* i. 49).

² The pottery found in 1903, including the embossed Samian, is now in the Buxton Museum. Mr. Bateman had some bits (*Sheffield Museum Cat.* p. 213=G. i. 150; *Lombardale House Cat.* p. 125=E. i. 19). Much has been lost and dispersed.

³ For the coin of 'Augustus' see *Nottingham Daily Express*, 21 Aug. 1903; for that of Vespasian, Pegge, p. 39; for the rest, Mr. Garstang's report, *Derb. Arch. Journ.* xxvi.

⁴ The only uncertainties are in line 6, where the names of the præfect must be conjectured. The letter before P might be V or A; for Fuscus, Priscus is an equally possible supplement. The last letter may be E *praefectio*, or F *praefectio*, but seems to me F.

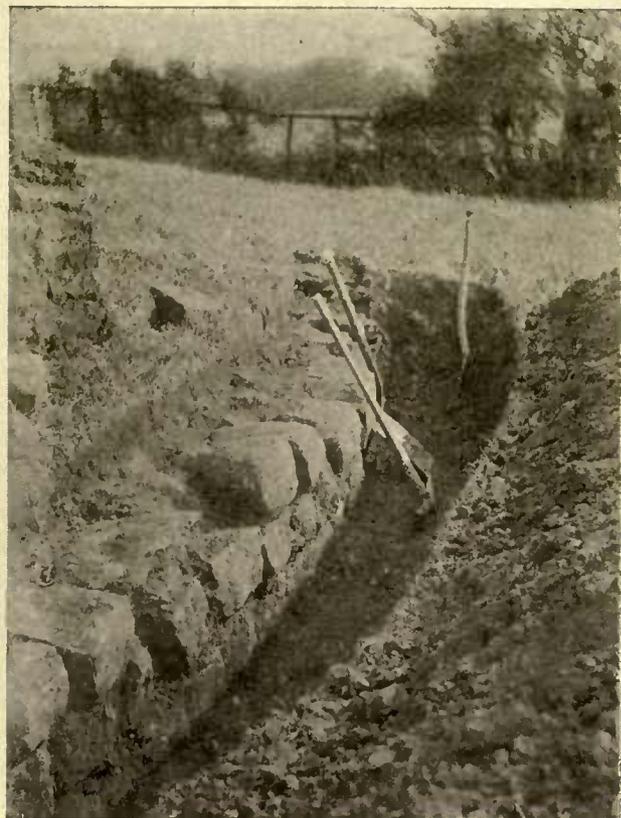


FIG. 12.—MASONRY OF RAMPART WALL AT BROUGH. (*Derbyshire Archæological Journal*.)

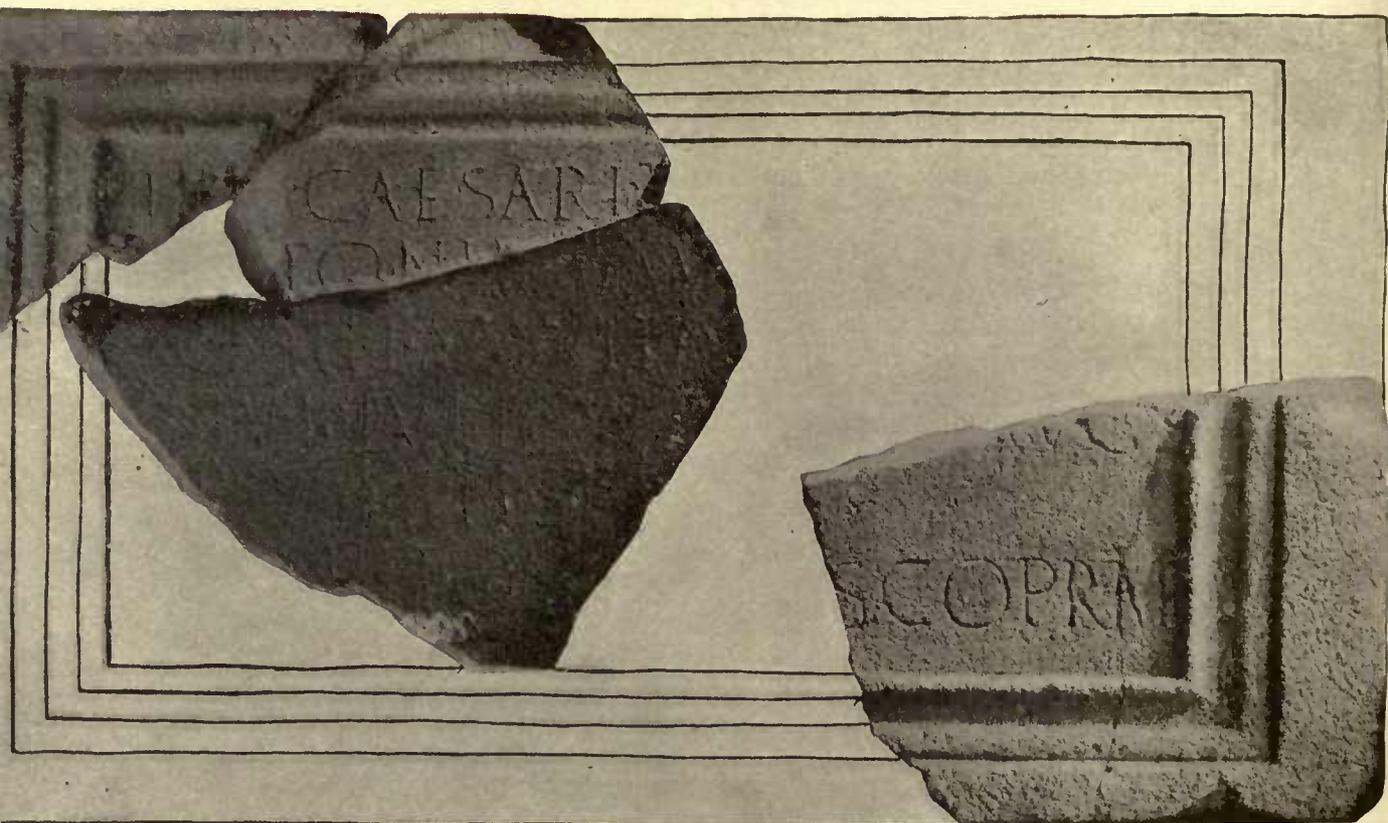


FIG. 13.—INSCRIBED SLAB FOUND AT BROUGH.

ROMANO-BRITISH DERBYSHIRE

by) the First Cohort of Aquitani, under Iulius Verus, *legatus Augusti pro praetore* (= governor of Britain), and under the superintendence of Capitonius Fuscus, praefect of the cohort.'



FIG. 14.—RESTORATION OF INSCRIBED SLAB FOUND AT BROUGH.

The emperor is Pius, who reigned A.D. 138–161. The Cohors I. Aquitanorum presumably garrisoned Brough when the slab was erected. It is known, from a military ‘diploma,’ to have been in Britain in A.D. 124, and it has left an undated memorial of itself at Bakewell in the shape of an altar to Mars Braciaca (p. 252); it also is named on a dateless fragment from Hadrian’s Wall.¹ The governor Julius Verus is also known. His name occurs in full on a slab found in the Tyne between Newcastle and Gateshead in 1903, and it is imperfectly preserved on an inscription at Birrens dated 158 A.D., as well as on a fragment from Netherby, assigned by good judges to the middle of the second century. He is also mentioned as governing Syria about A.D. 163–5, and Dr. Ritterling has acutely connected him with a man whose earlier career is set forth on a Dalmatian inscription.²

His governorship of Britain appears to have coincided with trouble and disturbance. The Newcastle inscription which names him refers also to special reinforcements sent over from the Rhine. The inscriptions of Brough and Birrens, and probably also of Netherby, though in form mere dedications to an emperor, are in reality evidences of serious activity—probably building or rebuilding—in the forts concerned. We may perhaps connect this activity with certain measures taken during the reign of Pius against the Brigantes, the powerful hill tribe of what is now northern England. The precise date of the measures is not recorded. But the only other military operations known to have been carried out in Britain under Pius, the wall building of Lollius Urbicus between Forth and Clyde in 143–4, lie very far north of the Brigantian

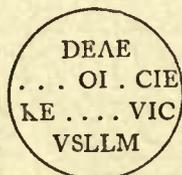
¹ *Corp. Insc. Lat.* vii. 176, 620a, 1195.

² See Dessau, *Prosopographia* (incerti, no. 19).

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lands. On the other hand, the inscriptions of Verus occur in those lands, and they may well belong to measures of coercion carried out against the restless hillmen.¹

(2) Square block, 20 inches high and 12 inches square. On the front is carved rudely in low relief a wreath or garland with tassels which encloses an inscription of four lines, the second and third almost illegible. Found in the vault, 1903; now in Buxton Museum:—



Possibly *leg(io) xx. val(eria) vic(trix)* may have formed the third line, but the letters are too uncertain to admit guessing.

(3) Two other altars, now at Buxton, were perhaps once inscribed. The larger, 28 inches high, with a panel for lettering 10 by 16 inches in size, may have had six lines of inscription, but nothing can now be deciphered. It stood for many years exposed to the weather in the village of Hope, near Brough. The other, the upper half of a smaller altar, found among the débris in the vault in 1903, has been thought to bear two brief lines, DEO | MARTI, but they are indistinguishable to my eye.

(4) Many tiles found long ago in the building which I take to be the bath-house seem to have been inscribed. Pegge gives a sketch of a broken one on which only the letters COH survive. Bray gives OH and C, both imperfect, and CH, which he says was perfect, and adds that specimens were in the collection of John Wilson of Broomhead Hall. The Buxton Museum contains a broken tile with the incised letter C but the continuation broken off. Presumably these tiles when perfect read *Coh(ors) i Aquit(anorum)*, or the name of any other regiment which was in garrison at Brough when they were manufactured.²

(5) Only one potter's stamp has been recorded. This was on the rim of an urn found in the eighteenth century and acquired by Mr. John Wilson. As reproduced by Bray it is—



and probably formed the stamp of a *pelvis* or *mortarium* (Bray, p. 211).

The architectural fragments are of less interest. The bases, plinths, and similar pieces figured by Bray and others, or now visible at Brough or in the Buxton Museum, show the heavy plainness of military work,

¹ See my remarks in *Archaeologia Aeliana*, xxv. 142, *Proc. Soc. Antiq. Scotland*, xxxviii. 454, and *Derb. Arch. Journ.* xxvi.

² Pegge, *Roads through the Coritani*, p. 40. Bray, pp. 210, 211.

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and are principally important as indicating the existence of stone buildings with pillars and the like. One or two other pieces which might have been more noteworthy have disappeared. Pegge (p. 39) records a bust of Apollo and of another deity, and others mention a half-length or bust of a woman in gritstone with her arms folded across her breast. This was ploughed up in 1747, and is probably one of the two pieces seen by Pegge. It was sketched by John Wilson, but the sketch does not make its age or character very clear.¹

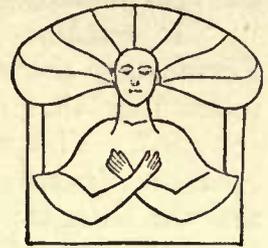


FIG. 15.—STONE FIGURE,
BROUGH.

It remains to our description to add the Roman roads on which Brough stood. They are two. The Bathamgate ran up the Bradwell valley and thence across the moors to Buxton, and its stones remain to this day. The Doctor Gate and the Long Causeway—two popular names for two parts of one road—connected Melandra and Brough and Templeborough. But the exact approach of this route to the fort at Brough is uncertain (p. 250).

Such are the details at present known concerning Roman Brough. They are plainly too scanty to permit us to write its history. But we can make the beginnings of a history. The fort was built or rebuilt about 158 A.D. in connexion with other steps taken to coerce the northern hill tribes, and at this time it was garrisoned by the Cohors I. Aquitanorum. Later on it was rebuilt or in some fashion altered. The monumental slab which recorded the work of 158 was broken up and its pieces used for flooring or for walls, and this is the sign of some considerable structural changes. We cannot, however, date these changes. Plainly they came many years after 158, and various probabilities unite to suggest the opening years of the third century. At that time there was much military activity and much rebuilding in Britain, and that not merely in the region of Hadrian's Wall. But further evidence can alone decide the question. What followed is still obscurer. The coins found in the vault, if they have been rightly attributed to the fourth century, tell us that the place was then not wholly uninhabited. But we cannot tell whether the inhabitants were soldiers or whether the fort had been dismantled earlier.

One more historical item, concerning rather the district than the fort of Brough, may be gleaned from an inscription found at Foligno in Italy. It is on the tombstone of a man who, among other temporary posts, was *censitor Brittonum Anavion[ensium]*, 'census officer of the Anavio-nensian Britons,' about 100 or 110 A.D. These Britons, as we shall see in the next paragraph, lived round Brough, and it is likely enough that the census taken of them about 100–110 was the first ever taken. It might, indeed, be one of the ordinary more or less periodic censuses, but in that case it would hardly have been worth mentioning on a tombstone. If, however, it was the first census of these particular Britons it would be

¹ J. Whitaker, *Hist. of Manchester*, i. 143; Bray, p. 212; Wilson, in Bateman's *Ten Years' Digging*, p. 252, with sketch here reproduced. The stone, according to Wilson, was 2 feet high and 18 inches broad.

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of more moment. It would represent their first definite enrolment in the Empire, as men liable to taxation and to conscription.¹ It would imply the systematic organization of this district in the Roman system.

It remains to determine the Romano-British name of Brough. Fortunately the task is easy. A milestone found at Buxton in 1862 states that that place was 10 (or perhaps 11) miles ANAVIONE (p. 226). This might be interpreted either *a Navione*, 'from Navio,' or *Anavione* ' (from) Anavio.' But the Foligno inscription just cited shows that the latter is preferable. If we proceed to inquire where Anavio was, we shall find only one Roman site distant 10 or 11 miles from Buxton and connected with it by a road. Brough, therefore, is Anavio, and the Anavionensian Britons are the hillmen of High Peak. With this result we may connect two items in the Anonymus Ravennas. He mentions a river Anava next to a river Dorvantium, and a place Navione² or Nanione next to Aquis. If we take Dorvantium to be the Derwent, Aquae to be Buxton, and Navione to be a mis-spelling of Anavione,³ everything falls into its place. We may even go on to think that the river at Anavio was called Anava, and that the name still survives in Noe.

4. MELANDRA

Melandra is a Roman fort in the parish of Glossop and the township of Gamesley, near to the Cheshire border and the Dinting station of the Great Central Railway. Its position is no less significant than that of Brough. Near Glossop, the gorge of Longendale, meeting lesser valleys, begins to widen towards the Cheshire and Lancashire lowlands. Here is the easiest entrance to the north Derbyshire hills. Here, too, is the nearest point to those hills that is readily accessible from the western plains. The ancient soldier, wishing to plant a fort within striking distance of High Peak and yet within safe reach of western communications, would find his fittest site near Glossop.

The actual position selected for the fort agrees well with Roman custom (fig. 16). Not far from Glossop a low spur of hill runs out from the south side of the valley into Longendale, and on the end of this spur stands the fort. The ground falls away from it on all sides except for a narrow neck to the southward, which quickly changes to a rise. But on the other three sides a slope of varying steepness descends a hundred feet to the river Etherow and the Glossop Brook, which meet a little way north of the fort, and to a little ravine which descends to the Glossop Brook. It is a well-protected site, and it commands a wide outlook over Longendale and the great hills around it. And at the same time

¹ *Corp. Insc. Lat.* xi. 5213=Dessau 1338. Watkin, who first saw that this inscription referred to our district, misinterpreted it both by taking *caesitor* as the officer of a cohort, and by eliciting a cohort with the impossible title of *Brittones a Navione* (*Archæological Journal*, xli. 255 : *Derb. Arch. Journ.* vii. 83).

² Parthey and Pinder gave Nanione as the reading of the best MSS. But Prof. J. S. Phillimore, who examined the chief MS. for me, the Vatican Urbinas 961, tells me that it reads Nauione. In either case the divergence from Anavione is slight.

³ Omissions of initial letters are not the least common among the many errors of the Ravenna lists.

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it lies low enough to be sheltered and habitable, and water and cultivable ground are close at hand.¹

The site, though popularly known as the Castle Yard and Castle Carrs,² received no archaeological recognition till an even later date than Brough. In 1771 it was visited by the Rev. John Watson, a prominent local antiquary, and its remains — then, as it seems, comparatively undisturbed — were at once correctly explained as those of a Roman fort. But, as at Brough, the discovery was not pursued. Later writers, Bray, Pilkington, Gough, Aikin, Lysons, Glover and others, contented themselves substantially

with quoting Watson for over a hundred years. Meanwhile much has perished; masonry has been robbed for modern buildings; the ground has been ploughed and broken up deeper than the plough limit by draining. Chance finds have been made, but scantily chronicled.³ In 1899 a brief beginning of definite excavation was made by Mr. Garstang and others,⁴ but only occasional search has been made since, until quite

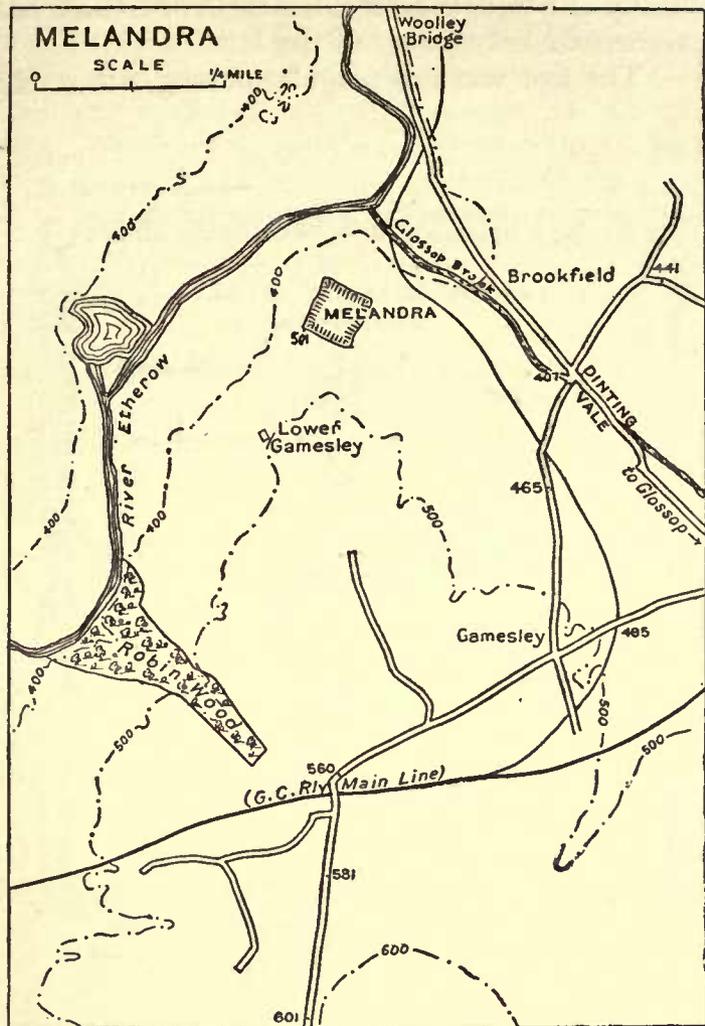


FIG. 16.—SITE OF MELANDRA FORT.
(The heights are in feet.)

¹ The proximity of Mouselow camp has been cited by some writers as the reason for the establishment of a Roman fort at Melandra. But I imagine it had little to do with the matter. No Romans, nor anyone else for that matter, would tolerate the existence of a hostile fortress in the middle of their own territory and merely plant a permanent fort close by to watch it. They would clear it out and have done with it. Here, as so often, our English antiquaries have confused the strategy of a single campaign with that of a permanent occupation.

² Watson citing old deeds, but without date or reference.

³ The chief seem to be: 1832, an inscribed fragment (p. 214); 1841, a stone coffin (p. 213); 1863-4, querns, coins, etc. found in draining and mostly not recorded; 1865 or 1875, traces of a gate with keystone of arch found and foundations traced and removed by the farmer. *Derb. Arch. Journ.* xxi. 14. *Antiquary*, Sept. 1882, p. 123.

⁴ Garstang, *Derb. Arch. Journ.* xxiii. 90; Hamnett, *ibid.* 99.

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recently the Manchester Classical Association has endeavoured to initiate a systematic uncovering of the fort.

The fort was a rectangular oblong, measuring about 380 by 355 feet,

and containing internally not quite three acres (fig. 17). It was defended by a rampart and—at least on its south and east sides—by a fosse. The rampart did not consist of stone like that of Brough, but of a stone facing, backed by rubble and boulder clay taken probably from the fosse. The facing, about two feet in thickness, was of excellent coursed masonry, and near the north-east corner contained an inscribed centurial stone. The rubble, thickest at the ground level, made a backing of 4 or 5 feet, and the earth added another 15 feet. No inner facing of stone could be found. Such

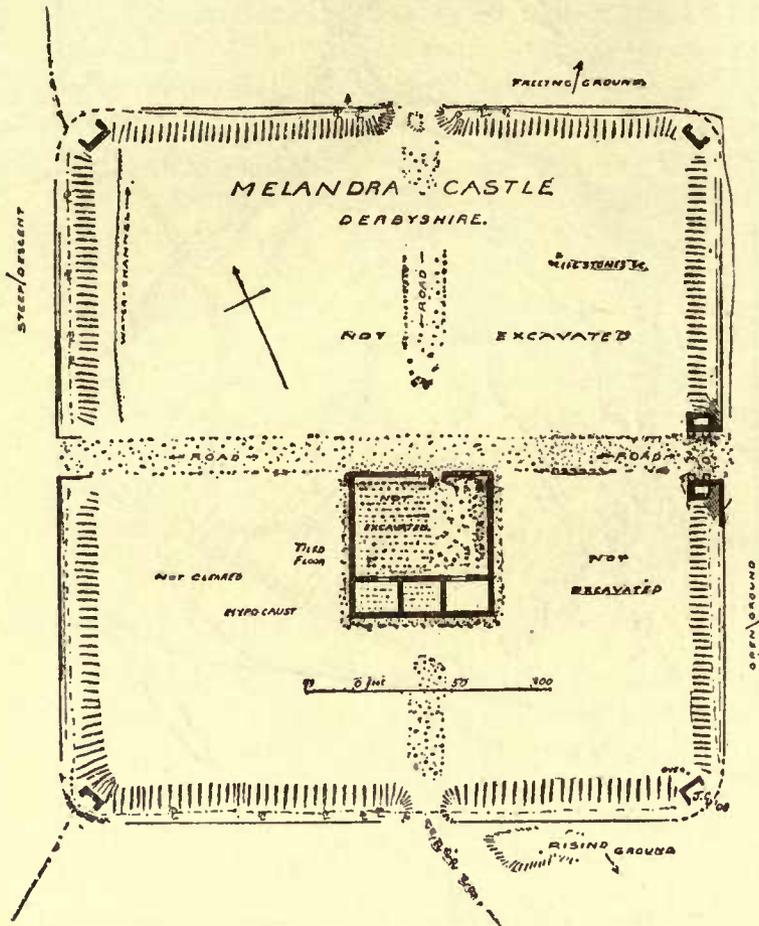


FIG. 17.—MELANDRA, AS EXCAVATED IN 1899.
(*Derbyshire Archaeological Journal.*)

a rampart is unusual, and may possibly be earlier in date than the commoner wall of stone which encircles Brough. Four gateways can be distinguished. The eastern one, opened in 1899, had two flanking guard-chambers, and an entrance 20 feet wide, probably divided into two

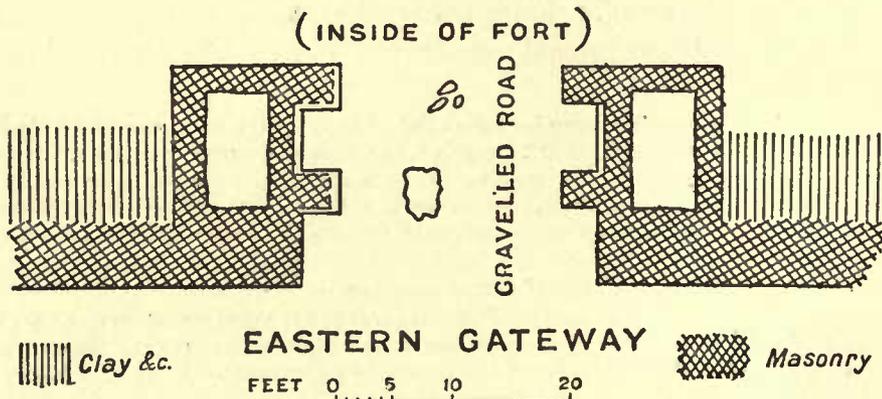


FIG. 18.

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arched passages, some voussoirs of which were found lying near (fig. 18). The excavators thought that the two archways were unequal in size—one being large for wheeled traffic and one small for foot passengers. The western gate was found in 1905 to be exactly similar, even in the inequality of the two entrances. The south gate, on the other hand, had a single archway 11 or 12 feet wide, with a guard-chamber on each side. The rampart had also corner turrets, and close to the south-eastern turret an oven or hearth was found in 1899. In other forts frequent traces of cooking and kitchen refuse have been discovered inside the turrets.

Of the interior of the fort little is known. The headquarters building was partially cleared in 1899 (fig. 19). It measured 76 by 87 feet, was entered by a door not quite in the middle of the north side, and contained

at the back three rooms, which may possibly have once been divided by wooden partitions into the more usual five rooms. But no vault was found in it, nor have any certain traces been noticed of the usual colonnade and double court. It may have been simpler in plan than the ordinary headquarters building, and this, combined with the absence of a vault, may be thought to suggest an early date. Of other buildings only faint traces have been uncovered. On the west of the central building two

tiled *pilæ* of a hypocaust, some flooring of broken roof-tiles and a doorstep found in 1899 and 1905, may indicate a considerable structure. Near the north gate a floor of burnt clay (or something resembling clay) and some stout oakstakes sunk below the floor, found in 1905, suggest wooden barrack huts. For the rest we must await the teaching of the spade. Remains without the fort are equally little known. Mr. Watson in 1771 noted worked stones above and below ground, and a subterraneous stream of water below the north-east angle of the fort near the Glossop Brook, which may possibly represent the bath-house, and another building has been suspected near the north-west gate. Of the cemetery hardly a vestige survives. In 1841, when a mill-dam was altered 100 yards east of the fort near Glossop Brook, a stone coffin was found, and near it a bronze coin of Domitian, but the two are probably not coeval.¹

¹ Hamnett, *Derb. Arch. Journ.* xxi. 10. Mr. Hamnett also mentions 'a sepulchral urn of red earthenware,' found about 1800 at Woolley Bridge, half a mile north of Melandra, but now destroyed.

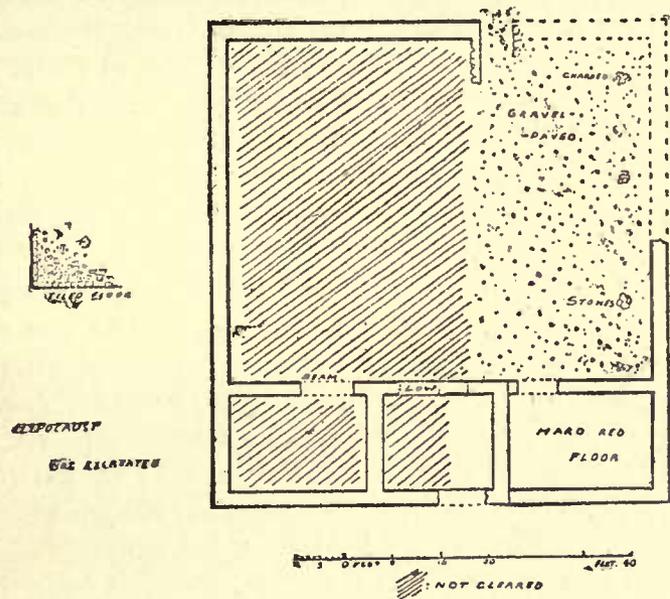


FIG. 19.—HEADQUARTERS, MELANDRA.

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Minor objects are more numerous. They include Samian and other potsherds, iron nails and a knife, lead weights and spindlewhorls, and sheet lead with nail-holes, window and bottle-glass, beads, several dozen querns and millstones, some coins, and some scanty inscriptions, but no fibulae. The following deserve especial notice :—

- (1) Inscribed fragment found about 1832 by Captain de Hollingworth, and long preserved at Hollingworth Hall, but now said to be lost. It bore the letters IMP, or according to a better account 'IMPC with F below, inside a curious border,' and appears to have been the top left-hand corner of a monumental slab similar to that found in the vault at Brough (p. 206), though not necessarily of the same period or emperor.¹ It is far too imperfect to be dated : it might be as early as Domitian.

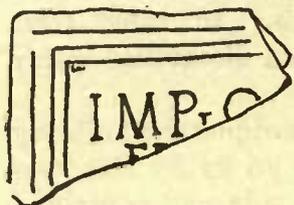


FIG. 20.—FRAGMENT OF INSCRIPTION FROM MELANDRA. (After R. B. Robinson.)

- (2) Centurial stone, 12 inches high by 16 long, found just before 1771 lying near and outside the north-east corner of the fort, having (presumably) fallen from the facing of the wall. For a while built in over the door of a house near ; now in Glossop. Fig. 21.

(c)ho(rs) i Frisiavo(num), (centuria) Val(erii) Vitalis.

'First Cohort of Frisiavones, century of Valerius Vitalis (built this).'

The cohort occurs also at Manchester, and was probably, at one time or another, in garrison at both forts.² The lettering actually on the stone might be read *Frisiano(rum)* as well as *Frisiavo(num)*, but the former is assured by various examples (*Corpus Inscr. Lat.* iii. pp. 866, 873).

- (3) Another inscribed stone is said to have been found and built into the river wall about 1848. But whatever it was, all trace of it seems to be now lost. Three other alleged inscriptions on tiles must be set aside. One which I have seen, inscribed DRAIW (*i.e.* 'drain'), was found in 1899 in a modern fence ; the others bear the letters V V, taken to be the end of the stamp of the Twentieth Legion, LEG XXVV, but they seem to me mere scratches (*Derb. Arch. Journ.* xxi. 16, xxiii. 102). A carved fragment from Melandra is said to have once adorned the 'Spinners' Arms,' at Hadfield, but it is now gone and its age doubtful.

- (4) One bronze and nineteen leaden weights were found together in the north-east corner of the fort in 1903 (fig. 22). Ten of them bear marks, as follows :—

• 177 grains	⊙ 625 grains
• 241 „	... 918 „
- 405 „	= 1188 „
• 435 „	1712 „
•• 535 „	** 1882 „

The weights of the uninscribed examples are given as 148 (two), 192, 218, 299, 314, 331, 921, 1728, and 4744 grains.³

¹ W. Beaumont, *Brit. Arch. Assoc.* vii. (1851), 18, Watkin, *Derb. Arch. Journ.* vii. 88, Hamnett, xxi. 10 (all giving only IMP) ; *Manchester Guardian*, 7 March, 1905, from a drawing by Mr. R. B. Robinson, adding C and F. Fig. 20. I have to thank Mr. F. A. Bruton for help in this and other details.

² First published by Watson, *Archæologia*, iii. 236, since often seen : copied by myself.

³ May, *Derb. Arch. Journ.* xxv. 168. I have not seen the weights myself.



FIG. 21.—CENTURIAR STONE FOUND AT MELANDRA.

(From a photograph by Mr. F. W. Parrott ; by permission of the Manchester Classical Association.)

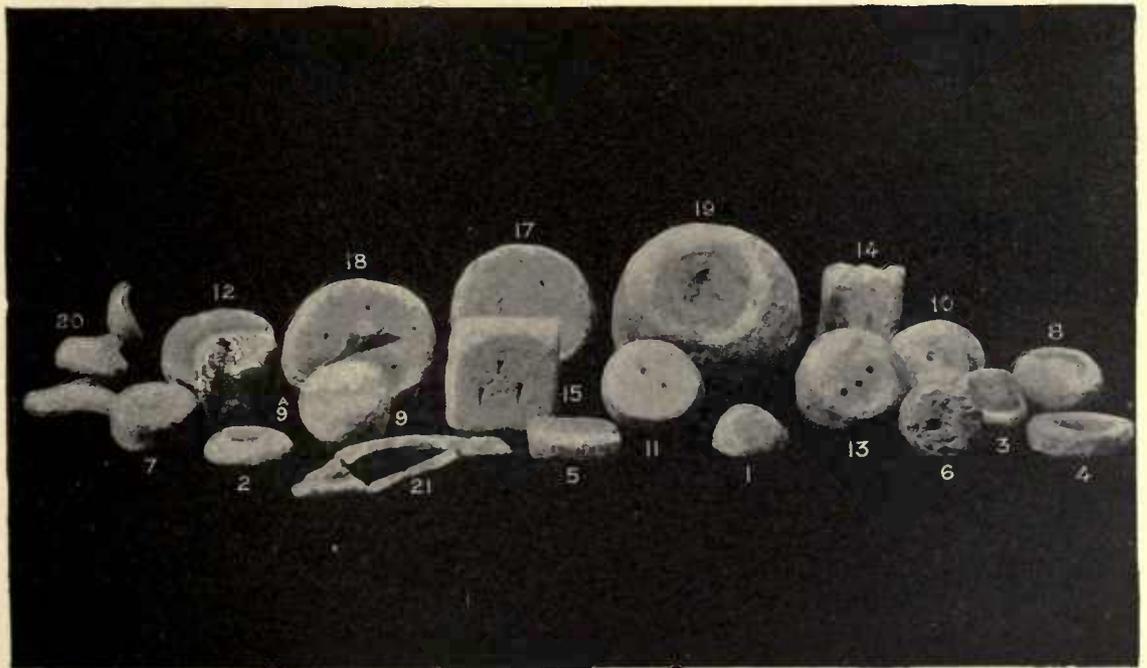


Fig. 22.—LEAD WEIGHTS FOUND AT MELANDRA.

(*Derbyshire Archæological Journal*.)

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(5) Not a few coins have been found. A copper coin of Domitian was discovered in 1841 outside the fort near a stone coffin beside Glossop Brook, and another—or, it may be, the same otherwise described—is said to have been discovered in the fort at some date previous to 1850.¹ More recently the excavations have revealed three denarii, one each of Galba, Domitian, and Trajan; a 'second brass' of Hadrian, a 'first' and a 'second brass,' each illegible, a copper coin of Gallienus, and (strange discovery) a coin minted by the Jewish insurgent leader Barcochab in A.D. 134.

(6) The pottery includes embossed Samian of the first and second centuries, belonging to the types numbered by Dragendorff as 29, 30, and 37; a bit of Castor or New Forest ware; a *pelvis* lip stamped FECIT; an amphora handle stamped SGA, and a curious little earthenware ornament, 4½ inches long, representing a saddled horse and perhaps used as a toy.²

Lastly, the roads. The well-known Doctor Gate, as Watson observed, led eastwards across the moors to Brough and ultimately to Templeborough. Another road, stated by Watson to be visible in 1771 and well gravelled, led to Stockport and Manchester. A less well-attested road perhaps led direct to Buxton, and Watson thought he detected a fourth road, connecting with Staley Street and the route from Manchester to York.

Here, as at Brough, we must for the present refrain from any attempt to write the history of the fort. We may think that we see in the fashion of the ramparts and the head-quarters building and in the coins, some indications that the fort was established at a comparatively early period, perhaps during the last third of the first century, in the reigns of Vespasian or Domitian, and an inscription shows that at some time or other the Cohors i Frisiavonum was employed here. For the rest, we must wait, as elsewhere, for more light.

The Romano-British name of the fort is unknown. Watkin, noting in the Ravennas the series: Navione (= Anavione, Brough), Aquis (Buxton), Arnemeza, Zerdotalia, conjectured for the fourth name Zedrotalia, connected it with the river Etherow or Edrow, and produced thus a title for the fort. But it is obviously a wild and uncritical guess, and one must regret that it has found some local credence. The name Melandra itself is equally obscure. It cannot be traced back beyond 1771; it is not susceptible of philological explanation, and its curiously Greek look suggests that its form is not entirely free from learned influence.³

¹ Hamnett, *Derb. Arch. Journ.* xxi. 15, 16; xxiii. 102. Beaumont, *Brit. Arch. Assoc. Journ.* vii. (1851) 18. Two copper coins, one of Postumus and one of Carausius, are said to have been found here also, but more probably in the vicinity of Melandra than in the fort. The coins mentioned by Watkin, *Derb. Arch. Journ.* vii. 89 (Marcus to Severus Alexander), as found at Melandra were really found at Hooleywood in 1838: see Padfield in the alphabetical index.

² Personal inspection, by the kindness of Mr. Hamnett and Prof. R. S. Conway.

³ Watkin, *Derb. Arch. Journ.* vii. 86; information from Mr. W. H. Stevenson.

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3. LITTLE CHESTER

Little Chester is to-day a suburb of Derby, situated on the north-east side of the town and on the east bank of the Derwent. Standing as it does on level ground in an open valley close to the river, its position may seem geographically insignificant. But it is here that the Derwent disengages itself from the hills that overhang and hem in its upper course, and Little Chester and Derby hold, as it were, the mouth of the valley.

The site has long been recognized as Roman. The appellation 'chester,' which usually in England denotes Roman remains of some sort, has been applied to it continuously since Saxon times. In 1607 Camden noticed it as yielding Roman coins.¹ About 1650 Philip Kinder or Kynder, writing a *Historie of Darbyshire*, called it a Roman town.² In 1695 Gibson, re-editing Camden, added that on a clear day men could see the foundation of a bridge crossing the Derwent to Darley Hill. But the first detailed information was given by Stukeley. He visited Little Chester in 1721 and 1725, examined the site with care and described and planned what he saw, and his account is our main authority (fig. 23B). The remains, as he tells us, were in his time being daily robbed

to mend the roads, and this may be one reason why some of his successors in the eighteenth century, Horsley, Salmon, Bray, and others, simply cite him, while others, like Pegge, Pilkington, and Hut-ton, mention only a few fragments of walling as visible in their day. The destruction, certainly, has been carried on during the nineteenth century. Almost the whole Roman area has been covered with houses, and the modern builders, while reverencing antiquity by the employment of street names such as Caesar Street, Marcus Street, Roman Road, have effectually

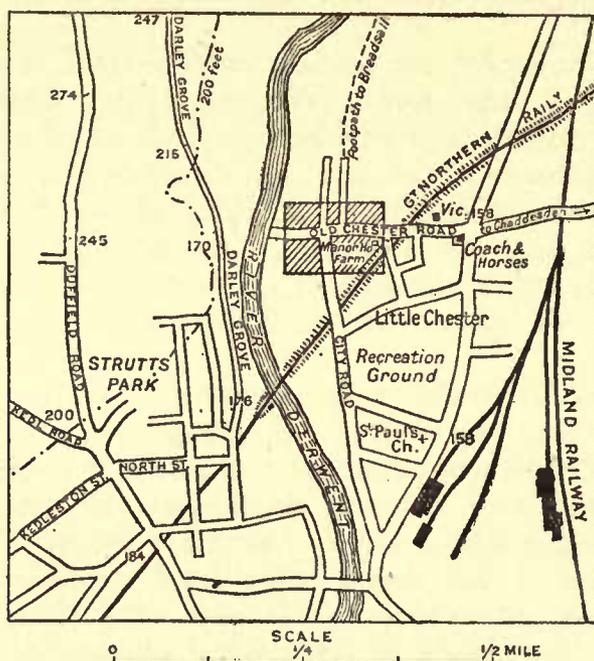


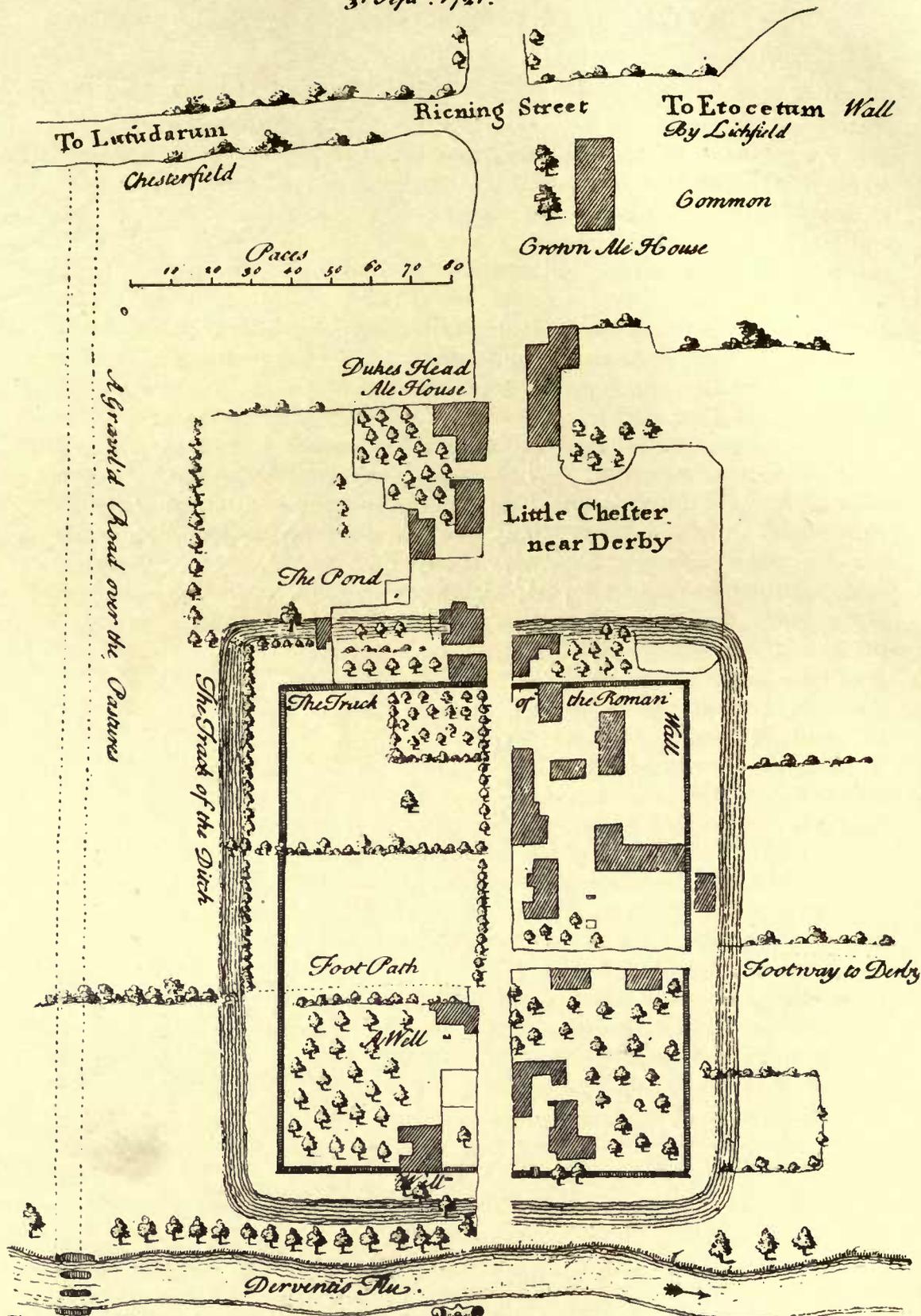
FIG. 23A.—SITE OF LITTLE CHESTER.

¹ *Britannia* (ed. 6, 1607), p. 418 : not in the earlier editions.

² Ashmole MS. 788, fo. 201, in the Bodleian : 'Little Chester, as a . . . live (?) or countercastrle to Magna Chester in y^e wall neere Hault Wessell [Haltwhistle] by y^e Roman monies theire found, seems to be a colonie of y^e Roman souldjers (for soe y^e name may import from Castrum [but see p. 255] : but I would not have every place wherein such coin is found to be a garrison, for then why not Chadston [i.e. Chaddesden], a neighbouring towne where greate plentie have been turned up, in y^e custodie of M. R. W. Lord of y^e soile ? Neither do I believe y^t y^e Romans horded up all theire monies to themselves, but made use of it for exchange and barter, and soe y^e subject commonly had as greate a share.' Printed, but not quite fully, in the *Reliquary*, xxii. 199.

DERVENTIO

31 Sept. 1721.



Ruins of a Bridge
over the River.

Simon Degg Ar. Castrum Romanum jam Suum d. d W Stukeley



FIG. 23B.—PLAN OF LITTLE CHESTER MADE BY STUKELEY IN 1721 (slightly reduced).

(The 'Crown' Ale House is now the 'Coach and Horses.' The 'Duke's Head' was probably removed when the railway was built. The plan is drafted with the east at the top.)

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obliterated the antique outlines, and have discovered—or at least, have recorded nothing of value. Archæologists, on their part, have attempted no excavation. Accordingly, we rely principally on Stukeley for plan and for details. He was an inaccurate observer and surveyor. But his account of Little Chester fits both antecedent probabilities and also the scanty facts otherwise known to us.

The Roman area¹ appears to have lain around the western half of Old Chester Road (fig. 23). The meeting of this road with the footpath to Breadsall represents roughly the centre of the ‘station,’ while the western front was near the river and the south-east corner lies under the Great Northern Railway.² The ‘station’ itself, according to Stukeley, was an oblong of 500 by 600 feet,³ that is, of almost 7 acres, surrounded by a wall and a ditch. The wall was 9 feet thick, and parts of it were ‘mortar full of pebbles as big as nuts’—presumably the concrete core usual in Roman masonry. It had in places vaults alongside it, which, if Roman work, we may interpret as the foundations of wall-turrets or of the guardchambers of gateways. Stukeley adds that the wall was then in process of demolition, and later observers have noted little of it. Pegge, in 1759, saw a piece 5 feet thick,⁴ and a definite part of it was perhaps noted long after, in 1888. This stood in the garden of the Manor House farm and in an adjoining cellar, about 740 feet east of the river bank. It was a stretch of gritstone masonry, 4 feet thick, and traceable for 43 feet, running in a northerly direction; with it was connected something like an ancient vault. But the age of this masonry has never been ascertained, and as prebendal houses and other buildings occupied the site during the Middle Ages, old walls of post-Roman date might well occur.⁵

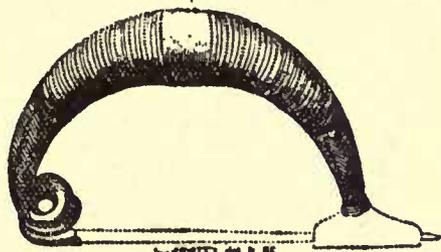


FIG. 24.—PRE-ROMAN FIBULA FOUND AT LITTLE CHESTER.

Of Roman buildings within or without the walls practically nothing is known. Stukeley observed ‘foundations of houses in all directions’ inside the station and gravelled streets outside. Further, we have record, either in or outside the ramparts, of broken columns, waterpipes, and steined wells, including two square ones, described by Stukeley as ‘made

¹ A fibula is figured in the *Intellectual Observer*, xii. (1867), p. 345, and stated to have been found at Little Chester with human bones. This fibula is unquestionably pre-Roman, and if really found at Little Chester must be a very early importation from the Continent. That would imply that Little Chester was inhabited long before the Roman occupation of Britain. See fig. 24.

² Watkin (*Derb. Arch. Journ.* vii. 78) says the railway skirts the ‘station.’ But, so far as I can calculate, it crosses the south-east corner.

³ Stukeley also gives the seemingly smaller dimensions, ‘80 by 120 paces, the same as Manduesedum.’ But that place, covering 6 acres, is about the same size as Little Chester. The paces, therefore, are to be understood as long ones. Mr. Ward tells me that he thinks he has been able quite recently to trace much of the wall and calculates the area to be about 540 by 615 feet, the wall to be 9 feet thick, and its core of concrete.

⁴ *Roman roads throughout the Coritani* (Bibl. Topogr. Brit. iv.), p. 20.

⁵ Ward, *Derb. Arch. Journ.* xi. 92; Bailey, *Derb. Arch. Journ.* xii. 170; J. Keys, *Sketches of Old Derby* (1895), p. 8,—not a very critical work. The illustrations to Mr. Bailey’s article have not a Roman look. Part of the Manor House itself dates back to mediæval times.

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of broad flat stones let into one another and paved at the bottom with bricks set edgewise. A bank in the vicarage garden, some yards outside the eastern rampart, was examined in 1873-4 and yielded a few flints, ashes, animals' bones and horns, and many potsherds, both Samian (one piece SAMOGENI, broken at the end) and ruder wares, and a piece with a rich brown glaze. Below the bank was a square 'well' at least 12 feet deep, built of rough, squarish slabs placed edgewise one over the other. The whole seems to represent a rubbish heap and perhaps a disused well, adapted, as often, to the receipt of rubbish.¹ In addition to these traces of building, stray potsherds and coins and other small objects have been found freely round the 'station,' to such an extent as to show that the inhabitation in Roman times extended for some distance outside the ramparts, though the houses may have been nothing more substantial than huts of wood or mud. Remains have been found even on the west bank of the river, where Darley Grove once stood.

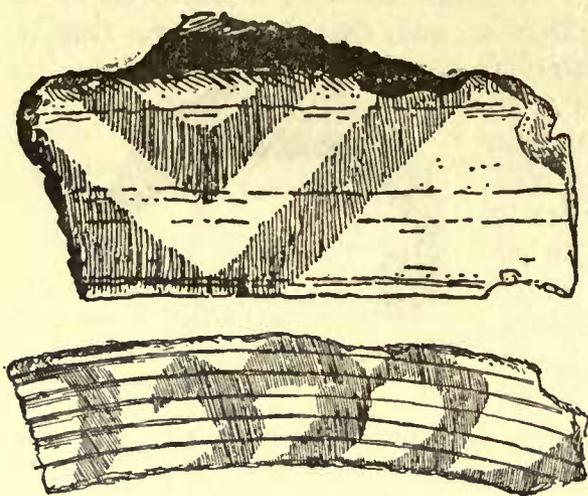


FIG. 25.—PAINTED COMMON WARE FOUND AT LITTLE CHESTER. (*Derbyshire Archæological Journal*.)

Hardly more is known of the burial places. Stukeley mentions graves between the 'station' and the river. A small jar of reddish-brown clay, decorated with little pellets of slip and filled with burnt bones and bits of bronze ornaments, was found outside the east rampart.² A skeleton, imagined to have been originally interred in armour, was unearthed on Little Chester Green, south of the 'station,' in September 1824, but no reason whatever exists for calling this Roman.³

When Darley Grove, west of the Derwent, was broken up in 1820, skeletons, Roman coins, and other remains were noted.⁴ There are also records of burials within the ramparts,⁵ but these may safely be put aside as not Roman.

The smaller remains found in and near the 'station' are abundant and ordinary. Among the pottery is much Samian, including embossed bowls probably dating from the second or early third century.⁶ The piece with a rich brown glaze, accepted as Romano-British by Sir A. W. Franks, may form one of the rare specimens of Roman glazed ware.⁷

¹ *Proc. Soc. Antiq.* vi. 120; *Derb. Arch. Journ.* vii. 77. Watkin explained the things as belonging to a *botontinus* and an *area finalis*. But the theory of ancient surveying to which these land-marks belong is more than doubtful; and Franks' explanation as a rubbish heap seems certainly the safer.

² Jewitt, *Intellectual Observer*, xii. 349, with figure.

³ *Derby Mercury*, 22 September, 1824, Glover, *History*, 1829, i. 295, with figure, and other writers.

⁴ Glover, *History*, i. 293, note.

⁵ See, for example, Pilkington, *View of the present State of Derbyshire* (1789), ii. 198.

⁶ *Derb. Arch. Journ.* x. 159, plate vi.; xi. 82; *Reliquary*, i. plate 25.

⁷ *Proc. Soc. Antiq.* vi. 120.

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Another bit, found, I believe, during the construction of the Great Northern Railway, is a fragment of a coarse buff-coloured *pelvis* or mortar, which bears an irregular cartouche, and in it, moulded by hand and chocolate-coloured, the letters VIVIVI? (the last letter dubious), perhaps the imitation of a potter's mark with no real meaning, rather than a real potter's mark itself (fig. 26 [2]).¹ Glass also, two or three fibulæ (one with red enamel) and other bits of bronze including 'the boss of a shield' (?), an amphora handle stamped VIRG and many minor objects have been recorded.²

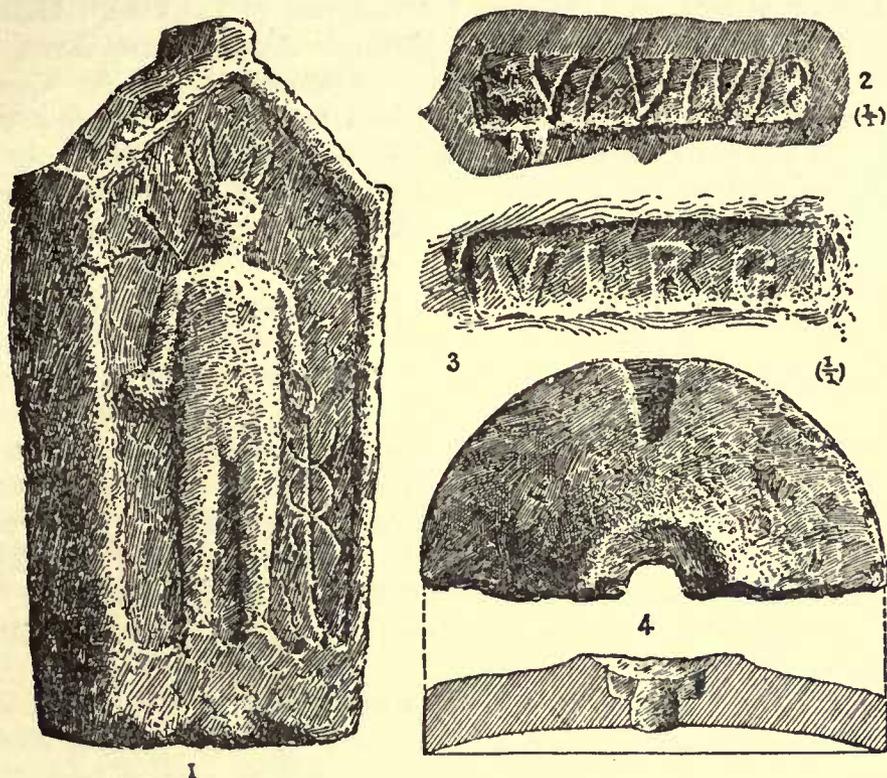


FIG. 26.—OBJECTS FROM LITTLE CHESTER, SKETCHED BY MR. WARD.

Only one piece of stone demands notice. This is a rude bas-relief, some 20 inches high, showing a nude male figure with a rude representation of rays over his head and an object like a *caduceus* hanging from his left hand.³ It has been usually interpreted as Mercury, and indeed rude figures of this god occur commonly outside Roman forts (fig. 26 [1]).

Lastly, there is great plenty of coins. The list of those found in or near the 'station' includes one coin of A.D. 14, one of Nero, several of Vespasian and Domitian, many of the second century, especially of Pius and Marcus, a few specimens of the period A.D. 180–230, but many of the succeeding century, especially of Carausius and the Constantinian

¹ *Reliquary*, iii. (1889), 69; *Derb. Arch. Journ.* xi. 86, plate vi.

² *Derb. Arch. Journ.* x. 161, xi. 92; *Reliquary*, iii. 73.

³ *Reliquary*, iii. 65; *Derb. Arch. Journ.* xi. 90, xii. 171; *Keys, Old Derby*, p. 8. Now in the Derby Museum. It was found originally near the river.

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family, a few of the late fourth century down to Valens and Arcadius, and some minims.¹ Nor are the discoveries limited to the 'station' and its neighbourhood. A hoard of eighty or ninety much worn coins, some silver, some bronze, was met with in 1887 on the west side of the Derwent, when a road was being carried across the lower part of Strutt's Park. It included a Republican denarius of B.C. 81 (Papia), a denarius of Tiberius, and First or Second Bronze of Nero, Vitellius, Vespasian. But it was dispersed immediately on discovery, and the five or six coins recorded from it give us no trustworthy idea of its range.² Stray coins have also been noted in North Street (1 Faustina, 1 Gallienus), Penny Long Lane, Nun's Green, Duffield Road (these three, third-century coins) and Kedleston Road (Constantine I.). In short, the list is substantially continuous from the later years of the first century till the end of the Roman dominion in Britain. It may be taken to indicate occupation of one kind or another for some three hundred years, but especially during the first three quarters of the second century.

It remains to add that several Roman roads met at Little Chester. The so-called Rycknield Street which ran from Gloucestershire past Alcester and Wall near Lichfield (the Romano-British Letocetum) to Yorkshire descended Darley Slade, crossed the river by a bridge of which traces are said still to be sometimes visible, and skirted the northern rampart. Another probably important road branched here and went on northwards to Buxton and Manchester. A shorter and more puzzling road seems to have run south-eastward to Sawley, and may possibly be connected with water carriage down the river Trent. A fourth road may have led westward to Rocester on the Staffordshire border.³

Such are the details of Roman Little Chester. We have now to determine its character. Previous writers have in general contented themselves with calling it a 'station,' and in order not to prejudice the question, I have used that vague and convenient term in the preceding paragraphs. But it seems highly probable,⁴ in view of our survey, that the place was a permanent fort, held by an auxiliary regiment. Its size of seven acres and its regular oblong area girt with a stone wall suit that hypothesis and no other. Its position in an open valley close to water is such as the Romans usually chose for forts and fortresses, and the

¹ Soc. of Antiquaries, Minutes, i. 86 (1723 A.D.) and 199 (1727), hence Gough's *Camden*, ii. 307; Stukeley, *Iter Boreale*, p. 25; Pilkington, *View*, ii. 198, 200 (coin of A.D. 14), followed by Glover, *History of Derbyshire*, i. 293 (ed. 1829); Hutton, *Hist. of Derby*, p. 206 (coin of Vespasian); Bateman *Vestiges*, p. 145; *Brit. Arch. Assoc.* vii. 365; *Intellectual Observer*, xii. 347; Watkin, *Derb. Arch. Journ.* x. 159, Ward, *Derb. Arch. Journ.* xi. 91; *Reliquary*, i. 178, iii. 73; *Antiquary*, xxii. 44, 94; Bailey, *Derb. Arch. Journ.* xiii. 108 and xv. 20. British Mus. MS. Add. 6707, fo. 6 (Reynolds records 1 Domitian and 1 Constantine Junior). The coins of Alexander and Tolemy (*sic*), mentioned in *Derb. Arch. Journ.* xiii. 111, are not adequately attested and must be considered as not found at Little Chester.

² *Derb. Arch. Journ.* xiii. 116, xv. 20; *Antiquary*, xxii. (1890), 44.

³ See further, pp. 243-247.

⁴ This assumes that Stukeley's plan and details are correct. I do not think the assumption very rash. But I may note one little inaccuracy, the squareness of the angles, which should be rounded. This, however, is merely draughtsmanship. The earlier plans of Melandra equally show squared angles.

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objects found in it contain no item unsuitable to a fort. The coins, indeed, may support our view. They show that the years A.D. 100-180 formed an important epoch in the history of the site. But it was just in those years, as we have seen above (p. 200), that the north of England and probably also the Derbyshire hills were the scenes of unrest and revolt. A fort on the edge of the hills at the mouth of the Derwent valley would be well situated to assist the maintenance of order in this difficult land.

We may therefore conclude that Little Chester, at least during part of the second century, was a fort belonging to the system of the north British auxiliary forts, and indeed the most southern example of that system. But there we must stop. We cannot tell when the fort was established, or how long it was maintained, or what troops were stationed in it. If inscriptions ever existed which would have told us these things, the mediæval builder has used them up or they lie buried still below the ground. It may well be that after the end of the second century the garrison was withdrawn and the site occupied by purely unmilitary villagers. But we pass here beyond the reach of knowledge or even of reasonable speculation.

Lastly, the ancient name. Sixteenth-century writers like Lambarde, Talbot, Ortelius, unaware of Roman remains at Little Chester, but influenced by the name of the river Derwent, identified Derby with a certain *Derventio* mentioned by Bede.¹ They were wrong, if only (as Smith and Pegge observed) because Bede's '*Derventio*' is in Yorkshire. However, the identification survived in a different form. Seventeenth-century writers like Horsley and Salmon knew of Stukeley's discoveries at Little Chester. They knew also that the *Anonymus Ravennas*, discovered since Lambarde's time, mentioned a *Derventio* which seemed to lie somewhere in the Derbyshire region. Accordingly they transferred the identification from Derby to Little Chester, and it is now commonly accepted. It is, if not certain, at least not improbable.²

The name Derby, on the other hand, seems unconnected with Derwent and *Derventio*. Its earliest recorded form, *Deoraby*, is best taken to be Danish, as Camden saw. But it is conceivable that a Danish name which resembled the Romano-British may have been attracted to the spot by the phonetic likeness. So at Castor in Northamptonshire we seem to have the early English *Dormeceaster* and the Romano-British *Durobrivæ*. The two cannot be philologically connected. But the similarity between them suggests that the choice of the English name may have been influenced by the older appellation.

¹ Lambarde, *Diction. s.v.* (written 1570, printed 1730); Talbot in Hearne's *Leland's Itiner.* (ed. 1711), iii. 131.

² *Ravennas*, 428, 18 foll. gives the following names in order, *Deva* (Chester), *Veratino* (unknown), *Lutudaron* (Matlock, p. 228), *Derbentione* (Little Chester), *Salinis* (unknown), *Condate* (unknown), *Rate Corion* (Leicester). It is generally assumed (as by Watkin) that these form a route of some sort from Chester to Leicester. But it is rash to assume any definite sequence in the *Ravennas*. All that we can say is that *Derventio*, named next to *Lutudaron*, is probably to be sought in its vicinity and is somewhere near the Derwent. Little Chester satisfies these conditions better than any other Roman site.

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6. BUXTON

From the forts which constitute the chief feature in Romano-British Derbyshire, we pass to other aspects of this region connected not with war, but with the activities of peace. These aspects are, perhaps, limited in extent and importance. But they are not without their points of special interest, and they widen our knowledge of Roman Britain in several directions. We begin with Buxton. Here was the one place in our island, besides Bath, where medicinal springs were definitely used during the Roman period and fitted with buildings suitable to bathers. Everywhere else the healing waters either were still unknown or at the best provided ill-understood remedies for the ailments of a few neighbouring peasants. Even Roman Buxton was not a large town or an important spa. It compares ill with Roman Bath. But it is the only spot that can compare with it, and its significance, if small, is real.

Buxton lies about 1,000 feet above sea level among the North Derbyshire highlands. Its one important feature is its waters. These are, or rather were, of two kinds. One is a cold chalybeate spring which till lately rose from a bed of shale that here intervenes between the limestone and the millstone grit formations. The other is, and probably always has been, far more important. It is a tepid water which issues from several contiguous fissures in the limestone in considerable abundance, and is potent to cure gout and rheumatism and neuralgia.¹ All the springs, cold and tepid, are close together at the bottom of a little valley. Apart from these healing waters Buxton has little to attract inhabitants. Its cold climate and severe scenery appeal to the vigorous tastes of to-day. But that is a modern sentiment. The eighteenth century judged otherwise. Leigh calls the situation 'inhospitable to mankind and indulgent to wolves and beasts of prey.' Stukeley speaks of 'the poverty and horror of these Alpine regions,' and Aikin of the 'naked and dreary hills.' A French geologist who travelled widely through Great Britain in 1784 is still more precise:—

Buxton est le pays le plus triste, le plus sombre, que je connoisse. L'air qu'on y respire est imprégné de deuil et de mélancolie.²

So, too, in all probability, the ancients. In their attitude to wild nature they closely resembled the eighteenth century. They loved a soft air and a civilized prospect, and we may well believe that Buxton had few charms for Roman or Romanized Briton. We must not expect to find there the marks of a fashionable or a wealthy settlement.

Camden was the first to call Buxton a Roman site. He knew, indeed, of no Roman remains at the place. But he noticed that a Roman road, the Bathamgate, led thither, and he therefore conjectured that the

¹ The temperature is 82° F. (28° Centigrade), and the outflow of one principal section of the springs is estimated at 186,000 gallons a day. At Bath the temperature is about 120° F., and the outflow is estimated roughly at nearly 500,000 gallons.

² B. Faujas de Saint Fond, *Voyage en Angleterre* (Paris, 1797), ii. 310. The book was written at the time of the tour, but printed much later.

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Romans used the springs. His theory was confirmed long afterwards by actual discoveries. These discoveries fall into two parts. About 1700, and again about 1780, traces of buildings and baths were found close to the springs and St. Anne's Crescent in the bottom of the valley. In 1787, and later, especially in 1903, other remains were found some two or three hundred yards south or south-east of the springs on the top of a low hill, near Silverlands (fig. 26). The former, doubtless, represent the baths, and the latter some part of the village which grew up round them.

The baths are scantily known. Our records, strangely enough, include only structural discoveries, and are silent as to smaller remains, such as potsherds and coins. The story begins with Charles Leigh, the

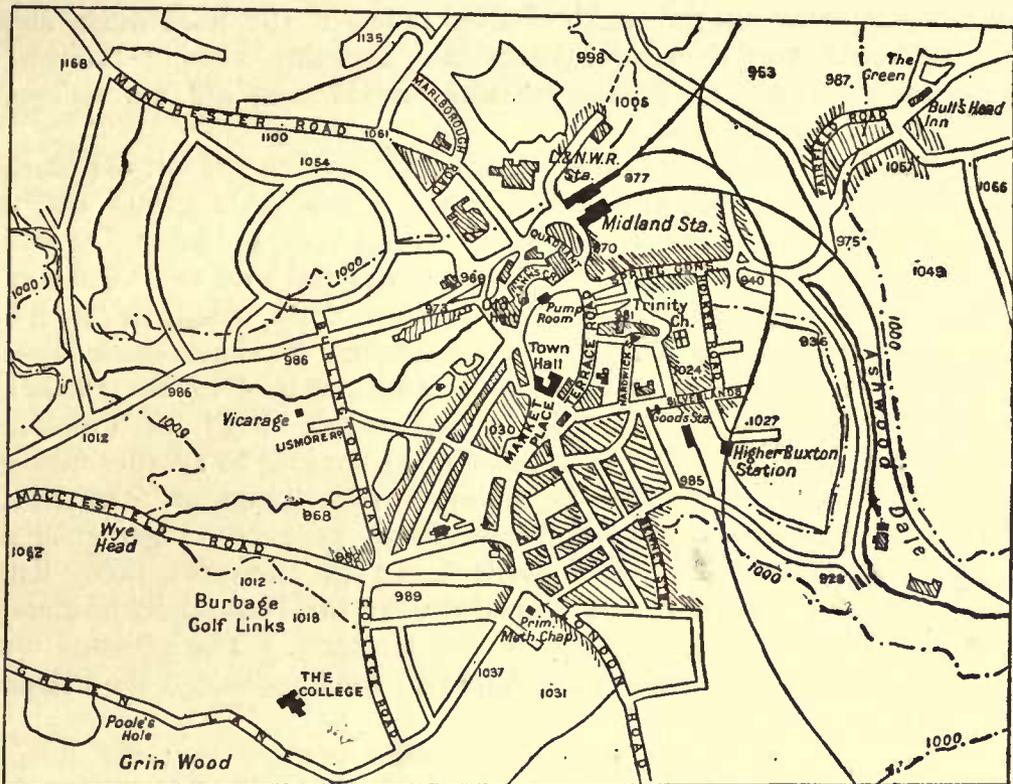


FIG. 26. **BUXTON.**

SCALE
1/4 1/2 MILE

physician, a frequent visitor to Buxton. He, writing about 1699–1700,¹ mentions:—

A Roman wall cemented with Red Roman plaster, close by St. Anne's Well [at the south-west end of the Crescent], where we may see the Ruines of the ancient Bath, its Dimensions and Length. The Plaster is red and hard as brick. . . . I am inclined to think (he curiously adds) that it was a mixture of lime and powder'd Tiles cemented with Blood and Eggs.

Leigh was a magniloquent writer, and it is not quite clear whether his 'plastered wall' is the same as the 'ruines of the bath' or whether he alludes

¹ *Nat. Hist. of Lanc. Ches. and the Peak* (Oxford, 1700), iii. 42 : Leigh died in or after 1701, and not (as is often stated) in 1671. Gibson, *Adds. to Camden* (1722), i. 593, repeats Leigh, being ignorant that the remains had been destroyed in 1709.

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to two distinct remains. In any case the plastered wall seems to be the structure mentioned by another physician of the same age, Thomas Short, who says that before 1709 St. Anne's Well 'rose into a stone bason, shut up within an ancient Roman brickwall a yard square within and a yard high on three sides.' In 1709 this was demolished to make place for a 'beautiful Arch.'¹ Another vestige of the baths was noticed about the same time. Mr. White, of Buxton Hall, was driving a level to the Bath, 50 yards east of St. Anne's Well (that is, about halfway across the Crescent), and his workmen found 'buried deep under the grass and corn some moulded sheets of lead, spread upon great beams of timber, about 4 yards square, with broken ledges round about, which had been a leaden cystem.' It is likely enough that this was the lead casing of a Roman bath, but the discovery was not pursued.² Indeed, none of the finds made about 1700 attracted more than local attention. Stukeley, visiting Buxton in 1725, saw practically no Roman remains, and Horsley did not recognise the place as a Roman site.

A third and more important discovery followed in 1780-1781, during the construction of St. Anne's Crescent. A new tepid spring was encountered, and near it the remains of an oblong bath, measuring 15 by 24 (or 30) feet. The water entered this bath at the west end 'through a pipe of lead so large as to receive a man's thigh,' and a 'floodgate' let it out at the east end. The floor was of red plaster, 6 inches thick, and is alleged to have dropped at one end to a boat-shaped cavity, 18 inches deep. The wall was 3 feet high, and rudely built of limestone, covered outside with a strong cement or (according to another version) of 'mean stone masonry coated on the inside with limestone.' On the top of the walls were laid strong oak beams, firmly connected together at the corners. The site of the bath is given as 6 yards from the then 'Bathroom,' which, I believe, is now represented by the Natural Baths close to St. Anne's Well, at the west end of the Crescent. The remains were ordered to be filled up without examination, and a portion of the Crescent was built over them.³

These records, meagre as they are, suffice to show that the Roman baths of Buxton were not merely the baths of a villa or a fort, they belonged obviously to some bathing establishment. This establishment included one or perhaps two of those immersion basins which occur regularly in Roman thermal baths and distinguish them from the vapour baths of towns or houses. The baths at Bath had half-a-dozen such basins of various shapes and sizes, and the largest of them offered to the bather a sheet of water 40 feet broad and 83 feet long. Buxton cannot

¹ Short, *Mineral Waters of Derby* (London, 1734), p. 44. A bit of the plaster got into Ralph Thoresby's Museum (*Museum Thoresbyanum* (London, 1713), p. 558).

² Short, p. 23. He says the discovery occurred about 36 years before he wrote, *i.e.* in 1697 or 1698.

³ Pilkington, i. 211; Pegge, p. 36 (partly from a workman, who is probably responsible for the lead pipe and boat-like cavity). Shorter notices, Bray, p. 230, *Derby Mercury*, 6 Sept. 1781. A fourth discovery is said to have been made about twenty or twenty-five years since, at the back of Clarendon Buildings, in Manchester Road, near its junction with Marlborough Road (*Derb. Arch. Journ.* xxv. 161). But till more is known of this, it is best omitted.

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vie with that. Its basins were doubtless fewer and smaller, but the type appears to be the same.

Round the healing springs there naturally gathered a small settlement or village. Traces of this have been encountered at various times on the low hill which rises south and south-east of the baths, some 60 or 70 feet above them. The first discovery came in 1787, when Rooke noticed here some 'little banks of earth' and 'an oblong tumulus,' and, on digging, uncovered some masonry. He describes this masonry as an unmortared wall, enclosing a rectangle of $22\frac{1}{2}$ by 46 feet, and crowned originally (as he supposed) by a superstructure of well-dressed stone; part of a Roman tile, a Roman potsherd, and some nails were found in clearing this out. The use of the building cannot now be determined. Rooke thought it a temple, but for this there seems no good reason. He gives the position as on the top of Staincliff, which corresponds to the present Terrace and Terrace Road.¹

Other remains have been found much more recently, in the same quarter but slightly further east, in the course of building operations.

In particular the construction of Holker Road, Silverlands, has brought to light many Roman antiquities during the last two years (1903-4). Structural remains are few. They are described as consisting of an area of 30 by 30 feet, floored with undressed local limestone,

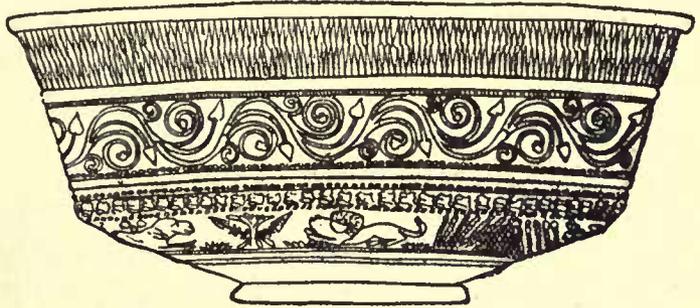


FIG. 27.—RESTORATION OF SAMIAN BOWL FOUND NEAR SILVERLANDS, BUXTON. (Probably of the first century A.D.)

some tiles and bricks indicative of a building not far off, and three gritstone hearths about 5 feet in diameter planted on the floored area. Smaller objects abound. The Samian includes an embossed bowl of first-century type, stamped inside OF · Γ NTI, *Officina Ponti*,² several bits of embossed bowls assignable to the second century, the hough of a plain vessel stamped OF CALVI, and many less noteworthy pieces. Commoner kinds of pottery are more frequent, as well as fragments of glass (including part of a square glass bottle), bits of lead, iron nails, querns, whetstones, bones of animals, and a flint arrowhead of leaf shape.³ The coins known to me are a denarius of Augustus (Cohen 189, B.C. 20) and a First Bronze of Trajan.⁴

With these recent finds in Holker Road we may connect some scattered discoveries. Half of a Roman milestone was found close by,

¹ Rooke, *Arch.* ix. 137, with plans of site and building, which are practically useless.

² The *Ponti* bowl is of the form numbered 29 by Dragendorff and Dechelette; its foliation most resembles Dechelette, plate vi. 1-5. The piece is in the collection of Mr. Micah Salt. See fig. 27.

³ Stukeley, *Iter. Boreale*, p. 28, mentions arrowheads as often found at Buxton.

⁴ Information from Mr. Salt, who possesses most of the objects and very kindly gave me full access to them; letters by Mr. W. Turner, 25 March 1903, in the local press and in the *Reliquary*, 1904, p. 54; personal knowledge.

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at the south-east corner of Hardwick Square, in 1862, and, a few yards from it, at the same depth, a piece of Roman road-paving. Pottery was found a little to the east when the Buxton and Ashbourne branch of the North-Western Railway was built. Pottery has also been found in Bennett Street on the south slope of the hill on the top of which the other remains have occurred, and other discoveries have been made in this quarter of Buxton ; for instance, some coins found in 1891 of which no record survives.

Special notice is due to the milestone. It is a piece of roughly circular column, hewn out of local grit, 23 inches high and 9-11 inches in diameter. It was found in June 1862, 3 or 4 feet underground, in a grass field then belonging to Mr. Matthew Lees, at a point which (as indicated to me on the spot) is close to the entrance from Silverlands and the south-east corner of Hardwick Square into the present railway goods yard. It passed first into the possession of Mr. J. C. Bates, of Buxton, and then of Mr. Wright, of Wootton Court, Warwick ; by the latter it was presented to the Derbyshire Archæological Society. The Society deposited it first at Derby and later in the Buxton Museum, where it now is. The lettering on it, well-shaped and averaging $2\frac{1}{4}$ inches in height, is :—

RBPOTC^oS
PPANNIONE
MPX

Here we have only the lower part of the inscription. The beginning, with the name of the emperor and some of his titles, has been broken away and lost. The whole must have run [*Imp. Caes Aug. pont. max.*] *trib(unicia) pot(estate), co(n)s(ule), p(ater) p(atriciae). Anavione m(illia) p(assuum) x.* That is : ‘in the reign of . . . Augustus, pontifex maximus, endued with tribunician power, consul, father of his country. From Anavio (Brough) 10 miles.’¹ The name of the emperor and the date of the inscription cannot be determined. Holder declares it earlier than A.D. 114, but he has confused it with another inscription. The lettering gives little clue, but perhaps suggests the first or second century rather than any later period. From its phrasing the stone seems to have been erected not at the original construction of a road, but subsequently, at the opening of some emperor’s reign.²

¹ *Buxton Advertiser*, 14 June 1862 ; Jewitt, *Reliquary*, iii. 207 (April 1863), with inaccurate illustrations and renderings ; Watkin, *Arch. Journ.* xxxiii. 51, and *Derb. Arch. Journ.* vii. 79 ; Hübner, *Corp. Insc. Lat.* vii. 1168, and *Ephemeris*, iii. p. 139 ; Mowat, *Bulletin épigraphique*, v. 324 ; myself, *Ephemeris*, vii. 1102, with misprint of the first letter R for R, *tr.* ; I have examined the stone myself. Though much discussed, the reading seems fairly certain. Some read COS I or COS II, but this I cannot see. The concluding numeral at the end is more doubtful. To me it seems X, but in some lights XI looks plausible. As, however, the distance from Brough along Bathamgate to Buxton is barely 10 English miles (= a little less than 11 Roman miles) X is preferable. Watkin thought to read X̄ and inferred from the elevated horizontal line that II had perished ; but XII is epigraphically impossible (though XIĪ would be right), and the horizontal line is a mere accidental scratch. The reading *Anavione* ‘(from) *Anavio*’ (instead of a *Navione* suggested by Watkin) is confirmed by an Italian inscription mentioning the Brittones Anavionenses (*Corp. Insc. Lat.* xi. 5213), and by the river name Anava in the Ravennas (see p. 210).

² A second milestone is said to have been discovered some years ago under the Bull’s Head Inn on Fairfield Green, and to have been built up into a modern foundation (*Derb. Arch. Journ.* xxv. 161). But the distance from Silverlands is not 1,000 yards, and till the stone is rediscovered we can hardly discuss its character

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The road to which the milestone refers is the well-known Bathamgate leading over the moors for 10 miles to Brough. As the milestone was found under pasture at a depth of 3 or 4 feet, it may be taken to have been, not indeed 'in situ,' but near its original position. We may then infer that the Bathamgate started near Silverlands, and that the milestone marked the point of departure (see p. 249). One other Roman road passes Buxton. This is the road which runs from Little Chester north-westwards to Buxton, and thence, in all probability, to Stockport and Manchester.

Such are the details of Roman Buxton. Obviously enough they are imperfect. But they enable us to begin the history of the place. The traces of baths show that at some time or other in the Roman period there existed here a small bathing establishment. The Silverlands finds show that a small village existed near it. The coins and potsherds show that the occupation of the site began in some form or other before the end of the first century, and continued during the second century. In a later section of this chapter (p. 235) we shall find that Poole's Cavern, which lies on the south-western outskirts of Buxton, not quite a mile from Holker road, was inhabited during part at least of the same period, though the precise connexion between bathers, villagers, and cave-dwellers may not be easy to determine.

Lastly, the Roman name of Buxton. This was probably *Aquae*. The *Ravennas* geographer (430-5) places an *Aquis* somewhere in the middle of England next to *Nanione* or *Navione*. This latter is a misspelling of *Anavione*, Brough (p. 210), and *Aquis* can only be Buxton. This was seen by several eighteenth-century antiquaries. Recent writers, like Holder, have preferred to identify *Aquis* with *Aquae Sulis*, which is Bath, and which does not otherwise occur in the *Ravenna* lists. But Bath lies in a totally different part of England from that indicated by the *Ravennas*. The inclusion of Roman Buxton may perhaps seem strange beside the omission of Bath. But the *Ravenna* lists are corrupt and imperfect and contain many examples of such inconsistencies.

7. LEAD-MINING

In the Roman age, as in many later days, lead-mining was actively pursued in Derbyshire. The mining area extends over what may be called the west centre of the county, between Wirksworth on the

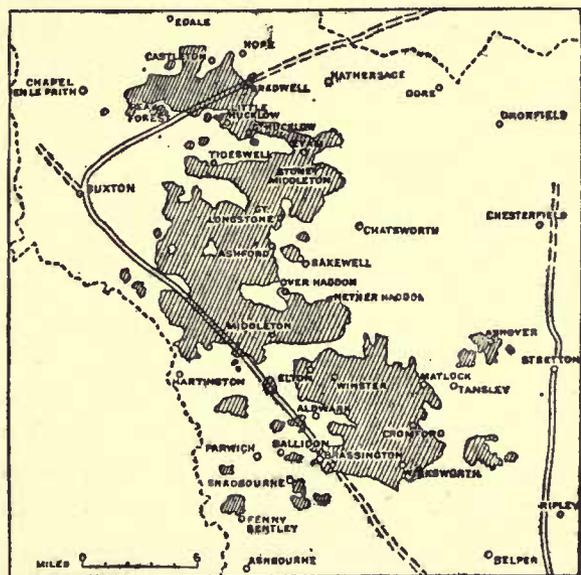


FIG. 28.—AREA OF ANCIENT MINING (ROMAN OR OTHER) IN DERBYSHIRE.

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south and Castleton on the north. Within these limits disused mines of one date or another occur plentifully in large irregular patches. (See map, fig. 28.)

The Roman mining seems to have centred round a point in the south-east of this region. Five out of the six pigs of Roman lead found in the county have been dug up on the moors in the vicinity of Matlock, east or west of the Derwent, and the circumstances of their discovery seem to indicate that they were melted down at the places where they were discovered. It does not follow, of course, that they were mined where they were smelted. The ore may possibly have been mined elsewhere, and the neighbourhood of Matlock may have been only a smelting district where the lead was separated from the more valuable silver which it contained. But the sites where the five pigs have been found are somewhat scattered ; they lie also on the edge of the mining region, and it is more natural to suppose that the lead was both mined and smelted near Matlock. The region or some part of it seems to have borne the name Lutudarum and

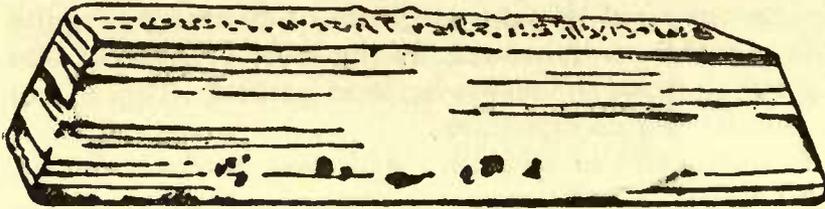


FIG. 29.—SHAPE OF AN ORDINARY PIG OF ROMAN LEAD.

(The part uppermost in the illustration was lowest in the mould, and received the inscription which was placed along the bottom of the mould. The stratification represents the layers of melted lead successively poured into the mould.)

near Matlock, but also seven others found in various parts of England which are declared by their inscriptions to come from the same source. One of the pigs is dated to the reign of Hadrian (A.D. 117–138); and so far as one may judge by the lettering the others may be even earlier.

Thus much seems certain respecting the Derbyshire mining. If, however, we inquire for further details, many puzzles confront us. In the first place, with respect to the ownership and administration. Minerals in the Roman Empire were usually crown property, and were either worked by the state or were let to more or less official lessees under the control of an imperial agent. In the reign of Hadrian, as pig No. 1 shows, the Derbyshire lead mines did thus belong to the emperor. But most of the pigs bear not the emperors' names, but those of private persons or at least of persons who have no official titles or descriptions. L. Aruconius Verecundus, C. Iulius Protus, Ti. Claudius Tr(ophimus?), P. Rubrius Abascantus. These are the only private persons named

the mining district the name *metallum Lutudarense*.¹

Mining was here carried on vigorously. We have not only five Lutudaren-sian pigs from

¹ Compare the inscriptions given below with the Ravenna Geographer, 429. 2, who mentions Lutudaron next to Derventio. For some obscure reason almost all writers previous to the discovery of No. 11 called the name Lutudae ; but it is obviously Lutudarum. Holder (*Sprachschatz*, ii. 355) is certainly wrong in adhering to Lutudae.

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on the inscribed lead pigs of Britain,¹ and an explanation is needed for their appearance. Hübner suggests that they are not really private persons, but were connected in some way with the Imperial administration, since the title of the mines is the same on their pigs as on that of Hadrian. Rostowzew thinks them official lessees of the mines from the government, partly (he says) because they are freedmen.² But it seems rash to call four several persons officials or lessees when not one describes himself as such. And it is equally rash to call them freedmen when merely two or perhaps three have Greek cognomens. On the other hand it is difficult to consider them owners. The mineral wealth of the provinces was mainly owned by the Imperial Government. Private owners occur only in the early years of the Empire and they were gradually removed in favour of the government monopoly. In a province conquered so late as Britain, and in particular in the north of Britain, we should hardly expect private owners. Some chance, however, may have brought it about that one portion of the British minerals was at first allowed to rest in the hands of private owners of the commercial class. This view has, at any rate, the merit of suiting the apparently early character of the lettering on the pigs concerned. But under the circumstances it may be well to defer any definite conclusion in the hope of further evidence.

Secondly, in respect of the dates when the mining began. Our only direct evidence is the pig bearing the name of Hadrian (A.D. 117-138). But we may well believe that Roman miners were busy in Derbyshire at least thirty years earlier. For the lead deposits of western Yorkshire, as for example those lying between Grassington and Pateley Bridge, were worked as early as A.D. 81 (fig. 30 [6]). Yet it is not likely that they were opened up before Derbyshire was touched. But if we try to inquire further, we are met by a puzzling contrast between the evidence of the Derbyshire pigs and that of other Roman remains found near Matlock. The pigs seem to belong to the first or second century. The other remains, as for instance the hoards found near Crich, Cromford, and Darley in the Dale (see the alphabetical bibliography), belong almost wholly to the third or fourth century. There is practically nothing that we can attribute to the age of Hadrian. Further afield the case is different. The fibulæ supposed to have been found in Roman mines near Elton may well be ascribed to the second century, and many other fibulæ discovered within the general area of ancient mining, as at Middleton in Youlgreave, belong to the same period. Our records of them are, however, so vague that this evidence helps us little.

A third difficulty arises with respect to communications. A Roman road can be traced along the western edge of the lead area from Buxton to Brassington, and it probably ran on to Little Chester. But no road is known to lead to Matlock, unless it be the road sometimes thought to run by Knave's Cross (p. 247). The conjecture therefore arises whether

¹ *Corp. Insc. Lat.* vii. 1218 (DOCCIVSI) is not a lead pig, but due to an error of Hübner.

² *Dizionario epigrafico*, ii. 586; cp. *Staatspacht in der römischen Kaiserzeit* (Leipzig, 1903), p. 451. Hirschfeld, *Verwaltungsgeschichte* (ed. 2), p. 151, inclines to call the four men lessees (conductores).

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the pigs may not have been sent down the Derwent by water to Little Chester supposing the river was then navigable enough for the purpose.

But the incompleteness of our knowledge forbids us to speculate much on such puzzles. The pigs of lead are almost our only definite facts. We cannot point to any single mine which we know the Romans to have used. Instances occur of Roman fibulæ, pins, or coins said to have been found in mines, as near Elton and at Longstone Bridge, or of mining spades thought to be Roman, as at Great Hucklow and Taddington. But we possess no precise record of the circumstances under which these various objects were found, and we cannot identify the spades as at all certainly Roman. We must content ourselves therefore with the scanty definite material which we have. And for this purpose I have thought it desirable to conclude this section with an account of all the pigs of Roman lead which are known to have come from Derbyshire. That will show that, whatever its administration and whatever its length of life, the Derbyshire lead industry really flourished in Roman times, and supplied the most various parts of Britain with its products. On the continent, we cannot trace the Lutudarensian lead pigs. But that need not make us think that they were not exported. Rather, we may conclude that the lead which reached the continent was passed into a better system of traffic and was less likely to be lost before it found its proper destination.¹

LIST OF LEAD PIGS FOUND IN DERBYSHIRE OR SMELTED THERE

1. Found in April 1777, about a foot below the surface, on Cromford Nether Moor in Wirksworth parish, on high ground west of the Derwent valley; at first the property of Mr. Peter Nightingale, given by him in 1797 to the British Museum. Weight, 127 lbs.; dimensions at the top $3\frac{1}{4}$ by $19\frac{1}{4}$ inches, at the bottom $5\frac{1}{2}$ by $22\frac{1}{2}$ inches, thickness $3\frac{3}{4}$ inches. Inscribed on the top only:

IMP · CAES · HADRIANI · AVG · MET · LVT ·

Imperatoris Caes(aris) Hadriani Augusti, met(alli) Lut(udarensis)

Published by (1) S. Pegge, *Archæologia*, v. 369, misreading MEI · LVI—hence Pilkington, i. 96; Davies, *View*, p. 74; Gough's *Add. to Camden* (1806), ii. 423; Reynolds, *Iter*, p. 436. (2) S. Lysons, p. ccvi, tacitly correcting MET · LVT; from Lysons, Bateman, *Vestiges*, p. 134, and many more. (3) Hübner, *Corp. Inscr. Lat.* vii. 1208, from personal inspection. I have examined the object myself. Fig. 30 (1).

Another pig with a similar inscription is said to have been dug up in 1849 or 1850, on the banks of the river Carron at Camelon near Falkirk during the construction of the Midland (now North British) Railway. What became of it is not recorded, nor its weight and dimensions; the inscription is said to have been

IMP · CAES · HADRIANI AVG · T · M · LV

This I believe to be due to some mistake. It was published, as above, by Sir Daniel Wilson in the second edition of his *Archæology and Prehistoric Annals of Scotland* (1863, ii. 64). It was also sent by him to Dr. McCaul, who included it in his *Britanno-Roman Inscriptions* (Toronto, 1863), p. 33: from McCaul, Watkin, *Archæol. Journal*, xxxi. 354, and Hübner, *Ephemeris*, iii. p. 141. Wilson gives, as his authority, MS. notes by William Grosart, a local antiquary of the time, and an article in the *Stirling Observer*, 19 September 1850. This

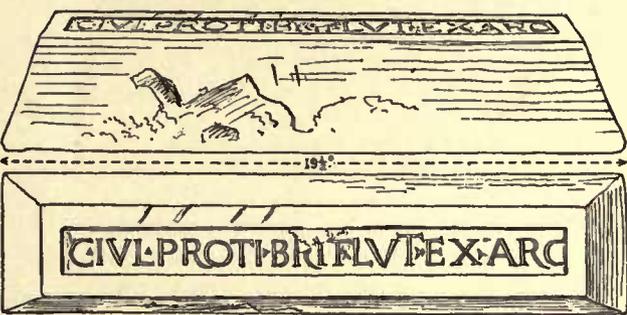
¹ Some items in *Corp. Inscr. Lat.* xv. (2) 7914 foll. have been connected with Britain, and indeed, with No. 2 in my list. But it is an uncertain guess.



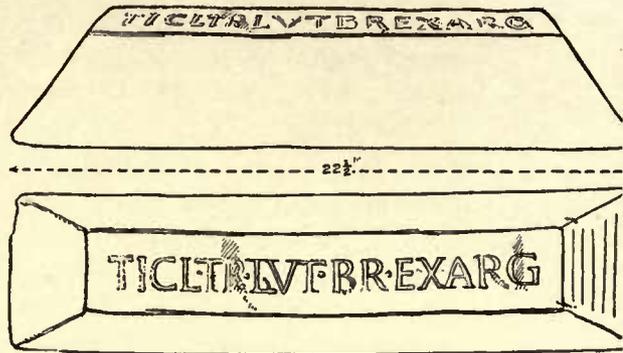
1. CROMFORD NETHER MOOR. (No. 1 in text.)



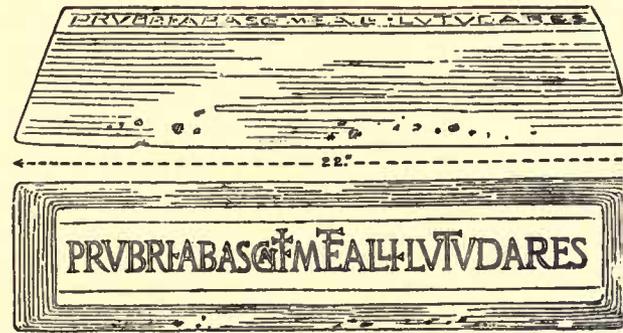
2. MATLOCK BANK. (No. 2 in text.)



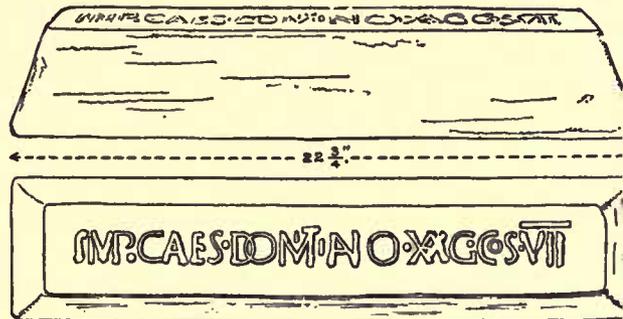
3. HEXGRAVE PARK. (No. 3 in text.)



4. PULBOROUGH. (No. 7 in text.)



5. TANSLEY MOOR. (No. 11 in text.)



6. HAYSHAW MOOR, YORKSHIRE. (p. 229.)

FIG. 30.—PIGS OF LEAD, NOW IN THE BRITISH MUSEUM. (From *Archæologia*, lvii. 398.)

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article, which is signed W. G. that is, William Grosart, describes various Roman antiquities found at different times at Camelon. But in respect of a lead pig, it mentions only 'about two cwt. of lead, in shape an oblong square, resembling a hearth,' dug up (as it would seem from the phrasing of the article) not in 1849, but some years earlier. This apparently was uninscribed, and the language used about it does not suggest that it was a pig of lead of the ordinary Roman shape. Grosart also contributed an account of the finds made at Camelon about 1849-50 to the Scottish Society of Antiquaries (*Proceedings*, i. 59, 8 March 1852), and here again no reference occurs to any inscribed or uninscribed lead pig. No mention of the inscribed pig occurs elsewhere, so far as I know, nor has it ever been seen by anyone. I incline, therefore, to suggest that Sir D. Wilson misunderstood some remark made to him by Grosart or some hypothesis which he suggested, and that in reality no inscribed lead was found at all at Camelon.

2. Found in 1783 lying a few inches beneath the surface of the ground, near Matlock Bank, when some recently enclosed common land was being cleared; close by was a 'bole' or ancient smelting hearth of large flat stones; first the property of Mr. Adam Wolley of Matlock, who gave it in 1797 to the British Museum. Weight 83-84 lbs.; dimensions at the top $3\frac{1}{2}$ by 19 inches and at the bottom $4\frac{3}{4}$ by $20\frac{1}{2}$ inches, thickness $2\frac{3}{4}$ inches. When it was found, many small particles of brass were thought to have been noticed mixed with the lead on the outside of the pig. Inscribed on the top only. See fig. 30 (2).

L(ucii) Aruconii Verecundi, metal(l)i Lutud(arensis)

First published, not quite correctly, by S. Pegge, *Archæologia*, vii. 170—hence Pilkington, i. 97, Gough, *Adds. to Camden*, ii. 423, Davies, p. 74; correctly by Lysons, p. ccvi, and Hübner, *Corp. Insc. Lat.* vii. 1214, and many others copying them. I have examined the pig myself.

3. Found in 1848 in Hexgrave Park, eight miles east of Mansfield, Nottinghamshire; for a while at Thurgarton Priory, now in the British Museum. Weight 184 lbs.; dimensions at the top $3\frac{3}{4}$ by $19\frac{3}{4}$ inches, thickness $4\frac{3}{4}$ inches. Inscribed only on the top, with leafstops between the words. Fig. 30 (3).

C · IVL · PROTI · BRIT · LVT · EX · ARG

G(aii) Iul(i) Proti Brit(annicum) Lut(udarensis), sc. plumbum) ex arg(entariis).

First published *Proc. Soc. Ant.* (First Series), i. 295 (with misreading ARIT)—hence *Gentleman's Magazine*, 1849 (i.), 518; correctly Bateman, *Journal of the British Archæol. Association*, v. (1850), 79; Way, *Archæol. Journ.* xvi. 36: hence many others. I have seen the original. The phrase *ex argentariis* (or *ex argentifodinis*) seems to refer to the fact that the lead was mined not only as lead, but also as containing silver which was separated from the lead in the smelting.

4. A similarly inscribed pig was found in 1890 at South Cave near Brough, Yorkshire, where a Roman road from Lincoln to York crossed the Humber: now at Cave Castle. Weight 135 lbs.; dimensions $4\frac{1}{2}$ by 22 inches at the top, thickness $5\frac{1}{2}$ inches; inscribed only on the top.

C · IVL · PROTI · BRIT · LVT · EX · ARG

Published in the local papers, *Hull Express*, 1 and 3 March, *Eastern Morning News*, 7 March 1890, and by myself *Archæol. Journ.* xlviii. 257.

5. We may also include here a fragment found at Brough, Yorkshire, before 1730, and sometime in the possession of Warburton the Somerset Herald and Ward the Gresham Professor, now lost. It was $3\frac{1}{2}$ by 7 inches in size and bore the letters, with a fracture across the first and after the last:—

BREXARC

which may well belong to an example of the preceding or following inscription. Published by Horsley, p. 314; hence Gough, *Adds. to Camden*, iii. 319, and others, offering very odd interpretations.

6. Found in 1787 on Matlock Moor, that is, somewhat north of Matlock Bank, not very far (apparently) from No. 2; at first in possession of Mr. Molesworth, now apparently lost. Weight 173 lbs.; dimensions at the top 3 by $17\frac{1}{2}$ inches, at the bottom $6\frac{1}{2}$ by 20 inches, thickness $4\frac{3}{4}$ inches. Inscribed

TI · CL · TR · LVT · BR · EX · ARG

Ti(berii) Cl(audii) Tr(ophimi?), Lut(udarensis) Br(itannicum) sc. plumbum) ex arg(entariis)

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First published by S. Pegge, *Archæologia*, ix. 45, from readings of Mason and Molesworth; hence Pilkington, i. 97, Davies, p. 75, Lysons, p. ccvi, Bateman, Watkin, Hübner, *Corp. Insc. Lat.* vii. 1215a, etc. The still current idea that this pig bears the name of the Emperor Claudius is epigraphically impossible.

7-10. Four similar pigs of lead were found in 1824 at Broomers Hill, near Pulborough, in Sussex, close to the Roman road called Stane Street. One is now at Parham, a second in the British Museum: the other two, much worn when discovered, have not been preserved. The British Museum specimen weighs 184 lbs. and measures at the top 4 by 4 inches, at the bottom 6½ by 23 inches and is 4¾ inches thick. It is inscribed only on the top. When found all four were said to bear the same inscription: ICLTR · PVT · BREXARG. This is obviously an imperfect reading of the lettering of No. 6. And the British Museum specimen actually has ■CL · T ■ · LVT · BR · EX · ARG.

Gentleman's Magazine, 1824 (i.), 194, 320—hence Horsfield's *Sussex*, ii. 164, etc., incorrectly: correctly, Way, *Arch. Journal*, xvi. 26, Hübner, *Corp. Insc. Lat.* vii. 1215b. I have examined the British Museum specimen. Fig. 30 (4).

11. Found in March 1894 face downwards about two feet beneath the surface, in the course of inclosing and reclaiming common land at Portland Grange on Tansley Moor, 2 miles north-east of Matlock, on high ground east of the Derwent valley. The surface round the point of discovery is said to have seemed scooped into small hollows, showing the action of fire, and it is suggested that these may have served for the melting of the lead. Now in the British Museum. Weight 175 lbs.; dimensions 3½ by 19¾ inches at the top, 5¼ by 22¼ inches at the bottom, thickness 4⅝ inches. Inscribed only on the top (see fig. 31).



L. 227a

FIG. 31.

P. Rubri Abascanti, metalli Lutudare(n)s(is)

Sheffield and Rotherham Independent, 17 April 1894, and other local papers; Rev. Dr. Cox, *Proc. Soc. Antiq.* xv. (1894), 185, and *Antiquary*, May 1894; myself, *Proc. Soc. Antiq.* xv. 188; Bulmer, *Topogr. Directory* (1895), 414; *Brit. Arch. Assoc. Journ.* (1894), 183, and *New Series*, vi. 34 (uncritical). I have examined the pig myself. The contraction *Lutudares* for *Lutudarensis* need cause no surprise. An *n* is often omitted in such cases, and the last syllable is frequently curtailed; so, for example, ANIES several times on inscriptions for *Aniensis*.

12. Found in 1846 on Oker Hill near Darley in the Dale, two miles north-west of Matlock, on high ground west of the river Derwent, near ancient mineral works. No details are recorded save that it was 'of the Roman shape.' Some 'Third Brass' coins of about A.D. 250-270 and other antiquities have been found in more or less the same locality. Bateman, *Vestiges*, p. 159; hence Watkin, *Derb. Arch. Journ.* vii. 74.

13. Found in July 1894 in digging foundations for new Board School buildings at Bradwell; now in the Sheffield Museum (J. 96, i.). Weight 112 lbs.; dimensions 20 inches long, 5½ wide and 3 high. It is considerably worn, and the part which might have borne the inscription has perished. But its shape and stratification mark it out as unquestionably Roman. The Roman road from Buxton to Brough is only 250 yards away from the point of discovery, and old lead workings exist in the immediate neighbourhood. It is therefore not easy to say whether the pig was lost, for example, off a packhorse which had strayed from the road, or was smelted at the place. Mentioned in print, *Arch. Journ.* lii. 33; *Buxton Chronicle*, 25 January 1896; *Antiquary*, xxx. (1898), 46.

14. Said to have been found before 1802 near Castleton and to have been inscribed, but only three letters were legible: IMP

Published by John Phillips in the *Proceedings of the Yorkshire Philosophical Society*, I. i, 89 (1849): 'a fourth pig is stated to have been found at Castleton on which only the letters

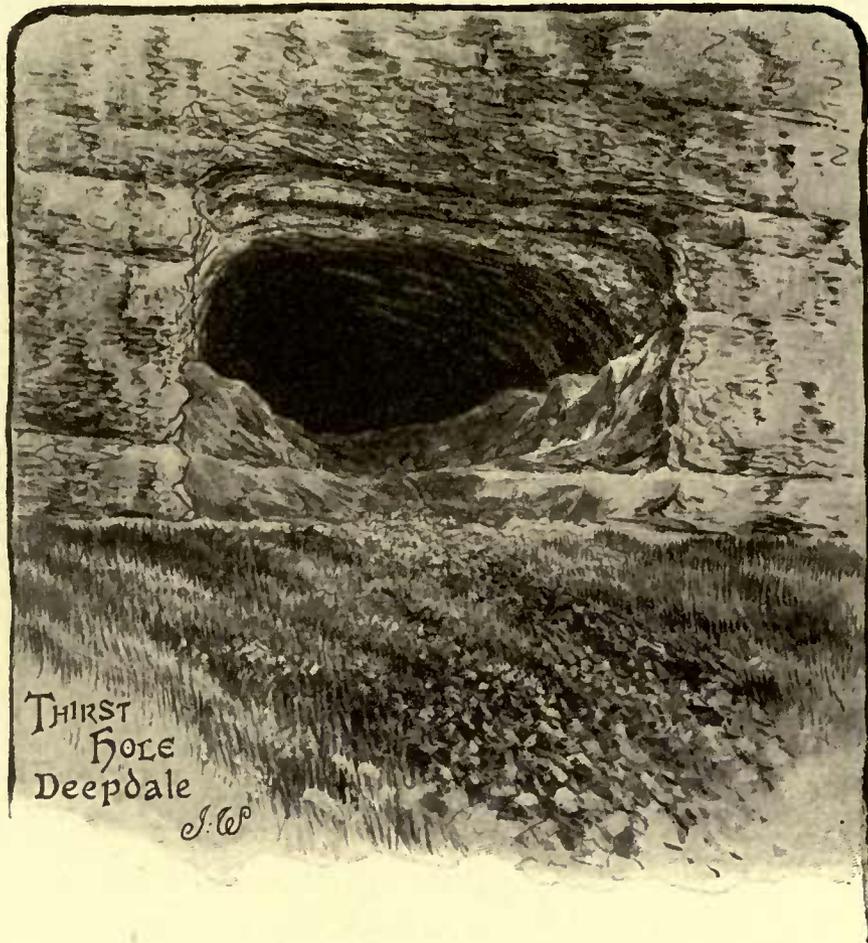


FIG. 32.—(From the *Derbyshire Archaeological Journal*.)

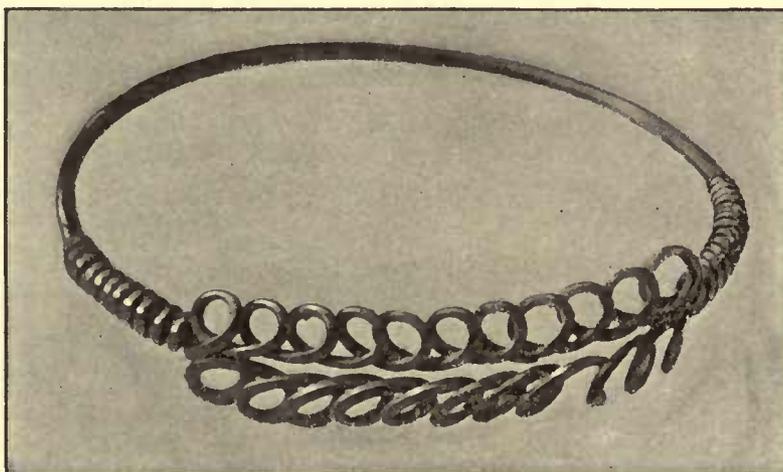


FIG. 33.—BRONZE BRACELET ($\frac{1}{4}$).

(Found in a burial outside Thirst House. Possibly Roman, but the characteristic ornament occurs on La-Tène objects of Pre-Roman date as far afield as Bosnia.)

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IMP could be read distinctly. It is said by Mr. Mawe to be preserved at Lichfield¹; hence Hübner, *Corp. Insc. Lat.* vii. 1213. But Mawe (*Manual of Mineralogy*, London, 1802, p. 6) merely says that there had been found near Castleton 'a bar of lead, marked with the name of one of the emperors, then [1802], as he believed, in the museum of Mr. Greene at Lichfield.' No mention of the pig occurs elsewhere. The catalogue of Mr. Greene's collection by John Jackson (Lichfield, 1782) does not refer to it. It is therefore possible that Phillips misunderstood Mawe, or interpreted him too freely. It is possible also that Mawe, a geologist and not an antiquary, himself blundered. Greene's museum contained only one lead pig, with Vespasian's name, found on Hints Common in Staffordshire in 1772 (*Corp. Insc. Lat.* vii. 1205), and Mawe may have transferred to Castleton an imperfect hearsay knowledge of this.

NOTE.—Several of these pigs have been analysed by Prof. Wm. Gowland (*Archæologie*, lvii. 359). It appears, as Mr. Gowland tells me, that all of them have been treated for the extraction of silver. It appears also that in this process the natural impurities of the lead ore, copper and antimony, have been reduced to such small proportions that it is not possible to draw any distinction between the lead of one district and the lead of another, or to refer to its original home any lead pig which is not identifiable by its inscription or place of finding.

8. INHABITED CAVES

The limestone hills of Derbyshire, by virtue of their geological formation, contain numerous caves of very various forms and sizes. Many of these have at different times provided habitations for animals or men, and frequent remains of such inhabitants have been revealed by chance or by excavation. The best known, and perhaps the most noteworthy of these remains belong to prehistoric ages—to animals which have since vanished from England, and to neolithic man. These concern the geologist rather than the historian. But a few of these caves have been found to contain in the upper and later strata of their floors and stalagmites the traces of habitation dating from the Roman period, and in two cases these remains are striking and abundant.

(a) THIRST OR THIRSE HOUSE (DEEPPDALE)

The most extensively explored of the Romano-British caves in Derbyshire, and the most productive of Romano-British remains is that sometimes called Thirst House,¹ in the narrow gorge of Deepdale between Buxton and Chelmorton. Here a few prehistoric and many striking Roman remains have been discovered by Messrs. Micah and William Salt, Mr. Millett, and others, who have excavated the cave at various times since 1884. The Roman objects have been found partly in the first chamber of the cave near the entrance, but principally and predominantly outside it. A deep bed of rubbish, disturbed soil and refuse slopes from the mouth of the cave down to the bottom of the gorge, and this bed has yielded the most notable finds. They include many varieties of remains. There are coins of Pius (TR. P. xvii), Pertinax, Gallienus,

¹ The name recurs in Staffordshire twice, in Alveton parish and near Wetton Mill (Plots, *Staffordshire*, p. 172). Thor's Cave, also near Wetton (p. 238), has plainly the same name, either misspelt or misinterpreted by an antiquary. Mr. W. H. Stevenson tells me that it has nothing to do with Thor, but is connected with a word meaning 'devil' or 'giant': he refers to *Thyrspytt* in Worcestershire (Cod. Diplom. iii. 396, 31).

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Victorinus, Claudius Gothicus. There are many bow-fibulæ (fig. 35), and three remarkable shield-shaped fibulæ with central bosses (fig. 34), parallels to which have occurred in Poole's Hole, on the Roman Wall, and at Woodeaton in Oxfordshire;¹ an enamelled dragon-shaped fibula of late Celtic character, assignable perhaps to the second century of our era, several penannular specimens, and a bronze 'chatelaine,' which also recurs at Poole's Hole. Further, there is much pottery, in particular embossed Samian, and the broken

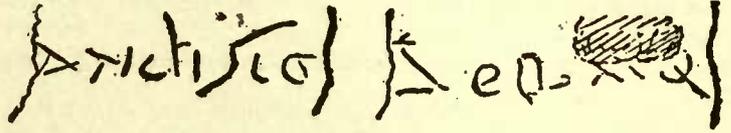


FIG. 36.—MORTARIUM INSCRIPTION, DEEP DALE.
(Mr. Salt's Collection.)

rim of a *pelvis* or *mortarium*, inscribed with incised cursive lettering too fragmentary to be properly deciphered (fig. 36). There are also spindle-whorls of lead and pottery, needles of bone, small iron objects, bones of animals, a bit of red ochre used for rubbing something (p. 237), etc.

Two fairly perfect interments were also noted in the midst of the rubbish stratum which contained these remains. One, found near the bottom of the valley in April, 1896, consisted of a full-length skeleton with a bronze armlet of noticeable workmanship (fig. 33), a bronze ring and pin, and fragments of a wheel-made urn containing burnt bones—all enclosed in a cist-like structure of limestone blocks without a cover.² The other, found two years later, in the middle of the slope, was a cist of which one side was formed by the hill (fig. 37), containing a skeleton and an iron spear-head. Several other traces of burials were noted in the rubbish.³ It is difficult to date them, but they must be either Roman

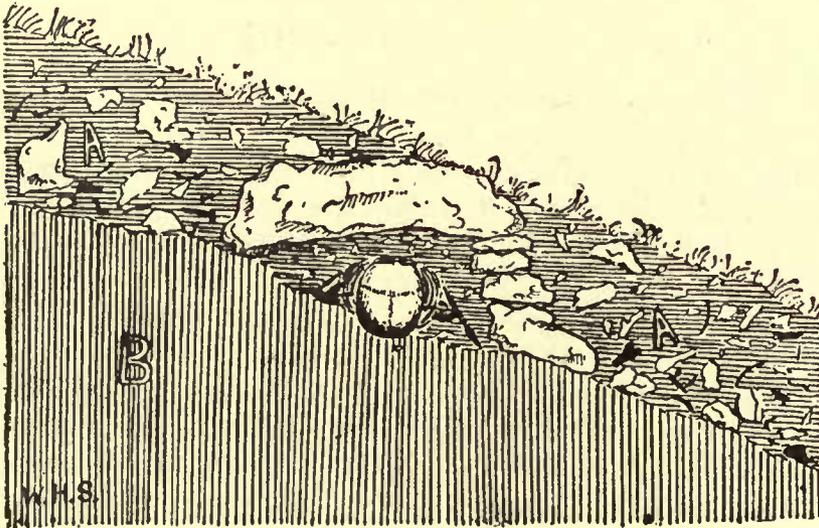


FIG. 37.—BURIAL OUTSIDE THIRST HOUSE.

or prehistoric; they do not appear to be later insertions.

The age of the Roman remains is given roughly by the coins, of which the earliest is dated A.D. 154, and the latest represents an emperor who reigned A.D. 268–270. The fibulæ

¹ P. 235, below; Bruce, *Roman Wall* (ed. 3, 1867), p. 226; Ashm. Mus. Oxford. A similar boss occurs on a slightly different disk-fibula from Hanham, near Bristol.

² *Reliquary*, 1897, p. 196. Turner, *Ancient Remains near Buxton*, p. 58.

³ Turner, p. 63.

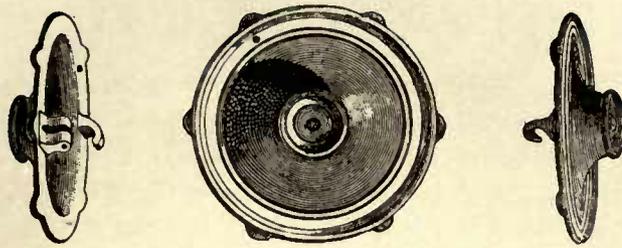


FIG. 34.—Disk-FIBULA FOUND AT THIRST HOUSE.

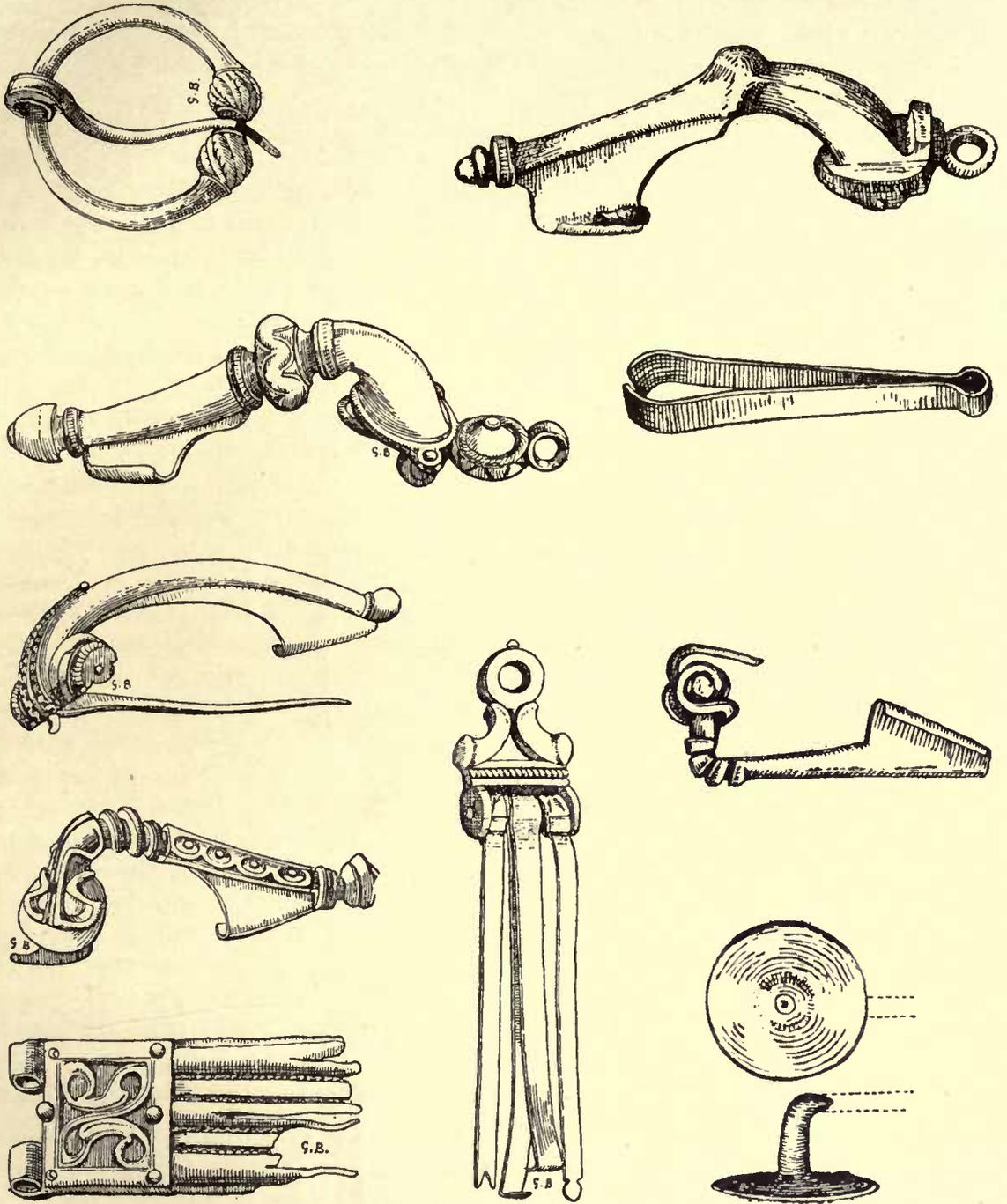


FIG. 35.—FIBULÆ, ETC., FOUND AT THIRST HOUSE, 1890.

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suggest a somewhat similar period, that of the second century, though one or two may belong to the late first century, and the Samian ware is of a type which we are accustomed to associate with the period 100–250 A.D. The large amount of deposit seems to show, as the excavators emphatically assert, that the occupation was no short one. It must have lasted many years. From time to time the rubbish on the floor of the cave must have been swept out and tumbled down the slope below. Further, the occupation was plainly a real occupation: fires were lighted and animals were cooked and men lived here, and, if the burials are Romano-British, also buried their dead.¹

(b) POOLE'S HOLE, BUXTON

Another cave situated in the same neighbourhood has yielded similar remains. This is Poole's Hole or Cavern, which underlies the massive hill that overhangs Buxton from the south-west. It has long been known as a cave. In the reign of Queen Elizabeth (so the tale goes) it was inhabited by one Poole, an outlaw, from whom it took its name, and for the last two hundred years it has been a resort of the curious and the tourist. It was first recognized as containing antiquities in 1854, when, in the course of levelling the earth before its mouth, the workmen found, at a depth of 4 feet, many human and other bones, staghorns, and corroded metal buckles, nails, and the like.² Since then its archæological treasures have been more fully excavated by Messrs. Redfern, father and son, its proprietors, chiefly during the third quarter of the nineteenth century, and they are now preserved in a small museum adjacent to the cave. They were mostly discovered in the upper strata of the cavern floor near the entrance and in a chamber some 30 yards inside it. This floor consists of alternate layers of brown clay and charcoal—the old rubbish and débris—and of stalagmite; that is, deposit of calcareous matter formed on the floor of the cave by the drip of water impregnated with carbonate of lime.³

The Roman remains consisted of six 'First' and 'Second Brass' coins, one each of Trajan, Verus (?), Faustina, Septimius Severus, and Philippus, and one illegible; four bronze bow-fibulæ (Fig. 39), a circular fibula closely resembling some found at Thirst House (Fig. 34) and still preserved, as found, embedded in stalagmite, a penannular fibula, a chatelaine (Fig. 39), some rings, abundant potsherds, including many bits of Samian—some from embossed bowls with the ovolo pattern or (in one case) without it, and one with the name PATERCLINIO stamped inside the hough—much rough ware, three lamps, some bits of iron and lead, much charcoal and blackened earth—formerly the old Roman floor—and

¹ Turner, *Ancient Remains near Buxton* (Buxton, 1899), pp. 63, 134; *Derb. Arch. Journ.*, xii. 228, xiii. 194, *Reliquary*, April, 1879; Ward, *Ancient Cave Homes in Derbyshire*, p. 15; personal inspection.

² Bateman, *Diggings*, p. 246.

³ The stalagmite accumulated tolerably fast. In one case at least, geologists calculate that a layer over 30 feet thick might well have accumulated between the Roman and the present age. (Boyd Dawkins, *Cave Hunting*, p. 40.)

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many bones of animals, including those of horses, and even a few of men. Pre-Roman objects, flints, potsherds, etc., were also found, testifying to a pre-historic occupation, and perhaps the human bones should be ascribed to some prehistoric burial, but in the absence of minute records this and similar points must remain uncertain. The Roman remains appear to belong to the second and early third centuries. That age is suggested by the coins, of which the latest represents Philippus (250 A.D.); it also suits the fibulæ and the Samian ware, both of which may most reasonably be ascribed to the Middle Empire. It is less easy to decide whether the occupation covered the main part or only the end of that period. The abundance of remains indicates that it may have lasted long; but the only definite fact is that it lasted till about 250 A.D. Of a later age there is no trace. Nothing whatever occurs that is characteristic of the fourth or fifth centuries.¹

(c) CRESSWELL CRAGS

Somewhat similar Romano-British remains, but less abundant, have been found at Cresswell Crag, on the extreme edge of Derbyshire and Nottinghamshire. Here, in the parish of Elmton and about 800 yards east of Cresswell hamlet, a small stream which divides the two counties widens into the semblance of a river and flows for a third of a mile between the wooded cliffs of a sudden gorge. The cliffs on both sides contain caves in which early man has dwelt. These were explored in the years 1875-9. On the north or Derbyshire side, Robin Hood's Cave yielded several Roman objects. They were found near the entrance of the cave and immediately under the present surface of the floor. The remains include a few Samian and many ruder potsherds, a bronze bow-fibula described as resembling those found at Settle (p. 239), some bones of sheep, a human tooth, and much charcoal. A few mediæval potsherds were found near the surface, while flints and other traces of prehistoric man lay deeper down. Just outside the cave a coin of Faustina was noticed. Similar but scantier remains, potsherds, and a fine fibula were discovered in the Church Hole on the opposite or Nottinghamshire side of the ravine. It is plain that here again we deal with the definite inhabitation of a cave, though it may have been smaller in size and briefer in time than that of Thirst House or Poole's Hole. The date again is indicated by the coin of Faustina and by the fibulæ, which suggest the middle or end of the second century.²

(d) BAT HOUSE (ALDERWASLEY)

Three other Derbyshire caves have yielded remains which may be, or have been taken to be, Romano-British. These remains are few.

¹ By the kindness of Mr. Redfern I have been able to examine the remains and photograph some pieces. They have never been properly published. The brief notes in the *Antiquary*, viii. (1883), 177 (John Aiken: hence W. T. Watkin in *Derb. Arch. Journ.* viii. 192) and *Reliquary*, i. (1887), 107, give no idea of the actual finds. Brief notice in Boyd Dawkins, *Cave-Hunting*, p. 126.

² J. M. Mello, *Quarterly Journ. Geol. Soc.* xxxi. (1875), 683; xxxii. 241; xxxiii. 580 foll.; xxxv. 724 (hence R. Pennington, *Barrows and Bone Caves of Derb.* p. 91); *Yorkshire Geol. and Polytechnic Soc. Proc.* (new series), vii. (1878-81), 252-263. The site is indicated on the O.S. (six inch), xix. S.E.

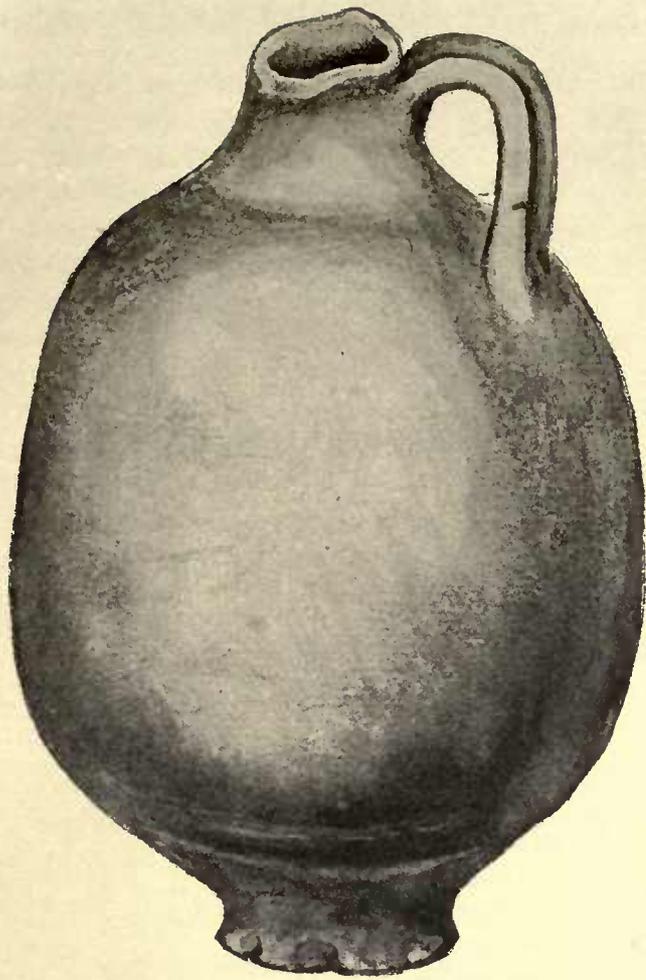


FIG. 38.—POTTERY FROM THIRST HOUSE.

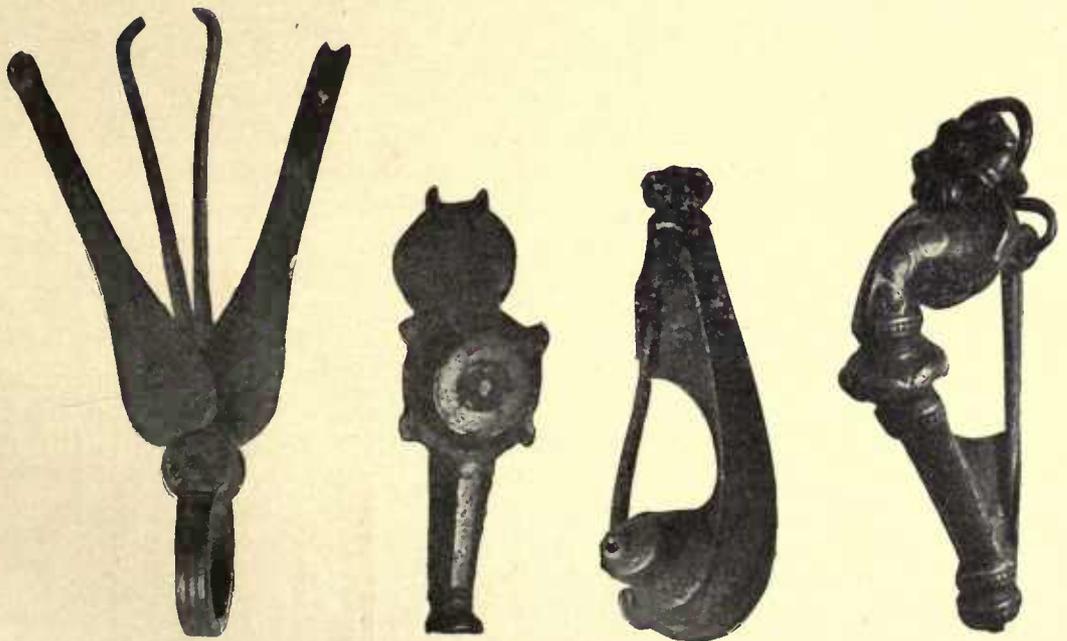


FIG. 39.—FIBULÆ AND CHATELAINE FROM POOLF'S HOLE. (Full size.)

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They are also, in two out of three cases, doubtful in point of date ; but they demand mention here.

Bat House Cave is near Ambergate and Alderwasley, situated high in the cliff above the valley of the Peatpits brook near its opening into the Derwent. It is not a true cave but a group of fissures in the Millstone Grit rocks. A mass of stone has moved forward, another mass has fallen out, and there has remained an irregularly triangular cavity, some 25 feet high, roofed by the less disturbed upper strata. This cavity was excavated in 1884 by Mr. C. B. N. Dunn and Mr. Thos. Crozier (both since dead), and various remains were obtained from the lower part of a deposit of mixed earth, six feet thick, which forms the floor of the place. Among these remains was a Roman fibula resembling those found in other caves (Fig. 40) and assignable to the second or early third century ; potsherds, including Upchurch ware ; some flints, apparently unworked ; a bronze and iron pin of doubtful age, and a tiny bit of ' raddle ' or oxide of iron, thought by its finders to have served as rouge, but equally likely to have been used for polishing metal objects.¹ Some of the potsherds were taken to be pre-Roman, and may be connected with a stone axe found in 1876 just outside the cave. No bones or refuse heaps were noticed. Certain grooves or holes in the sides of the cave were thought by one observer to indicate a wooden barricade near the entrance and a floor of an upper storey, but this is very doubtful. The cave, it is plain, was occupied during the Roman period and probably during the same part of it as the caves already described. But the occupation was, in this case, slight or perhaps only temporary.²

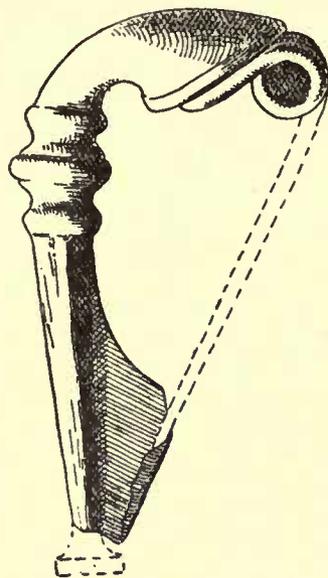


FIG. 40.—FIBULA FROM BAT HOUSE CAVE ($\frac{2}{3}$).

(e) RAINS CAVE (BRASSINGTON)

Rains Cave, so styled from the owner of the land, is a small cavern in the Longcliffe, a high ridge of hill above Brassington, between Wirksworth and Matlock. It was carefully examined in 1888 and following years by Mr. J. Ward and others. Some of the objects found in it—rude wheel-made pottery and turned spindlewheels—have been considered Roman. But none can be quite definitely assigned to

¹ Compare 'the piece of red war paint' found at Wetton (Staffs.) in 1852 (*Lombardale House Cat.* p. 163) and the 'red ochre' found on Harborough rocks, *Derb. Arch. Journ.* xii. 115, and at Thirst House.

² J. Ward, *Reliquary*, v. (1899), p. 77. Mr. A. F. Hurt of Alderwasley very kindly showed me a MS. report by the late Mr. Dunn, and also the fibula and raddle mentioned above, some flints (probably unworked) and parts of a pre-Roman and of a Roman urn, which are in his possession. A brief reference to the finds occurs in Bulmer's *Hist. Topog. Directory of Derb.* (1898).

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that period. If the cave was then inhabited its occupants were few and insignificant and such as count for little in any survey of civilization.¹

(f) ASHWOOD DALE (BUXTON)

In Ashwood Dale, a mile from Buxton towards the south-east, a small cave was explored by Mr. Salt in 1895. Its floor of dark earth, 6 to 12 inches deep, was found to contain 'an iron buckle of Roman type,' a few other indistinguishable pieces of iron, a bit of leather, and bones of sheep, goats, and domestic animals. Whether these remains date from the Romano-British period must, however, be left doubtful.²

(g) CAVES OUTSIDE OF DERBYSHIRE

These Derbyshire caves do not stand alone. Other limestone districts in England contain caves which are known to have been inhabited during the Romano-British period. Thor's cave, near Ilam and Wetton, in Staffordshire, but on the western verge of Derbyshire, demands first notice here, as naturally a member of the Derbyshire group of caves, though separated from its proper context by the accident of a county boundary. Other striking parallels occur among the limestone hills of Craven in West Yorkshire, the Dowkerbottom cave near Arncliffe, the Victoria cave near Settle, the Kelco cave near Giggleswick; and it may not be amiss to notice some similar caves in other districts, such as the Kirkhead cave near Ulverston, and Kent's Hole in Devonshire. A conspectus of the Roman remains found in these various caverns may illuminate the history alike of the whole series of the Derbyshire examples and Romano-British civilization.

(a) Thor's cave³ lies inside a lofty precipice above the river Manifold, half a mile from Wetton, in Staffordshire, and not far from Ashbourne. It was explored in 1864-5, and in it were found Samian and other Roman potsherds, stone querns, a sandstone disk, bone pins and combs, iron knives and arrowheads, a lead spindlewheel, a 'Second Brass' coin of Hadrian, a bronze armlet and pins, and two bronze fibulæ, which may be ascribed to the second or the early third century. All these objects were found in the earth forming the floor of the cave, together with many animals' bones and other signs of cooking and fires. Some human bones were also discovered, but no distinct vestiges of a burial. Apparently the cave was occupied for a considerable time during the Roman period.⁴

(b) The Victoria or King's Scar cave, high in the precipitous side of a lonely gorge on the moors above Settle, was discovered and explored in 1837-8 and again in 1870. It yielded a great variety of Roman finds:

¹ J. Ward, *Derb. Arch. Journ.* xi. (1889), 31; xiv. 228; xv. 161; information from Mr. Ward.

² Turner, *Ancient Remains near Buxton*, p. 75.

³ See p. 233, note, for the explanation of the name.

⁴ S. Carrington, *Reliquary*, vi. (1865), 201; E. Brown, *Midland Scientific Assoc. papers*, 1864-5, hence Boyd Dawkins, *Cave Hunting*, p. 127. The two accounts do not altogether agree.

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coins, fibulæ, Samian and other potsherds, spindle-whorls, rings, armlets, bracelets, iron spearheads and nails, glass beads, bone pins, etc., with bones of animals, pot boilers, and the like. All these were imbedded in the earth and clay forming the cave floor, or in the stalagmite crust below that, and constituted a definite Romano-British stratum, distinct from the underlying traces of neolithic life. The coins are variously given by various writers, but seem to have included one Nero or Vespasian (corroded Second Brass), two silver Trajan, five Third Brass Tetricus, and a score or more others of the period A.D. 250-353, ending with copper of Constans (died A.D. 353). There were also three barbarous imitations of Tetricus, which have been often attributed to the fifth or sixth century. But such coins were certainly minted in the third century, and our specimens may most reasonably be referred to that date, since actual issues of Tetricus were found with them. The fibulæ

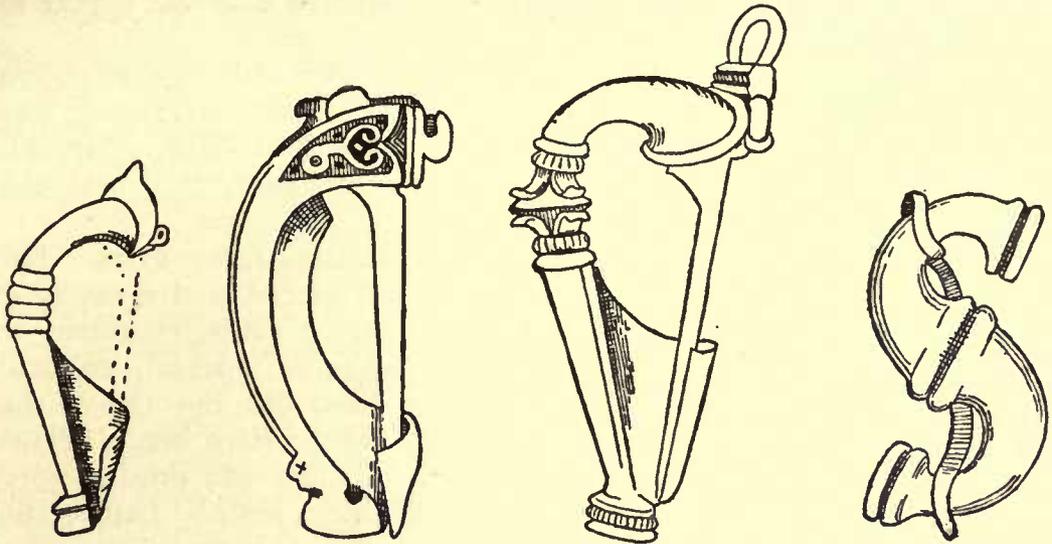


FIG. 41.—FIBULÆ FROM VICTORIA CAVE, NEAR SETTLE.
(‡. From drawings in the Free Library and Museum, Exeter.)

appear to belong to the second and early third centuries (fig. 41). In general, the remains much resemble those found at Thirst House, but they indicate a more considerable inhabitation, perhaps greater wealth on the part of the occupants, and either a longer period of occupation or possibly two occupations.¹

(c) The Dowkerbottom cave, on the moors between Arncliffe and Kilnsey, was explored about 1859 and again in 1881. It has yielded much pottery, including some pieces of Samian ware, several bronze and iron fibulæ, some coins, a *pelvis* (*mortarium*) inscribed

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¹ C. R. Smith and Jackson, *Arch.* xxix. 384 (excavations of 1837-8); Boyd Dawkins, *Cave Hunting*, pp. 81-101 (and references there given); C. Roach Smith, *Coll. Ant.* i. 69; Ecroyd Smith, *Trans. Hist. Soc. of Lanc. and Ches.* v. (1864), 208. I have found especial difficulty in determining what coins were actually found. The various accounts differ widely, and I am not sure that I have even now reconciled them.

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spindle-whorls and disks of earthenware and lead, bone and bronze pins, iron nails, an iron bracelet, part of a circlet of bluish glass, and other small objects and bones of men and animals—including the grave and skeleton of an infant. These remains were found partly in the floor of the cave amid traces of firing and ashes, partly in the deposit of stalagmite, chiefly near the entrance of the cave. The coins, one each of Nero, Nerva, Hadrian, Trajan, and Pius—cos iii, with the familiar 'Britannia' reverse—one or two each of Claudius Gothicus and Tetricus, indicate an occupation ending in the latter part of the third century, and the fibulæ appear to fall within the same dates as the coins. The general abundance of remains, the number of bones and the amount of ash and charcoal, as Prof. Poulton has observed, implies a long occupation.¹

(d) The Kelco or Kelcove cave, near Giggleswick, was explored about 1850. It yielded fibulæ, coins of the time of Vespasian, and potsherds (one bit of Castor ware). Its occupation does not appear to have been very extensive.²

(e) Kirkhead cave is in the breast of a steep hill on the eastern shore of Cartmel promontory. It was explored about 1864–5, and yielded a coin of Domitian a few inches below the surface, a 'trefoil-shaped' fibula in bronze, bones of animals and men, etc., near the surface, and lower down traces of prehistoric man.³

(f) The limestone range of Mendip contains many caves. But few of them were occupied during the Roman period, and none, as it seems, for any length of years. The Burrington caves, excavated at various dates since 1795, have yielded skeletons, charcoal, animals' bones, potsherds, and a set of (?) Roman dice,⁴ but the age of the objects is doubtful. A few scattered Roman objects have been detected lately in a cave above Cheddar. A hoard of some 300 third-century coins was found about 1852 just outside Wookey Hole.⁵ Lastly, the Uphill cave, when explored in 1826, yielded a coin of Julian, some potsherds and bones of sheep and goats, and in 1846 a late fourth-century hoard was found there.⁶

(g) In Devon, the caves at Torquay and Brixham have been found to contain a few Roman remains. Kent's Hole, near Torquay, amidst a mass of earlier and later material, has yielded a Roman fibula (found in the rubbish outside), a bit of Samian and some ruder Romano-British potsherds, bone combs, the stem of a spoon and one or two such trifles (found

¹ See especially Boyd Dawkins, *Cave Hunting*, p. 102; *Proc. Soc. Antiq.* (first series), iv. 111; Speight, *Craven and N.W. Yorks.* p. 325; Poulton, *Yorks. Geol. Soc. Proc.* vii. (1881), 351–368; Boyd and Shuffreys, *Littondale* (Leeds, 1893), p. 21 (rude cut of a fibula); Ecroyd Smith, *Lancs. and Ches. Hist. Soc. Trans.* v. (1864), 208; *Arch. Journ.* xv. 160 (bracelet); information from Prof. Poulton; remains in the Leeds Museum, the Nat. Hist. Mus. at Oxford, etc.

² Ecroyd Smith, *Lancs. and Ches. Hist. Soc. Trans.* v. (1864), p. 207; Speight, *Craven and N.W. Yorks.* p. 141.

³ Ecroyd Smith, *Lancs. and Ches. Hist. Soc. Trans.* v. (1864), 225; J. P. Morris, in *Memoirs read before the Anthropol. Soc. of London*, ii. (1865–6), 354; Boyd Dawkins, *Cave Hunting*, p. 125 and references given there.

⁴ Rutter, *Delineations* (London, 1829), p. 117; Boyd Dawkins, *Somers. Arch. Journ.* xii. (2), 169.

⁵ Boyd Dawkins, *Cave Hunting*, p. 296, *Journ. of the Geol. Soc.* xviii. (1852), 115, etc.

⁶ Rutter, p. 78, Boyd Dawkins, *Cave Hunting*, pp. 294, etc.; *Gent. Mag.* 1846. ii. 633.

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in the black mould forming the floor near the entrance). Two coins of Valentinian are said to have been discovered in this cave.¹ Anstey's cave, also near Torquay, yielded in 1825 some potsherds and one or two coins—one, certainly, of Pius.² Finally, Ash Hole, on Berryhead near Brixham, when examined by Mr. Lyte in 1820-9, is said to have contained Romano-British potsherds and a coin of Claudius.³

(h) The Bourness cave in Kirkcudbrightshire has yielded a bit of Samian and was apparently occupied in Roman times; but the limits of this occupation are doubtful.⁴

(h) CONCLUSION

Such, summarized roughly and briefly, are the principal facts that are known about the cave-life of Derbyshire and of Britain generally during the Roman period. It remains to attempt an explanation of this cave-life, and to suggest a cause and date which will make it intelligible.

The explanation usually offered is that it was the cave-life of Romano-British fugitives fleeing in the fifth or sixth century from the invading English. This theory has often been put forward, but by no one so clearly and eloquently as by the historian John Richard Green.⁵

The caves of the Yorkshire moorlands preserve traces of the miserable fugitives who fled to them for shelter. Such a cave opens on the side of a lonely ravine, known now as the King's Scour, high up in the moors beside Settle. In primæval ages it had been a haunt of hyænas, who dragged hither the mammoths, the reindeer, the bisons, and the bears that prowled in the neighbouring glens. At a later time it became a home of savages, whose stone adzes and flint knives and bone harpoons are still embedded in its floor. But these too vanished in their turn, and this haunt of primitive man lay lonely and undisturbed till the sword of the English invaders drove the Roman provincials for shelter to the moors. The hurry of their flight may be gathered from the relics their cave-life has left behind it. There was clearly little time to do more than to drive off the cattle, the swine, the goats, whose bones lie scattered round the hearth fire at the mouth of the cave, where they served the wretched fugitives for food. The women must have buckled hastily their brooches of bronze or parti-coloured enamel, the peculiar workmanship of Celtic Britain, and snatched up a few household implements as they hurried away. The men, no doubt, girded on as hastily the swords, whose dainty sword hilts of ivory and bronze still remain to tell the tale of their doom, and hiding in their breast what money the house contained, from coins of Trajan to the wretched 'minims' that showed the Empire's decay, mounted their horses to protect their flight. At nightfall all were crouching beneath the dripping roof of the cave or round the fire that was blazing at its mouth, and a long suffering began in which the fugitives lost year by year the memory of the civilization from which they came. A few charred bones show how hunger drove them to slay their horses for food; reddened pebbles mark the hour when the new vessels they wrought were too weak to stand the fire, and their meal was cooked by dropping heated stones into the pot. A time seems to have come when their very spindles were exhausted, and the women who wove in that dark retreat made spindle-whorls as they could from the bones that lay about them.

¹ *British Assoc. Reports* from 1870; Boyd Dawkins, *Cave Hunting*, pp. 325 foll.; *Devon. Assoc. Trans.* ii. 469, iii. 190, xvi. 199, etc. Dr. Brushfield has told me of the two coins, which do not appear in any published report.

² *Devon. Assoc.* vi. 64, 69, x. 146, 170. A coin of Trajan was found in one of these caves (Davidson, p. 78, Woollocombe MS.), and according to Mr. Worth in Anstey's Cave (*Devon. Assoc.* xxiii. 81).

³ *Devon. Assoc.* xxiii. 78, Woollocombe MS. Other coins (e.g. Nero) are also quoted, but these seem to have been found in the neighbourhood and not in the cave.

⁴ *Proc. Soc. Antiq. Scot.* xi. xii.; Edinburgh Museum, HN, 1-179; information from Dr. J. Anderson.

⁵ Green, *Making of England*, pp. 67-68: one or two of his details are, I think, inaccurate. So too Wright, *Hist. of Leeds in the Proc. of the Geol. and Polytechnic Society of the West Riding*, 1864-5, pp. 365-6; Boyd Dawkins, *Cave Hunting*, p. 109; Pennington, *Barrows and Bone Caves of Derb.* p. 59; C. R. Smith, *Coll. Ant.* i. (1848), 72.

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It is an attractive theory. But on the evidence before us it must be pronounced wrong. In the first place it contradicts all the indications of date that can be deduced from the objects found in the caves. For those indications point to the second and third centuries, and in some degree perhaps to the first century. Hardly a trace occurs of anything later. Two or three isolated coins in the west country belong to the end of the fourth century. One Yorkshire cave has yielded coins of the early fourth century. The vast majority of the coins are earlier. So, too, though we cannot date them precisely, the fibulæ. No type meets us which can be called characteristic of the late third or the fourth century. Yet fourth and fifth century objects ought unquestionably to occur among the relics of fifth or sixth century life, and second and third century objects ought to be comparatively uncommon.

Secondly, the remains imply for the more important caves a tolerably long occupation. The number of fibulæ and other small objects, and the accumulations of bones and charcoal and cooking refuse, agree in requiring us to assume a period extending over many years. Whatever extension be given to the life of the fugitives, it can hardly have lasted long enough to satisfy the conditions before us. And, further, the history of the English conquest, so far as we know it, seems to fit in badly with the theory before us, at least in respect to Derbyshire and Yorkshire. It is very unlikely that the invaders had driven the natives into the Derbyshire hills, and not only into the hills but into the caves, so early as the fifth or sixth century. Chester, in the western plain, was not taken till 617. Elmet, which covered the lowlands on the east, was subdued about the same time.¹ Before that time no Briton is likely to have fled for shelter to the Yorkshire or Derbyshire caves.

It seems, therefore, that we must reject the theory of refugees. Instead, we may suppose that to some extent and in some hill districts of Derbyshire and Yorkshire, cave-life formed a feature of Romano-British civilization. Caves may not be comfortable residences, but they have often been inhabited even in civilized ages. Plot, the historian of Staffordshire, observes that in his day—about 1680—Thurse House cave at Alveton was definitely occupied, and many parallels could be cited from even later ages. Much the same may have happened in Romano-British times. Some caves may have given chance shelter to stray shepherds or miners or homeless families. Others may have had permanent residents. Here, we may think, dwelt some of the poorest and wildest among the hillmen of the Pennine Range, living (it may be) largely on robbery, doubtless suspected by their neighbours, but seldom caught. Such households exist even in our crowded modern life, though they do not occupy natural caves. We need not wonder at their prototypes in the past.

¹ Nennius, Appendix (ed. Mommsen), p. 206; Bede, *Hist. Eccl.* iv. 25; Lappenberg, i. 154. Elmet did not apparently include the Derbyshire hills, at least *Pecsetna* and *Elmedsetna* occur as distinct in later documents (Kemble, *Saxons in England*, p. 81).

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9. THE ROADS

Our evidence for determining the Roman roads of Britain is, in general, of two kinds—written and archæological. The written evidence is supplied principally by the road-book known as the 'Itinerarium Antonini,' which recites the stations and mileages of various routes in the Empire. It is also provided, though in a less degree, by old English place names of significant character, like Stretton, and by chance indications of roads contained in early mediæval charters and records. Place names, however, must be used with caution. For some are not genuinely old, and others which are frequently cited, like Portway and Cold Harbour, have really no direct connexion with Roman remains. The archæological evidence, on the other hand, is yielded by actual objects such as Roman milestones or vestiges of ancient road metal, or existing highways or paths, or boundaries which run with persistent straightness towards some important Roman site.

In Derbyshire neither of these classes of evidence survives in adequate amount. Written evidence is almost wholly lacking. The Itinerary includes no route which traverses any part of the county, and place names and charters lend no more than occasional aid. Archæological evidence, though less defective, is still unsatisfactory. Some traces of ancient metalling occur at points where we might expect Roman roads. Some modern ways or boundaries run significantly straight. But they are intermittent and fragmentary, and elucidate parts of roads rather than whole lines of communication. Further research and a systematic use of the spade is needed before we can attempt any complete or certain picture of the Roman roads in Derbyshire. But with the aid of conjecture we may put together a provisional sketch which, so far as it extends, is perhaps correct in its main outlines.

The Roman road system of our district is based on three places, two of which lie outside the limits of the county—Little Chester, Manchester, and Templeborough near Rotherham. These three places are not merely the meeting-places of roads; they are also connected together by roads which constitute a rough triangle. The eastern side of this triangle belongs to a route leading north and south, often called Rycknield street. The western and longest side is a more local road from Little Chester to Manchester. The northern side connects Lancashire and Yorkshire, crossing Peak and the Pennine Chain. It will be convenient in our survey to begin with the roads which lead to or from Little Chester, and first with that called Rycknield street.

(a) RYCKNIELD STREET

Rycknield street is the customary and convenient title of the Roman road or series of roads leading from the Fosse at Bourton in Gloucestershire through Alcester, Birmingham, Lichfield, and Derby to Yorkshire. It is a long route and its traces are not equally clear throughout all parts of its course. But its most difficult section, and the only section, indeed,

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which offers very serious problems to the student, is that which lies north of Derby or, perhaps rather, of Clay Cross.

From Bourton to Derby it can be easily followed with only brief spells of uncertainty, and its approach to Derby from the south is singularly plain. From the 'station' at Wall (Letocetum) near Lichfield it runs unswervingly north-eastwards to the outskirts of Derby, and its line is throughout represented by modern roads and not seldom by parish boundaries. Crossing the Dove and entering our county at or close to Monksbridge¹ it traverses Egginton Common, where (we are told) it was visible in the early eighteenth century, and keeps its due course to Littleover. So far, it coincides with the present Burton and Derby high road, but as it approaches Derby this latter swerves away to the east, and the ancient line is lost across the town. If continued direct it would cut the golf links near the Pavilion, pass down the Uttoxeter Old Road in front of the prison and near the end of Nuns Street, and finally descend at Darley Grove to the Roman bridge over the Derwent. Scanty clues supplied by existing roads and fences suggest that this was the real line; but amidst the buildings of a great city certainty is unattainable.²

On the east bank of the Derwent the road probably ran at first due east in front of the north face of Little Chester fort, where Stukeley's map shows a gravelled way (fig. 23 B). Then it turned north-eastwards past Breadsall Priory, and then, turning again, assumed the northerly direction which it keeps with slight variations so far as it can be traced. Till Hartshay its course lies slightly west of north; till Oakerthorpe slightly east of north; finally, it seems to run due north till near Clay Cross. It is rarely a parish boundary. But it sometimes coincides with straight modern lanes, as between Horsley Woodhouse and Hartshay and at Oakerthorpe and Higham. Its remains have often been noted in the fields. They are said to be still visible between Morley Moor and Horsley Lodge, at Bottle brook near Denby, near Pentrich, and at Coneygre Farm, and earlier observers thought to see it at many places as far north as Clay Cross, and even—though the evidence of this is less satisfactory—between Egstow and Wingerworth, a little north of Clay Cross.³ We may also cite the place names Streetlane, between Denby and Hartshay, and Stretton and Strathfield, a mile and a half north of

¹ This bridge has been thought to contain Roman masonry encased in later work (Rye, *Burton-on-Trent Nat. Hist. and Arch. Soc. Proc.* iv. i. 34). But this needs to be proved, especially as the bridge stands on a tiny détour of the modern road out of the direct line and the ancient road may have run straight on.

² The O. S. (six inch, XLIX.SE. and L.SW.) marks the Roman road as swerving with the Burton road. But for this there seems no reason at all. Others have suggested that two ancient roads existed, a Roman Rycknield Street and a British one, and that the two diverged at Littleover, the Roman running on to Darley Grove and the British taking the line of the Burton road and crossing the Derwent below Little Chester. But the British Rycknield Street is purely imaginary.

³ The road up to Clay Cross has been traced by many observers, first, perhaps, by Pegge in September, 1760. For existing traces I may refer to Mr. Ward, the pieces marked on the O. S. XL. and XLV., and Firth, *Highways and Byways of Derbyshire* (London, 1905), pp. 431, 437. Pegge notices it very fully up to Egstow (*Roads through the Coritani* and B. M. Add. 6705). John Gratton, a correspondent of Glover, writing in 1829, asserts that he had traced it north of Egstow, but his account is not very satisfactory (Glover, i. 290).

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Higham. As far, then, as Clay Cross and Egstow, that is, for a distance of some 17 miles from Little Chester, the line of Rycknield Street seems well attested. We have even details of its structure. William Hutton saw a section cut up from the bottom near Little Chester. The Romans, he tells us, seemed to have taken out

the soil for about 20 yards wide and 1 yard deep, perhaps till they came to a firm bottom, and filled the whole up with stones of all sizes brought from Duffield, four miles up the river, cemented with coarse mortar (*Hist. of Birmingham*, ed. 3, 1806, p. 216).

Gratton, writing to Glover (i. 290), says he had seen several sections made in cutting ditches, and it seemed 'to be formed merely of such rubblestone and sharp gravel as was nearest at hand.' Pegge also declares that it was altogether composed of gravel for many miles.

North of Clay Cross the course of the road becomes sadly uncertain. It is usually taken through or near Chesterfield, but no traces of it exist, and the remains found at Chesterfield are too few to require the assumption that a Roman road led to it (p. 255). Much further north, however, we meet with some slight clues. Rather doubtful vestiges were noted near Eckington and Mosborough by a correspondent of Glover's in 1829, and at Beighton in 1847 a paved road was found during the construction of the Manchester, Sheffield, and Lincoln (now Great Central) Railway line, a few score yards north of Beighton station and 18 inches below the surface.¹ The place names—Streetfields, east of Mosborough, and Stratfield, a little north of Beighton—help to strengthen this scanty evidence. Yet further north, and beyond the boundary of Derbyshire, a Roman road was thought traceable on Brinsworth Common, previous to the enclosures.² All this suggests a road running down the west side of the Rother valley to the Roman fort at Templeborough farm, south-west of Rotherham. It is, perhaps, not rash to conjecture that the road which we know to have led from Little Chester to Clay Cross swerved north-east at some point north of the latter town, and passing Mosborough and Beighton went on to Templeborough.³

The total length of this road would be about 35 miles, or perhaps a trifle less. No intermediate 'station' has ever been discovered between the two forts which it connects.

Another and very different theory has been proposed respecting this road. It has been thought to have struck off north-east to the Roman 'station' of Doncaster, passing Thorpe Salvin, which was originally called Thorpe Rikenild.⁴ This view is not in itself inconsistent with that propounded above. Roads may have run from Little

¹ W. Askham, cited by Glover, i. 289: he refers also to entrenchments, but their age is quite unknown. For the Beighton find, see Hunter, *Hallamshire* (1869), p. 23 note.

² Wainwright, *Wapentake of Strafford and Tickhill*, p. 23.

³ The bishop of Cloyne (Wm. Bennet) preferred to suppose that the road ran due north from Chesterfield by Apperknowle and Ridgeway (Lysons, p. ccxi: so Watkin, *Derb. Arch. Journ.* viii. 209). But we have no evidence of an ancient road along this line, and the ascents and descents required for it are much greater than those of the route indicated in the text. Watkin (*Derb. Arch. Journ.* viii. 210) accepts also the Mosborough and Beighton road as Roman, but quite unnecessarily assumes that it did not go to Templeborough.

⁴ *Brit. Arch. Assoc.* xxx. 115; *Kirkby, Inquest* (A.D. 1284-5) in the publications of the Surtees Soc. xlix. pp. 3, 11, etc.

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Chester both to Doncaster and to Templeborough. But it may be observed that, apart from the epithet of Thorpe, no evidence seems to exist to support the theory of a Doncaster road, and until such be forthcoming it cannot claim consideration.

It remains to notice the name Rycknield. This name, with slight variations in spelling, has been applied to our road since the middle of the fourteenth century. But it is not in any sense the original name of the road. It first appears in the writings of Ranulf Higden, and from his day it tends to take the place of an older name, Icknield. Possibly enough it is an antiquary's invention, due to a misreading of Icknield. But it is not entirely due to this cause. We find in the thirteenth century at least two place names in the Midlands which are either the same as Rycknield or are very similar to it. One is a road mentioned in the foundation charter of Hulton Abbey (dated A.D. 1223) as a boundary near Stoke in Staffordshire, and called, according to one copy, Richmilde, but according to another, Rikenilde. The other is the older name of Thorpe Salvin, which, as far back as A.D. 1284, was called Thorpe Rikenild. Higden may well have heard of one or other of these names, and have been influenced by them in changing Icknield to Rycknield. But even Icknield itself is not a genuinely ancient name. The real Icknield Street seems to run along the Chilterns and Berkshire Downs, and the transference of its name from that region to a road connecting Gloucestershire and Derbyshire is again the crime of an antiquary.

(b) LITTLE CHESTER TO SAWLEY

Stukeley noticed a road running from Little Chester eastwards towards Chaddesden, and from the south limit of Chaddesden Park a singularly straight modern road runs for $7\frac{1}{2}$ miles past Borrowash and Draycott to Sawley. Here begin the lowlands beside the Trent, and the road stops. It is not marked as Roman or ancient by parish boundaries or significant names. But its curious straightness suggests that it may be Roman, and most writers have accepted it as such. Its object is doubtful. Usually it is thought to have crossed the river into Nottinghamshire and continued to the Fosse. But no trace of this continuation is visible, and its purpose may have been rather to connect the fort at Little Chester with the navigable Trent. Near Sawley that river joins the Derwent and Soar, and the united waters form a considerable stream. The Roman villa at Barton in Fabis, on the Nottinghamshire bank of the Trent, might also have been served by this road.¹

(c) LITTLE CHESTER TO ROCESTER AND STAFFORDSHIRE

A modern road runs straight for about ten miles between Derby and Rocester. It begins near Mackworth and passes Langley Common,

¹ Stukeley, *Iter Boreale*, p. 25. Bennet (Bp. of Cloyne) in Lysons, ccxv. (repeated by Glover, i. 292; Bateman, *Vestiges*, 145; Watkin in *Derb. Arch. Journ.* viii.). *Notts. and Derb. N. and Q.* vi. 81, 84. The idea of Bennet and others that a road led through Chaddesden and Stanton to Nottingham seems devoid of evidence.

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Longlane, Longford Park (where its course is interrupted), and Cubley. If continued east of Mackworth in the same straight line, it would pass Markeaton and strike the Derwent close to Little Chester. It is not a parish boundary, nor does any significant name mark it except Longlane. But its straightness and its obvious connexion with Little Chester have induced many writers to call it Roman, and the conjecture may reasonably be accepted.¹ Its object is not very clear. Roman remains have been found at Rocester. But they are not abundant,² and indicate no more than a village such as would hardly require a definite highway for itself. Possibly the road may have run on into Staffordshire, and the straight highway between Draycott, Longton, and Stoke may be a continuation of it; but the age and object of this road also are as yet doubtful. Usually the Derby and Rocester road has been considered to form a link in a *Via Devana* connecting Colchester (Camulodunum) with Chester (Deva) by way of Cambridge, Leicester, and Derby. But the whole theory of this through route is an unproven fancy.³

(d) LITTLE CHESTER TO BUXTON

The eighteenth-century antiquaries who first discovered, or first properly appreciated, the Roman remains at Little Chester and Buxton, laid down a Roman road connecting the two places and running further north to Stockport and Manchester. The vestiges of this road are adequate to prove its existence, but they do not fix its course throughout, and large parts of it present us with perplexities similar to those of Rycknield Street north of Derby. For the first 13 or 14 miles from Little Chester northwards the line of the road is entirely unknown. The general conjecture is that it crossed the Derwent to Darley Slade, and thence ran north-west between Kedleston and Duffield. But no trace whatever of it has ever been seen or imagined except the inconclusive name 'Pennylong Lane,' near Markeaton.⁴ An alternative route may be found a little to the east of this line. There is some reason to think that a Roman road may have diverged from Rycknield Street near Breadsall, crossed the Derwent at the old Makeney ford between Duffield station and Milford village, passed Moscow Farm (where it is stated to be observable in the fields), and run along the Chevin to Blackbrook and Knave's Cross (near Belper Lane End), between which places some bits of Samian were found among its stones in 1873.⁵ Here, however, its traces stop, and its direction—nearly due north—is not quite that which our route requires, but points rather to Alderwasley or Cromford or Wirksworth. On our present evidence we must be content to leave the southern

¹ So first Bennet in Lysons, p. ccxiii, repeated by Glover, Bateman, Watkin, etc.

² Redfern, *Hist. of Uttoxeter* (Hanley, 1886, ed. 2), pp. 65-71; Shaw, *Hist. of Staff.* (1798), i. 34; *Antiquary*, xxviii. (1893), 255.

³ *V.C.H. Northants*, i. 205. The O.S. continues boldly to mark the *Via Devana*.

⁴ Glover, i. 291 note.

⁵ Cox, *Derb. Arch. Journ.* viii. 214 note, ix. 141; O.S. xxxix. SE. Street Close is the name of a near Knave's Cross, and the O.S. gives Street's Wood near the same place.

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section of our road doubtful. Surer traces occur on the moors west of Wirksworth. The road is said to have been cut through near Hopton by Mr. Gell in the eighteenth century. At present its visible remains begin a mile and a half north of Brassington village. From this point it can be followed with hardly a break for 16 miles to Buxton. Almost continuous parish boundaries mark it, and sometimes modern roads run on its line, and often its own raised bank may be seen in the fields which it traverses. Its general direction is north-westerly. It passes a few yards east of Minninglow barrow. At Pike Hall it coincides with Hedge Lane. Shortly after, it leaves Arbor Low nearly a quarter of a mile to the east, and runs through Benty Grange. Middle Street farm, Over Street, near Hurdlow, and Street House (opposite the Duke of York Inn) supply significant names. From Bull in the Thorn to the inn just named it can be clearly seen in the fields, running parallel to the Ashbourne and Buxton high road and a few feet west of it, and, after a divergence of old and new roads to save a gradient, it can again be traced from Brierlow barrow almost to Buxton cemetery, still parallel to the high road and some 60 or 80 yards west of it.

The precise method of its approach to Buxton is less certain. According to some observers it divided into two, and one branch ran to Silverlands (p. 225), while the other turned to the west through Burbage. Supposed traces of the latter have been detected in the shape of old road-paving found at the corner of Lismore and Burlington roads in 1892, in Macclesfield road in the same year, and near Green Lane in 1889, and a low bank running from Burbage, near Green Lane, and the Golf Links has been pointed out as possibly showing its line.¹ All this, however, requires further investigation. At present we can only assert that it must somehow have reached Buxton.

From Buxton the course of the road is still more obscure. It is generally alleged to have passed on north-westwards, crossing the Goyt valley at Goyts Bridge, and winding along a road called 'The Street,' and 'Embridge Causeway' into Cheshire, to Bollington, Stockport, and finally to Manchester.² It is at least as likely to have run more nearly north along the line of the present Manchester road, but diverging from it on Long Hill and keeping a direct line across the moor by White Hall and Wythen Lache to Whaley Bridge. But this whole section of the road is practically still undiscovered, despite the confident assertions of antiquaries, and on our present evidence it is difficult to call even its existence proven. Nor is the evidence any stronger for another continuation, which has been conjectured to lead from Buxton westwards over Axe Edge by Toot hill to Kinderton or to Leek.

It will be observed that in reality only one part of the whole road is adequately attested. This is the stretch of sixteen miles from Bras-

¹ Turner, *Derb. Arch. Journ.* xxv. 159 : personal inspection. For the sites, see fig. 26.

² Whitaker, *Hist. of Manchester* (1771), i. 232 ; letter by Watson (1782), cited by Pegge, *Roads through the Coritani*, p. 35, and Lysons, p. ccxiii ; Watkin, *Ches.* p. 77 ; O. S. six-inch, Derby. xiv. S.E., and Cheshire xxxvii. and xxix.

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sington Moor to Buxton. That is, however, obviously a part of some larger whole. It must have led from Buxton to some other Roman site, and as its direction southwards points towards Duffield and Little Chester, it is difficult not to suppose that it once led to Little Chester. Arguments of this kind are, however, as dangerous as they are easy, and it is desirable when employing them to emphasize their weakness.

(e) BUXTON TO BROUGH (BATHAMGATE)

The Roman road from Buxton baths to Brough fort is probably the most famous of the Roman roads in Derbyshire. It bears a name, Bathgate or Bathamgate, which may well have been given it in Saxon times.¹ It attracted the attention of topographers even before Camden, and the first writer on Buxton, the physician John Jones,² mentions 'an highway forced over the moores, all paved, of such antiquity as none can expresse, called Bathgate.' It has frequently been traversed by curious antiquaries, like John Whitaker, Pegge, and Bray, who have left us full descriptions, and except perhaps near Buxton, its course is well known. Probably it started from Silverlands, where a milestone was found in 1862, marking the distance of 10 (or perhaps 11) miles to Anavio or Brough (p. 226), ran through Fairfield in a north-north-easterly direction for nearly two miles, and then turning north-east made straight for Brough. The reason for this northerly deviation from the direct line between Buxton and Brough is plain. The direct line would have crossed the gorges of Ashwood Dale, Peak Dale, and Dam Dale. The northerly deviation avoids the first and cuts the other two higher up their course, where they are not profound or precipitous. The line of the road through Fairfield is not now discoverable. Old paving and a very doubtful milestone (p. 226 note) were found in 1878 at the Bull's Head Inn, near the Green, and other paving has been noted near,³ but these traces are fragmentary. From the point where the road turns north-east, doubt ceases. Its course is plain past Peakdale and the Peak Forest Railway Station (where it is obliterated by quarries), Small Dale and Hernstone Lane Head, to another Small Dale above Bradwell. It then drops into the Bradwell Valley, coincides with the present Stretfield Road, and thus reaches Brough. Its course is generally distinguishable by its remains. Sometimes these form, as Whitaker enthusiastically puts it, 'a long straight streak of vivid green, sweeping over the purple-brown surface of the heath.' Sometimes they show distinct traces of its ancient metalling, which Bray describes as

¹ Jones (1572) and Camden, the first writers to mention it, say Bathgate. Pegge says the natives in his day (about 1767) styled it Bathomgate, and that form, spelt Bathamgate, seems usual now. If correct, it preserves the Saxon plural inflexion (—om or —an). But Mr. W. H. Stevenson tells me that this inflexion normally vanishes, and that philologically Bathgate is the proper form. As we have no instance of the name older than 1572 and no instance of Bathamgate older than 1767, certainty is unattainable. But it is possible that between 1572 and 1767, some Anglo-Saxon scholar had perverted the tradition ignorantly. It would not be the only case where the *dictum* of a learned man had got abroad the countryside.

² *Benefit of the auncient bathes of Buckstones* (London, 1572, not paged).

³ Turner, *Derb. Arch. Journ.* xxv. 161.

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small cherty flint gravel, different from the local stone, 18 or 20 feet wide, and raised in the middle like a modern road.¹ It does not often coincide with any existing lane or road, and hardly ever forms a parish boundary.²

(f) TEMPLEBOROUGH, BROUGH, AND MELANDRA

It remains to describe the road which forms the north side of our triangle (p. 243) and led from Yorkshire through the hills to Manchester. It appears to have run from the fort at Templeborough south-westwards up the valley of the Don, crossed the site of Sheffield, and mounted the hills west of the town to Sandygate and the Redmires reservoirs, where its track is visible on the moors and is known as the Long Causeway; then, climbing Stanage Edge at an elevation of some 1,450 feet, it probably dropped by Bamford into the bottom of the Noe valley, a descent of 900 feet, to Brough. On leaving Brough it seems to have run north-westwards, at first along the Noe Valley, then, taking the swin of the hill, it slowly mounted the ridge which divides Edale and the Noe from Woodland dale and the Ashop, and sank into the latter, reaching and crossing the Sheffield and Glossop road near Alport Bridge. From this point (about 795 feet above sea level) it begins a new climb of some 800 feet to Cold Harbour Moor, and its traces, called Doctor Gate, are visible for some distance running roughly parallel to the modern road, but on its north side, behind the Snake Inn. At the top of Ladyclough, near the Doctor Gate Culvert, it rejoins the modern road and then again strikes away northwards, passing between Cold Harbour Moor and Shelf Moor and dropping down past Mossylee to Glossop and to Melandra—a total descent of nearly thirteen hundred feet in about five miles. Throughout, it is a mountain road, and like Roman mountain roads elsewhere, it appears to wind considerably where circumstances require. It seldom coincides with existing roads, and still less often forms a parish boundary. But in many places its metalling is well preserved. Watson, writing in 1772, declares that its track was still used for a good part of the way from Brough to Melandra, being set with large stones in the middle and provided with proper drains cut on each side where it crosses mossy ground. Much of it is still familiar to Manchester tourists wandering in the neighbourhood of the Snake Inn.³

(g) OTHER SUPPOSED ROADS

In the preceding paragraphs I have attempted briefly to describe the six well-ascertained roads or routes of Roman Derbyshire, and I have also noticed incidentally a few other roads which antiquarian writers have

¹ Whitaker, *Hist. of Manchester* (1771), i. App. p. lviii note; Bray, *Tour* (1783), p. 207.

² Accounts in Whitaker and Bray (see last note), and Pegge, *Roads through the Coritani*, p. 401 (hence Lysons, p. ccxii; Glover, i. 290; Bateman, *Vestiges*, p. 141; Watkin, *Derb. Arch. Journ.* viii. 210, etc.); private information.

³ Watson, *Arch.* iii. 237; Bennet, Bp. of Cloyne, cited by Lysons, p. ccxiv—giving however a very rough and incorrect line—(hence Glover, i. 292, Bateman, *Vestiges*, 143); Leyland, *Peak of Derbyshire* (London, 1891), pp. 10, 30-48.

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suggested on evidence which seems inadequate. It may be convenient at the close of this section to notice a few other ill-attested roads which could not be easily treated in connexion with any of the six certain roads.

In the extreme south of the county a road has been thought to run by Edinghall and Lullington towards Tamworth. The evidence for it is scanty and its relation to other established roads is not clear.¹ Another road in the same neighbourhood has been put forward as a possible part of the *Via Devana*. It is supposed to run from Ashby de la Zouch by Blackfordby, Woodville, and Stapenhill to Burton-on-Trent and Rycknield Street.² Here again evidence is lacking. The same must be said, and said more decidedly, of an alleged road from Derby to Tutbury and thence along the south bank of the Dove to Uttoxeter.³ What significance should be attached to the place-name Stretton-en-le-field, in the very south of the county, near the alleged roads just mentioned, is not clear. Such a name does not always imply a Roman road.

Further north and on the eastern edge of the county a road has been thought to run from Conisborough in Yorkshire, through Todwick, Harthill, Clowne, Scarcliffe and Pleasley, to Skegby in Nottinghamshire. The lines of modern roads lend some slight support to this idea for a brief distance, but for the rest the evidence is very scanty and the direction and object of the route unexplained.⁴

I can find equally little evidence for three roads mentioned by Mr. Watkin. One is said to run from Pentrich on Rycknield Street westward to Wirksworth, another from Wirksworth by Bakewell, Eyam and Abney Moor to Brough, and a third from Buxton straight to Melandra.⁵

It is possible enough that these alleged roads, or some of them, may be Roman. But till they are systematically explored and definite evidence for them discovered, the student will do well to ignore them. Here, even more than in the rest of Romano-British archæology, caution and criticism are imperative. For just as the epigram is true that, The worse the state the more the laws, so it might be said, The worse the archæology the more the roads.

10. SPECIAL ITEMS AND ALPHABETICAL INDEX

In the preceding sections we have surveyed all those elements of Romano-British Derbyshire which can be connected under definite heads: its forts, its warm springs, its mines, its cave-life, its roads. There remain many isolated items which do not belong to any of these sections, or which belong to them in some manner not now intelligible. These

¹ Lysons (Bennet), p. ccxiv; *Derb. and Notts. N. and Q.* vi. 81, foll.

² Nichols, *Leicestershire* (1795), i. p. cxlix; Browne, *Mineral Waters of Burton*; *Derb. and Notts. N. and Q.* vi. 82, 98. A pier of a stone bridge found at Burton in 1903 has been called Roman, but I do not know any valid reason.

³ *Brit. Arch. Assoc. Journ.* (new series), vi. 16.

⁴ Hunter, *South Yorkshire*; *Derby Times*, 19 May, 1900.

⁵ Watkin, *Derb. Arch. Journ.* viii. 212, 214. Of the third Mr. Watkin observes that it has never been properly traced, but 'that it existed is certain.' That does not advance matters much.

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are the scattered coins, potsherds, fibulæ, and other objects, found sporadically, and often due to chance circumstances. These we shall treat in an alphabetical index with bibliographical notes attached. But before commencing this index, it seems desirable to notice two inscribed stones which demand a rather longer notice than the index conveniently allows.

1. In the latter part of the seventeenth century an inscribed altar was dug up somewhere 'in the grounds belonging to Haddon House'—and, indeed, according to a local belief, on the west bank of the Derwent near the present high road. It was taken to Haddon and has been there ever since. It is a plain block of local stone, 46 inches tall by 19 inches wide, bearing eight lines of three-inch letters (fig. 45 on plate). The reading, though faint, seems fairly certain.¹

Deo Marti Braciacae Q. Sittius Caecilia[nu]s praef(ectus) coh(ortis) I Aquitano(rum) vo(tum) s(olvit).

'To the god Mars Braciaca, erected by Q. Sittius Caecilianus, praefect of the First Cohort of Aquitani.'

Mars Braciaca is presumably a British deity, known to the natives as Braciaca and identified by the Romans with Mars. Whether his native name be derived from some place-name (as Horsley thought) or from some other source, as for instance the Celtic word for malt and beer, cannot easily be decided. The First Cohort of Aquitani was stationed at Brough (p. 207). From Brough there is an easy road to Haddon along the Derwent valley, and thus it was, perhaps, that a commander of the Brough garrison came over and erected this altar. But we must refrain from speculating on his reason for erecting it. Possibly enough there existed near Haddon a local shrine of Braciaca, but of this we have no other evidence.

2. The second inscription was found about 1792, a little west of Wirksworth. Workmen preparing for plantation a large barrow called Abbot's Low, on rising ground near Hopton, discovered in it a sepulchre consisting of an urn of coarse baked earth, full of burnt bones, and covered by a piece of soft yellowish freestone measuring 20 by 30 inches. On this stone, worn lettering was detected. The stone has since been lost, but the lettering is said to have been ²:—

/ / / / /
GELL
PRAE C·III
LV BRIT

The interpretation of this fragment is obviously uncertain. We seem to have a praef(ect) of some coh(ort), but it is difficult to say what the cohort was. Hübner, reading iv for lv, suggested the Cohors iv Brittonum.

¹ First published in Gibson's *Camden* (ed. 1695), p. 497, some time, apparently, after its discovery; later by Horsley, p. 318; Pegge, *Coins of Cunobelin* (London 1766), p. 17; Pilkington, i. 420; Lysons, p. ccv, and others; Hübner, *Corp. Insc. Lat.* vii. 176. I have myself examined it, and have to thank Mr. Henry Rye for help in doing so. In line 4 the first letter is a short-tailed Q; of the third and fourth letters only the top of an I and the top of a T survive, but Sittius (conjectured first by Hübner) seems reasonable.

² Rooke, *Archæologia*, xii. (1796), p. 3: hence all other writers, and my fig. 42.

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But that (according to our present knowledge) did not serve in Britain. Hassencamp suggested the Cohors iv Breucorum, known to have been in garrison at Slack (Cambodunum) near Huddersfield. But that involves a violent alteration of the one copy which we possess of the lettering. In any case we must not, with several English writers, expand LV BRIT into 'Lutudarensian Britons.' That conjecture violates the invariable order of the words, and must be regarded as most unlikely. It must be added that, at the time when this stone was found, a Mr. Gell was a prominent landowner and roadmaker in the district. The letters GELL therefore give rise to some suspicion either of forgery or of misreading.

3



FIG. 42.—INSCRIBED FRAGMENT FROM HOPTON.

The fragment has, of course, no connexion with the burial with which it was found. It was plainly torn from some earlier monument to provide a cover for the sepulchral urn. What the earlier monument was, whether a dedication like the Haddon altar, we have no chance of deciding.

INDEX

ALDERWASLEY.—Samian potsherd found between Blackbrook and Knave's cross, *Derb. Arch. Journ.* viii. 214, *note*.

ALFRETON (half-way between Derby and Chesterfield, a mile east of Rycknield Street).—At Greenhaigh or Greenhill Lane, 2 miles south of the village, a large hoard found September, 1748, in boggy ground on the 'Lower Close' of New Grounds Farm (probably that now called Newlands). It contained some 2,000 denarii, part in an earthen pot, part scattered round; Reynolds saw 2,000–3,000, which ranged from Vespasian to Sept. Severus. For this type of hoard see *Archæologia*, liv. 489 foll. [Notebook of a contemporary local antiquary, John Reynolds, of Plaistow, printed *Derb. Arch. Journ.* viii. 216: compare his MS. in B. M. Add. 6,708. Brief notices by Pegge, *Roads Through the Coritani*, p. 29, and *Archæologia*, x. 30; Pilkington, ii. 320; Lysons, p. ccvii; Glover, i. 297; Bateman, *Vestiges*, p. 157; Watkin, *Derb. Arch. Journ.* viii. 196, etc. Pegge gives the date as 1740; hence his successors, from Lysons onwards, have imagined two hoards, one found 1740 and one found 1748. But it is pretty plain that he merely put the date down wrong. The hoard mentioned *Minutes Soc. Antiq.*, 9 February, 1748–9 (v. 212), seems to be this; the number of coins is there given as 3,000.]

Stukeley in his Diary, 18 October, 1754 (*Surtees Soc.* 76, p. 117), mentions 'silver coins lately found by Alfreton,' among which 1 Faustina, 1 Geta, 1 Gordian. It is not

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clear whether this is a separate hoard or the hoard of 1748. In the latter case that extended later than Reynolds discovered.

Stukeley (*Account of Rich. of Cirencester*, 1757, p. 62) puts a 'station' here, but Pegge rightly observes that no remains have been found to justify the idea. At Ufton, $\frac{1}{2}$ mile N.W. of Alfreton, foundations have been noticed, and called Roman, but nothing has actually been discovered. Pegge, *Roads Through the Coritani*, p. 27, note; Watkin, *Derb. Arch. Journ.* viii. 192.

ARBORLOW.—Prehistoric stone circle, excavated 1901–2. Three rude potsherds, taken to be Romano-British, were found close to the surface with earlier and later objects within the circle. This indicates, at the best, a very slender occupation in the Roman period [*Archæologia*, lviii. 480, 484; *Derb. Arch. Journ.* xxvi. 58–9, 69, 77].

A WOOD DALE.—See p. 238.

BAKEWELL.—The tepid waters (temperature 60° Fahr.), helpful against gout and rheumatism, are sometimes stated to have been used by the Romans, and an old stone plunge bath, 15 by 36 feet in area, now destroyed, has been called Roman work. This is improbable. The only remains likely to be Roman which have been recorded hence are some potsherds dug up on the site of the Congregational Chapel in 1844 (*Lomberdale House Collection*, p. 146), and a two-handled, amphora-shaped urn (with a green glaze), containing a bronze bell and calcined human bones, found in Church Row in 1808 (Bateman, *Vestiges*, p. 163; *Sheffield Museum Catalogue*, pp. 215–6). And it is not quite clear that either of these finds is actually of Roman date. The idea that the Saxon name of the site, Badecanwylla, denotes the existence of a bath is (as Mr. Stevenson tells me) quite wrong.

— (near).—Between Bakewell and Winster, hoard of 'Third Brass,' found some years before 1778, by a woman searching for waste lead ore. It contained about a quart of coins; four seen were: 1 Urbs Roma (Treveri mint), 1 Licinius (SALNT), 1 Constantine Junior, 1 Diocletian [Reynolds' Notebook, printed *Derb. Arch. Journ.* viii. 224; brief reference in *Arch.* x. 31].

BALLIDON.—For Minninglow, see that name.

BARLBOROUGH.—Several coins [Pegge, *Arch.* x. 30, hence Watkin].

BELPER.—Aureus of Augustus found near Belper about 1803 [Davies, p. 344; hence Glover, ii. 102; Bateman, *Vestiges*, p. 158, etc. Davies mentions also 'military weapons' found hereabouts, which may be anything].

A 'Second Brass' of Maximian, a coin of Elagabalus [Jewitt's papers, in possession of Sir H. Bemrose].

BENTY GRANGE (near Monyash, on the line of the Roman road between Brassington and Buxton).—Part of an enamelled dish, found with an iron helmet (having a silver cross and boar's crest) and drinking cup—showing the development of Late Celtic art in post-Roman times. Bateman, *Lomberdale House Catalogue*, pp. 159, 160 (Nos. 53, 57) and plate, now in the Ashmolean. Compare A. J. Evans, *Arch.* lv. 193, and the item under Garrett Piece, Middleton.

BOLSOVER.—Two small copper coins (1 Victorinus, 1 Constantius II.) found 1845 [Bateman, *Vestiges*, p. 160: hence Watkin, etc.].

BORROWASH.—See Ockbrook.

BRADBOURNE.—The sculptures mentioned in *Arch.* xii. 6 (plate iii.) seem not to have been Roman. For the Parwich hoard see Parwich.

BRADWELL (1½ miles south of Brough, near the Roman road to Buxton).—Lead pig, see p. 232. Near the Burgher's Arms Inn, in 1897, sepulchral cist of gritstone slabs, containing male adult

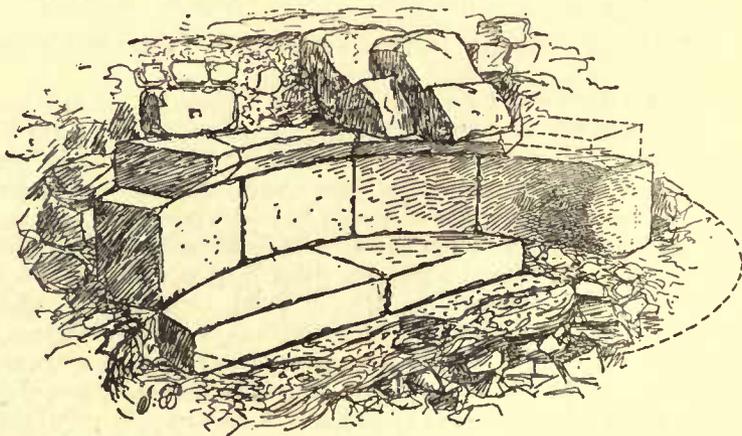


FIG. 43.—OVEN (?) AT BRADWELL.

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bones, lead 'spindle whorl,' iron spearhead, copper button, and (according to one account) a Roman coin, since lost. [*Notts. and Derb. N. and Q.* vi. 57; letter from Mr. W. H. Salt; spearhead and 'whorl' in Buxton Museum.] Date of the remains doubtful; the 'whorl' especially does not look to me Roman.

In the village, in 1896-8, circular chambers, taken to be Roman, but apparently bakers' ovens of recent date [*Leader, Proc. Soc. Antiq.* xvi. 95; *Sheffield Telegraph*, 20 Jan. 1896, *Sheffield Week.* 14 May, 1898, and other local papers]. Fig. 43.

The Grey Ditch, between Bradwell and Brough (see fig. 8), has been lately called Roman (Barns, *North Staffordshire Field Club*, xxxvi). But it is not Roman, and the whole theory with which it has been connected is, in my judgment, wrong.

BRASSINGTON.—Pegge records iron knife, potsherds, etc., found on Mr. Gell's estate (*Arch.* x. 30). Ward records potsherds, broken bones, charcoal, bit of red ochre, etc., dug up in 1889 on Harborough Rocks, which he takes to be British or Roman date (*Reliquary*, iii. 216, *Derb. Arch. Journ.* xii. 108). But it is very doubtful whether either find can be ascribed to the Roman period. A Roman coin is said to have once been picked up hereabouts. For Rainster Rocks, see Rainster.

BREADSALL.—Alleged camp, Watkin, *Derb. Arch. Journ.* viii. 194 (with a misreference); apparently no good evidence for it exists.

BROUGH.—Fort, p. 201.

BRUNDCLIFFE.—See Hartington.

BURTON WOOD.—Hoard of some 70 coins, chiefly 'Adrian, Severus, Constantine the Younger,' found 'within the boundaries of a spacious Roman camp' [*Gentleman's Magazine*, 1784 (ii.), 791: hence Lysons, p. ccviii; Glover, i. 297; Bateman, *Vestiges*, p. 158; Watkin, *Derb. Arch. Journ.* viii. 204]. Burton Wood is said in the *G.M.* to be 4 miles from Ashbourne, but I have wholly failed to trace it. Watkin thinks that the account refers to the Parwich hoard.

BUXTON.—Baths, village, p. 222.

Near Buxton: 'Third Brass' coins of Constantine (Bateman, *Vestiges*, p. 151).

CARLSWARK (Hathersage parish).—Near Carlswark cave in 1867 'in clearing the rock from gravel and soil' at a depth of 8 feet (as is alleged), a pair of bracelets of base silver alloyed with copper. [*Reliquary*, viii. (1867), 113: hence, briefly, *Intellectual Observer*, xii. 347, and Watkin, *Derb. Arch. Journ.* viii. 205.] A very similar pair was found with coins of circa 160 A.D. in an urn at Castle Thorpe, in Buckinghamshire, *Brit. Arch. Assoc. Journ.* ii. 353 (with a not quite correct illustration); a similar one with coins of the same date was found near Backworth in Northumberland, see *Arch. Journ.* viii. 39. Fig. 50. This type occurs at Pompeii and seems Italian, not Celtic.

CASTLETON.—Lead pig (perhaps due to error), p. 232.

The bricks in Peak Castle seen by Pegge (*Sketch of Peak and Bolsover*, p. 13) can hardly be Roman unless brought from Brough. Pegge writes dubiously. The camp on Mam Tor is equally un-Roman. The camp which Pegge thought to see in the gardens at Castleton seems to have been mere imagination [Bennet, cited by Lysons, p. ccxviii].

CHADDESSEN.—Coins; see quotation from Kinder's *Hist.* on p. 216.

CHAPEL EN LE FRITH.—The 'Roosdyche' near Whaley Bridge, an alleged racecourse, 'one of the Rhedagua,' [*Reliquary*, i. 96; *Trans. Hist. Soc. Lancs. and Ches.* xix. 43; Leyland, *Peak*, p. 317; *Derb. Arch. Journ.* viii. 195]. Not Roman; no remains have been found there, and the 'Rhedagua' themselves are quite fictitious.

CHATSWORTH.—A 'fine brass coin of Commodus' found in the park [*Arch.* x. 31, hence Watkin, etc.]. Mrs. S. Arthur Strong tells me that the Chatsworth collections comprise nothing Romano-British.

CHELMORTON.—In Great Low barrow, potsherd found 1849, considered Romano-British by Bateman (*Diggings*, p. 51), but doubtful.

CHESTERFIELD.—Called a Roman 'station,' by name Lutudarum, by Baxter, *Glossarium* (s.v. Lutudarum), Salmon, *Survey*, ii. 542, Pegge, p. 30, who places the precise site at Tapton Castle, a mile north-east of the town across the Rother. But Lutudarum is elsewhere (p. 228), and it is not certain that Chesterfield was a Roman site. Its name is ancient, and the first half generally (if not invariably) denotes Roman occupation. But that need not have been at the present town. The name 'Chesterfield' means the field or region round the 'chester,' and this may have been a little way off. Lichfield similarly means the place in the field or region of Letocetum (now Wall) 2 miles distant. Unfortunately no remains have been recorded to decide the question. Nothing has been found at

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Tapton or elsewhere near Chesterfield except some Samian potsherds from Walton, 2 miles S.W., now in the Derby Museum. Chesterfield itself has yielded little. Six coins are recorded—a 'Second Bronze' of Claudius, found 1720 near the marketplace, and a 'Third Bronze' of Valerian, cited by Pegge, p. 29; a denarius of Trajan (High st. 1832), and a 'Second Bronze' of the same (All Saints' churchyard, 1822); a 'Second Bronze' of Maximian (bottom of Lord's Mill st.), and a 'Third Bronze' 'Constantinopolis' (High st. 1820), cited in Ford's *Hist. of Chesterfield* (Chest. 1837), p. 10; the last-named coin is also given by Pendleton, *Hist. of Derb.* p. 233. Besides these Pegge mentions two urns from the marketplace (Bateman, *Vestiges*, p. 164), and the Derby Museum has rude sherds from Trinity churchyard (*Reliquary*, vii. (1893) 7), which, however, are not certainly Roman. The idea of a stone Romano-British Christian church at Chesterfield is to be rejected entirely (Pym Yeatman, *Feudal Hist. of Derb.* ii. 248).

It is generally assumed that a Roman road ran through or very near the town, but this, though quite possible, lacks proper evidence (p. 245).

COMBS or COOMBS MOSS.—The 'cliff castle' here, 3 miles N. of Buxton, called Roman in *Arch.* ix. 139, x. 29, is not Roman. But the site may have been occasionally occupied in Roman times. Dr. Cox states that in 1873, he picked up there a coin of Constantine the Great and some Roman potsherds.

COWLOW.—In a barrow 3 miles east of Buxton, opened 1846, three interments. The second in date was a cist with female bones and two Kimmeridge clay necklaces, somewhat of Romano-British pattern, and called Roman by Roach Smith, but really much earlier, belonging to the Bronze Age. The third in date, taken by Bateman to be Roman, is probably later [Bateman, *Vestiges*, p. 92, C. R. Smith, *Coll. Ant.* v. 147, both with illustr. hence fig. 44]. See p. 263.

CRESSWELL CRAGS.—Cave, see p. 236.

CRICH.—Here several finds have been made on high ground east of the Derwent and between that river and the Amber. Old lead-workings also abound here.

(1) On the south side of Crich cliff, near the summit called Parson's Nab, found 26 July 1761, a building 10 feet square, of unmortared and undressed gritstone; inside were charcoal, tiles (apparently some flanged), and many coins, some lying singly, some in lumps, 3 were of 'hard white metal,' *i.e.* billon (1 Victorinus, 1 Postumus, 1 illegible), and the rest copper, all illegible, but presumably of the same date, the third quarter of the third century. [Notebook of John Reynolds printed *Derb. Arch. Journ.* viii. 226; shorter notices *Arch.* x. 31, Lysons, p. ccviii. Bateman, *Vestiges*, p. 158, Watkin, etc.]

(2) Between Fritchley and the Bull Bridge over the Amber, found 1772, some 'Third Brass' of the same date as No. 1, and possibly others. Reynolds's Notebook (*Derb. Arch. Journ.* viii. 227) mentions 'Roman coin, chiefly small ones of copper,' of which in 1778 he had 1 Gallienus, 1 Tetricus, and 6 others illegible. Bateman (*Vestiges*, p. 158) says Reynolds had in 1778 9 silver and 8 copper, but this seems a misprint for '9, 1 silver and 8 copper.' Reynolds's MS. (B. M. Add. 6705, fo. 105) mentions 1 silver of Pius cos. iii. as well as 1 Tetricus, and 1 Victorinus. The inclusion of second-century silver in a hoard of 'Third Brass' of about A.D. 250-270 is very uncommon, and there is probably some error. (Only brief ref. in *Arch.* x. 31, Lysons, etc.)

(3) In Culland Park, found, 9 March 1778, lying under a flat stone, an urn containing some 700 coins; 46 seen were of Diocletian, Maximian, Constantius Chlorus,

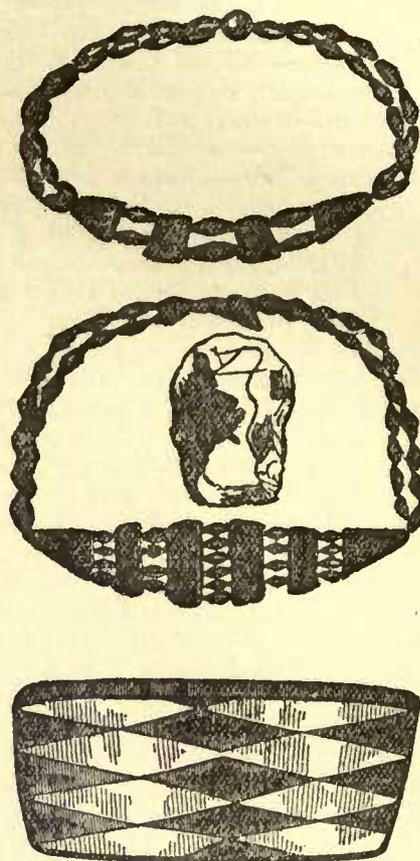


FIG. 44.—JET NECKLACES FROM COWLOW.
(Bateman, *Vestiges*, p. 92.)



FIG. 45.—ALTAR FOUND NEAR
HADDON.
(From a photograph.)

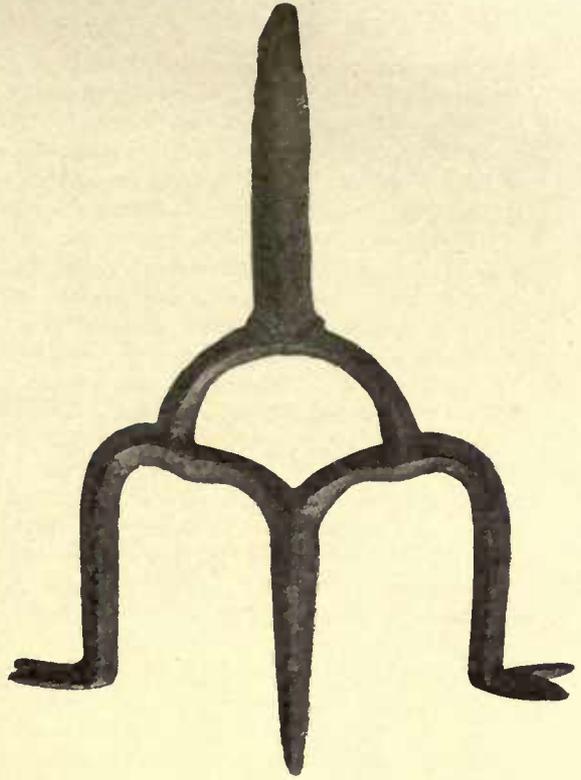


FIG. 46.—TRIDENT (?) FOUND NEAR MIDDLETON
BY YOULGREAVE ($\frac{1}{2}$)
(From a photograph.)



FIG. 47.—FIBULA FOUND NEAR MONYASH ($\frac{1}{2}$)
(From a photograph.)



FIG. 48.—MONSAL DALE.

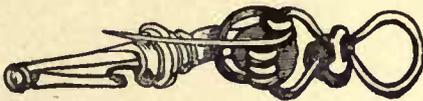


FIG. 49.—ELTON
(*Intell. Obs.* xii. 345.)

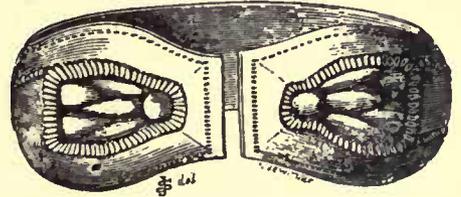
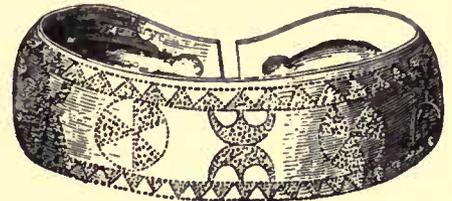
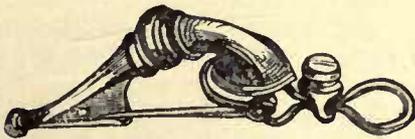


FIG. 50.—SILVER BRACELETS FROM
CARL'S WARK.
(From the *Reliquary*.)

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Licinius (Mint PLN), and Constantine the Great—the last named, apparently the commonest; some ‘as large as a halfpenny,’ some smaller. The whole hoard weighed 9 lbs. [Notebook of Reynolds printed *Derb. Arch. Journ.* viii. 229, and his MS. in B.M. Add. 6,705. 104; 6,708, p. 18; Reynolds saw about 43, which he describes. Brief ref. in *Annual Register*, 1778, p. 170, *Arch.* x. 31, Lysons, etc.]. Bateman, *Vestiges*, p. 158, says the hoard consisted of ‘Gallienus, Salonina, Diocletian, Constantine, etc.,’ but the two first may be errors.

(4) Edge Moor, on Crich Common, found, 9 Jan. 1788, earthen pot, holding perhaps two quarts, full of coins. Mason, curate of Crich, saw 2, ‘copper or iron covered with tin’ (*i.e.* silvered over) of Gordian III. and Philip Junior; the rest mouldered away in the finders’ hands. [Mason, *Arch.* x. 31, hence, briefly, Lysons, Bateman, Watkin, etc.].

(5) Lewis (*Topog. Dict.* Art. Crich) says that ‘coins of Adrian and Dioclesian have been found in an adjacent lead mine.’ This notice is too vague to be valuable.

CROMFORD.—Inscribed pig of lead, p. 230.

At Scarthen Nick, ‘a perforated rock,’ 200 copper coins of ‘Lower Empire,’ found about 1800. [Brayley and Britton, p. 523; hence Davies, p. 459, Glover, i. 316, Bateman, Watkin, etc.]. Reynolds (B.M. Add. MS. 6,708, p. 25) notices a find made 8 March 1795 at Scarthen Nick, a skeleton and 60 small copper coins of Licinius and the Constantines. I do not know if this is a separate find or the same described differently.

CUBLEY (near).—Roman coins [*Brit. Arch. Assoc. Journ.* vii. 185, vague reference; hence Watkin].

CULLAND PARK.—Hoard: see Crich.

DARLEY-IN-THE-DALE.—On Oker (or Oaker) hill, lead pig, p. 232. Also ‘Third Brass’ coins of Gallienus, Postumus, Tetricus, Claudius II., and ‘many other antiquities, both of British and Roman origin’ [Bateman, *Vestiges*, p. 159].

In Darley Dale, ‘Roman’ globular urn full of burnt bones [Bateman, *Vestiges*, p. 163].

DEEPDALE.—Thirst Ho. cave, p. 233.

DUFFIELD.—Fragments of tile, brick, potsherds, found below the castle at the point where a Roman road (from? Buxton to Little Chester) is thought to have crossed the Derwent. Many potsherds, including Samian and part of a *pelvis* or *mortarium*, and some pre-Roman bits found in 1886–7 in excavating in the Castle Mounds. [Cox, *Derb. Arch. Journ.* ix. 141 foll. Briefer ref. in *Brit. Arch. Assoc. Journ.* new ser. vi. 17, Andrews, *Bygone Derbyshire*, p. 67, Bulmer, *Topog. Direct.* p. 651.]

ECKINGTON.—Earthworks at Mosborough Hall and on hill west of church, age uncertain—near Rycknield St. [W. Askham, quoted by Glover, i. 289, and Watkin, *Derb. Arch. Journ.* viii. 209.]

ELMTON.—Cresswell caves: see p. 236.

Earthwork on ‘Camp Hill’: close by, a silver coin illegible except for word CAESAR.

[Bulmer, *Topog. Direct.* (1895), p. 245.]

ELTON MOOR (1 mile N.W. of Winster).—Bronze fibula of a second-century type (fig. 49) briefly noted by Jewett, *Intell. Observer*, xii. (1867), 345. The same, or a very similar fibula, ‘found 1861 in old mine on Elton Moor,’ is in Hull Museum.

At Cowley Crake mine, bronze fibula found 5 March 1867, coin of Constantine SOLI INVICTO COMITI, 2 bronze pins, etc. [B.M.]. At Hardbeat mine, bronze fibula [*ibid.*], presumably second century [B.M.]. The British Museum has also six other fibulae from near Elton, found 1863–6; all 8 come from the Lucas collection.

EYAM.—On Eyam Moor, north of the village (1) at Bole Hill, urn surrounded by stones and in it ashes and 2 ‘Third Brass’ coins, 1 a Maximian [Bateman, *Vestiges*, p. 114]. (2) Found about 1759 in making the road over Sir William Hill, 2 copper coins, Constantine the Great and Moxentius [Wilson cited by Bateman, *Diggings*, p. 248; the remark on p. 253 seems an incorrect repetition of this]. (3) Copper coin of Probus found on the moor about 1800 [Bateman, *Vestiges*, p. 158].

In Eyam Dale, south of the village, hoard found 1814 near the entrance of Eyam Dale into Middleton Dale—silvered denarii and small brass, mostly of Gallienus, Victorinus, Probus [Bateman, *Vestiges*, p. 158, Rhodes, *Peak Scenery* (London, 1824), p. 27]. In Eyam Dale, coin of Claudius II. (DIVO CLAVDIO) found about 1850 [Bateman, p. 158].

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The 'Rhedagua' alleged at Eyam is a mere absurdity [Wood, *Hist. of Eyam*, p. 32; Leyland, *Peak*, p. 102]. See Chapel en le Frith.

FAIRFIELD LOW.—A mile N.E. of Buxton, tumulus, and near its centre a kiln-fired slate-coloured urn found 1895 and taken to be Romano-British. Other remains in the barrow were apparently not Roman. [Ward, *Brit. Arch. Assoc. Journ.*, new ser. vi. 222. Turner, p. 116, in his account of the barrow, does not mention this urn.]

FENNY BENTLEY.—'Urn and coins of the Roman period,' found about 1712 [Bateman, *Vestiges*, p. 158]. Other remains, found since, seem not Roman [*Proc. Soc. Antiq.* xvi. 174, 211].

FRITCHLEY, see Crich.

GATLEY LOW.—The coin of Honorius mentioned *Derb. Arch. Journ.*, vi. 105, is due to a misreading of Bateman, *Vestiges*, p. 38.

GLOSSOP.—Fort at Melandra, p. 210. Hoard at Padfield: see Padfield.

GREENHAIGH, OR GREENHILL LANE.—Hoard: see Alfreton.

GRINDLEFORD BRIDGE.—On East Moor, at Robin Hood's Pricks, large urns, at least one containing ashes, among stones [Wilson, cited by Bateman, *Diggings*, p. 247, 252].

GRINDLOW (2 miles N.W. of Eyam).—Barrow with interments of various dates, including bits of two Romano-British sepulchral urns [Bagshawe, *Reliquary*, iii. (1863), 206].

GRINLOW (above Buxton).—Urn near surface of barrow, supposed Roman [*Proc. Soc. Antiq.* xv. 424; Turner, p. 94, *Brit. Arch. Assoc. Journ.*, new ser. vi. 218].

HADDON.—Roman altar dug up in the grounds belonging to Haddon House: see p. 252.

At Upper Haddon in 1826, potsherds (including *pelves*) and a few coins of Constantine I. and Crispus [Bateman, *Vestiges*, p. 159; *Lomberdale House Catal.*, p. 150; hence Watkin, &c.].

In Haddon Field, near the river Lathkil, and opposite Conksbury, barrow opened 1824; in it, besides the primary interment, many Roman 'Third Brass': 9 Constantine I., 17 Constans, 9 Constantius II., 1 Urbs Roma, 1 or 2 Constantinopolis, 5 Valentinian, 12 Valens, 3 Gratian, and some illegible—in all 70 or 80, and also some bits of lead and glass. [Bateman, *Vestiges*, p. 30, Mitchell in B. M. Add. MS. 28,112, f. 41-4. From Bateman, Jewitt, *Intell. Observer*, xii. 347, Watkin, etc.]. The deposit appears to be a hoard of fourth-century copper, and not, as Bateman says, a secondary interment.

HARBOROUGH ROCKS, see Brassington.

HART HILL MOOR (near Birchover).—In the rocks of Robin Hood's Stride, a 'Third Bronze' of Tetricus and potsherds, found June 1845 [Bateman, *Vestiges*, p. 130]. Roman potsherds are said to have been found more recently in a cavity showing signs of artificial enlargement, but no details are recorded. [Information from Mr. J. Ward.]

HARTINGTON.—At Brundcliffe (2 miles north-east of Hartington) barrow opened in 1847, skeleton in wooden coffin, jar of bright red wheel-made ware, 8½ inches high, perhaps Romano-British, and iron knife, not dateable. [Bateman, *Vestiges*, p. 101, *Lomberdale House Catal.* p. 90, *Sheffield Mus. Catal.* p. 211, with cuts: from Bateman, *Intell. Observer*, xii. 347].

At Banktop, in tumulus opened 1853 'Romano-British' potsherds [Bateman, *Diggings*, p. 86].

HAZELWOOD.—Near the rifle butts on the Chevin, 9 coins, of which 2 Antoninus; between Hazelwood and Shottlegate, a 'Third Bronze' of Victorinus. [Dr. Cox, cited by Watkin, *Derb. Arch. Journ.*, viii. 202.]

HOPTON (2 miles west of Wirksworth), at Abbot's Low, inscription p. 252.

HUCKLOW.—In Hilltop Mine, spades resembling certain oakspades (supposed to be Roman) which were dug up in Shelve lead mines in Shropshire: other, seventeenth-century, tools were found at the same time. [*Brit. Arch. Assoc. Journ.* xxx. (1874), 222]. For the Shelve spades see Murchison, *Silurian System*, i. 279, Way, *Arch. Journ.* xvi. 33, etc. It is unfortunately impossible, on the scantily recorded evidence, to *prove* that either the Hucklow or Shelve spades are Roman. To do that we should need to know that they had been found in close association with Roman objects and no others, or that their shapes were definitely Roman.

LANGWITH.—Near Langwith Wood, and a quarter of a mile from Scarcliffe village, in October, 1876, a hoard of some 2,000 'Third Brass' in a jar, 2 feet below the surface. The B. M. catalogued 1,647, viz., 1 Valerian, 191 Gallienus, 10 Salonina, 9 Postumus, 255 Victorinus, 1 Marius, 685 Tetricus (father), 241 Tetricus (son), 185 Claudius Gothicus, 3 Quintillus, 3 Aurelian, 63 uncertain. The other 350 included many

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- Tetrici and Victorinus. [J. D. Leader, *Reliquary*, xxv. (1885), 173. Imperfect accounts, Watkin, *Derb. Arch. Journ.* viii. 202, and Axon, *Lancs. and Ches. Antiq. Soc. Trans.* xiv. 156]. The Pleasley hoard was found a mile south of this.
- LEAM HALL (near Eyam).—The conical piece of lead weighing 30 or 40 pounds found about 1840 (Black, *Guide to Derb.* (ed. 1872), p. 1832) may or may not be of any age.
- LITTLE CHESTER.—Fort or village: p. 216.
- LOMBARDS GREEN.—See Parwich.
- LONGSTONE EDGE.—'Brass pins and Roman coins found in the Longstone Edge mines,' exhibited at Sheffield 1873 by Mr. Bagshawe [*Brit. Arch. Assoc. Journ.* xxx. 222].
At Rolley Low, found 1844, 'Third Brass' coin of Constantine in a barrow a foot below the surface—probably quite unconnected with the interments of the barrow [Bateman, *Vestiges*, p. 55; hence Cox, *Derb. Arch. Journ.* vi. 105, etc.]
- MAM TOR.—Earthworks often, but wrongly, called Roman.
- MATLOCK.—Pigs of lead found in the vicinity, p. 231. The tepid springs (68° Fahr.), good for gout and rheumatism, seem not to have been used in Roman times.
Three 'Roman urns,' 2 of them containing ashes and bones, are said to have been found in making a tunnel on the Midland Railway here [*Illustrated London News*, 1848 (i.) 84].
- MELANDRA.—Fort near Glossop, p. 210.
- MELBOURNE.—Potsherds, coins of Gallienus, Postumus, Tetricus, Constantine—picked up in the fields at various times [*Brit. Arch. Assoc. Journ.* vii. 354; J. J. Briggs, *Hist. of Melbourne* (Derby, ed. 2, 1852), p. 16]. Briggs also gives (p. 190) list of 26 coins 'found near Melbourne and Castle Donington' (in Leics.)—Domitian, Hadrian, 3 Pius, Faustina, 2 Gordian, 2 Tetricus, 3 Probus, Maximian, Constantine, Constantius, Helena, Crispus, Valentinian, and 5 doubtful.
- MIDDLETON BY YOULGREAVE.—Bronze enamelled fibula (prob. of second century) found in 1843 at Rock Cottage near the upper end of the village. Bronze key found near in 1827, many potsherds, and two 'Third Brass coins' (Tetricus, Constantine II.). Bronze

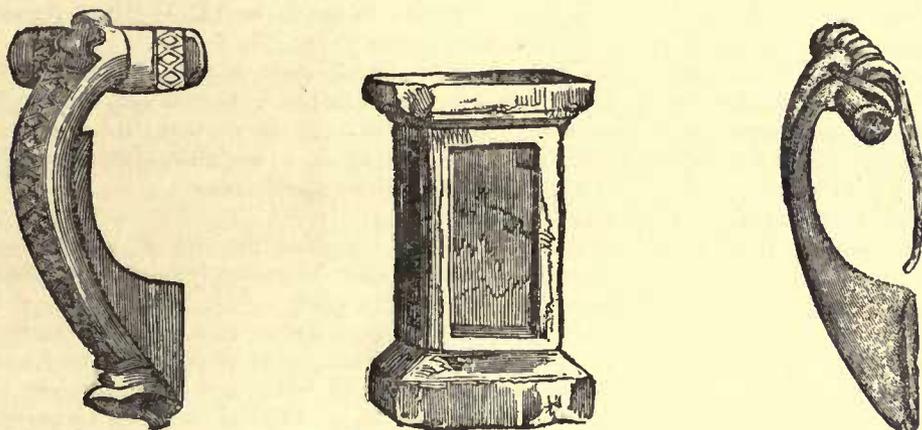


FIG. 51.—FIBULÆ AND UNSCRIBED ALTAR FOUND NEAR MIDDLETON BY YOULGREAVE.

fibula found in 1821 in making a mill pond (fig. 51). Bronze trident found in May 1822, close to the pond (fig. 46). Small unscripted altar of local sandstone, 6 inches square by 16 inches high found in the wall of an old cottage (fig. 51). [Glover, i. 301, Bateman, *Vestiges*, 160, and *Lomberdale Ho. Catal.* pp. 124, 145; *Sheffield Mus. Catal.* pp. 199, 201, 214. I do not feel sure that the 'altar' is Roman.

At Rusden Low, found 1848, in a barrow, 'Romano-British' potsherds, small bronze coin of Chlorus, curiously riveted bone comb, by side of earlier interments [Bateman, *Diggings*, p. 43, *Sheffield Mus. Catal.* p. 201 (comb)].

At Ringham Low, potsherds, perhaps of a secondary, Romano-British, burial, in a barrow [Bateman, *Diggings*, p. 64].

At Gib Hill (400 yards west of Arborlow and close to the Roman road), barrow, coins (some silver), bones, fibula—not well recorded, but apparently near the surface [Bateman in C. R. Smith, *Coll. Ant.* i. 57. Compare *Brit. Arch. Assoc. Journ.* xv. 153.]

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At Garrett Piece, two bits of enamelled bronze work, figured *Arch.* ix. 189, Jewitt, *Grave Mounds*, fig. 436, and Bateman, *Vestiges*, p. 25, sometimes called Roman, but really Late Celtic, perhaps of the sixth to seventh century A.D.

MIDDLETON, STONY.—Wall of ancient bath near the warm spring, taken (but probably without good reason) to be Roman work; destroyed before 1824 [E. Rhodes, *Peak Scenery* (London), 1824, p. 27; hence *Derb. Arch. Journ.* vi. 114]. No other Roman remains have been found here.

MILLERS DALE.—Coin of Gordian, found 1904 [*Sheffield Daily Telegraph*, 30 Nov. 1904].

MINNING LOW (Ballidon parish).—In a large tumulus excavated 1843 and 1850-1, six 'Third Brass' coins—1 Claudius Gothicus, 2 Constantine the Great, 2 Constantine junior, 1 Valentinian—inside the cist: 1 Constantine near it, and a peck of Romano-British potsherds, and 4 more coins, Constantine the Great and junior near the surface [Bateman, *Vestiges*, p. 40, *Diggings*, pp. 54, 82, *Lomberdale Ho. Catal.* p. 141; hence Jewitt, *Intell. Observer*, xii. 347].

In smaller tumulus, opened 1850, cremation burial, 3 urns, 1 'Third Brass' of Later Empire [Bateman, *Diggings*, p. 55].

MONSAL DALE (Little Longstone parish).—Barrow on the Brushfield side of river Wye, with secondary interment, bones of man and dog and bronze fibula [Bateman, *Diggings*, p. 77]. The fibula seems to be that now in Sheffield Mus. (*Catal.* p. 196, J. 93, 627)—of the second or third century. Mentioned *Intell. Observer*, xii. 345, *Derb. Arch. Journ.* viii. 205 (fig. 48).

MONYASH.—At Ringham Low, bronze fibula perhaps of first century, found 1845. [Bateman, *Vestiges*, p. 159, *Lomberdale Ho. Catal.* p. 129; now in Sheffield Museum, *Catal.* p. 200. The cut in all three books is inaccurate]. The fibula itself resembles one found with first-century Samian at Walmer (*Arch. Cantiana*, xxvi. plate iv. 2); compare C. R. Smith, *Coll. Ant.* i. 110 and ii. plate v. 2, etc. (fig. 47).

The British Museum has (from the Lucas coll.) another and later fibula from Monyash, precise locality unrecorded.

MOUSELOW CASTLE.—See p. 211.

NEW INNS.—Three bits of 'Romano-British' pottery in barrow near Cold Eaton, found 1851 [Bateman, *Diggings*, p. 181; *Sheffield Mus. Catal.* p. 192].

OCKBROOK.—At Borrowwash, 5 miles S.E. of Derby, found about 1850 during the construction of the Midland Railway, many inhumation burials of uncertain age, also small rude vase of white clay, containing the burnt bones of a pigeon or other bird and a coin of Constantine [Briggs, *Brit. Arch. Assoc. Journ.* vii. 362]. In his *Hist. of Melbourne* (1852) p. 16, he omits the coin. The burials may easily be post-Roman.

OKER HILL.—Lead pig, see p. 232; coins, see Darley.

PADFIELD.—Near Hooleywood, found in 1838 in removing the soil at a stone quarry, hoard of silver and billon; 5 seen were of Severus Alexander (3) and Julia Mæsa (2), according to Mr. W. Beamont, of Warrington [*Brit. Arch. Assoc. Journ.* vii. 19; hence *Derb. Arch. Journ.* viii. 202, xxi. 17]. From this hoard probably were taken most of the nine casts of coins—1 Domitian, 2 Marcus, 3 Severus Alexander, 2 Mæsa, and another doubtful—now preserved in Warrington Museum as 'found at Melandra' [Watkin, *Derb. Arch. Journ.* viii. 89]. Padfield is about $1\frac{3}{4}$ miles N.E. of Melandra.

PARWICH.—Earthworks on Parwich Hill, at Lombards Green ($2\frac{1}{2}$ miles west of the Roman road from Buxton to Derby). In an enclosure, half an acre in extent, a workman seeking for lead found, about 1769, a 'military weapon' and a hoard of some 80 denarii with an urn—including some Triumvirate, 2 Nero, 1 Vitellius, 5 Vespasian, 5 Domitian, 8 Nerva, 15 Trajan, 15 Hadrian, 1 Sabina, 5 Pius, 1 Lucilla, 2 Aurelius, 4 Faustina, and others—that is, a hoard of the character described in *Arch.*, liv. 489 foll. [Pilkington, ii. 208; hence, but very briefly, *Arch.* xii. 8, Reynolds, *Iter.* p. 425 (under Bradbourne), Bateman, *Vestiges*, p. 154, Watkin, etc. Watkin thinks that the Burton Wood hoard (see above) is this one under a wrong name].

On Saint's Hill (Saint's Low), found in 1849, in a previously disturbed barrow, 80 'Third Brass' of the Lower Empire, scattered about. [Bateman, *Diggings*, p. 61; hence *Intellect. Observer*, xii. 347, etc.].

Watkin conjectured that the Lombard's Green earthwork was 'probably a camp to guard the roadmakers, and afterwards a vicus.' But this has no evidence to support it.

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PENTRICH.—Earthwork near Rycknield St., square with a double vallum ; a Roman coin is *said* to have been found in it. Taken by many as a station of Richard of Cirencester's (that is Bertram's) Itinerary between Little Chester and Chesterfield, but neither it nor Richard deserve credence. [Pegge, *Roads through Coritani*, p. 26, hence *Arch.* x. 30, Pilkington, ii. 317, Bennett cited by Lysons, p. ccxvii, Glover, etc.]. Watkin quite arbitrarily asserts that 'it was probably a small station to guard the makers of the street, and may afterwards have been used as a mansio on that road' (*Derb. Arch. Journ.* vii. 194). There is no evidence to prove either conjecture.

PIKEHALL (Hartington Nether Quarter).—Bronze penannular fibula [*Sheffield Mus. Catal.* p. 195]. Not necessarily Roman.

PLEASLEY.—At Stuffynwood, hoard of denarii found about 1770 and sold for £5. [Pegge, *Arch.* x. 30 : hence Lysons, Reynolds, Bateman, Watkin, etc.] The Langwith hoard was found about a mile north of this.

POOLE'S CAVERN.—See p. 235.

PORTWAY MINE (O.S. ix. SE.).—The name of this mine has been cited by Jewitt, *Intell. Observer*, xii. 343, and others, as indicating Roman occupation. But no Roman remains seem to have been found, and the name (despite common opinion to the contrary) has no connexion whatever with things Roman.

RAINS CAVE.—See p. 237.

RAINSTER ROCKS (near Brassington).—Irregular-shaped building of rough limestone walls, 2-3 feet thick, and dark grey and red potsherds (of which one 'unmistakeably Roman') found in 1889 by Mr. J. Ward in a pasture at the south foot of the Rocks. [Information from Mr. Ward; brief note, *Brit. Arch. Assoc. Journ.* new series, vi. 17.] Rains Cave and Harborough Rocks are near this site.

REPTON.—No Roman remains have been found here. *The Historical MSS. Commission, Report III. Appendix*, p. 273, states that Roman pottery, beads, glass, horse-trappings, and 20 silver coins were found here—on authority of a letter of April 1709 in the collection of Mr. Hamon L'Estrange of Hunstanton Hall. But Mr. L'Estrange tells me that the name 'Repton' has been misread : it should be Upton, near Southwell (Notts).

The name 'Repandum,' adduced by Stebbing Shaw (*Topographer*, ii. 250), is not a Romano-British name but a mere fiction. The small earthwork called 'the Buries' is not likely to be Roman.

RINGHAMLOW.—See (1) Middleton by Youlgreave and (2) Monyash. The accounts of the finds indicate two distinct lows of this name, though my maps and informants seem only to know one, near Middleton (O.S. xxviii. SW.).

RIPLEY.—Urn full of coins of Gallienus, Victorinus, Carausius, etc. found in 1730. [Soc. Ant. Minutes, 12 November 1730 = i. 251 : hence Gough's *Add. to Camden*, ii. 306, Reynolds, *Iter*. p. 459, Watkin, etc.]

RISLEY PARK.—Large silver dish found in 1729 inscribed : Exsuperius episcopus ecclesiae B...ensi, but too worn to be preserved intact [Stukeley, *Account of Silver Plate ... found in Derb.* (London 1736) and *Correspondence*, ii. 114 (Surtees Soc. vol. 76), Soc. Antiq. Minutes, ii. 165, 7 April 1736 : hence Lysons, *Arch.* xvii. 85, etc.]. The dish is figured by Stukeley, and is plainly Roman, and most probably Roman of the first century. But the inscription is medieval, and seems to refer to Exsuperius, first bishop of Bayeux (Baiocensis), who, perhaps, lived in the fifth century. In all probability the dish was brought to England during the early middle ages. See Duchesne, *Fastes épiscopaux de la Gaule*, ii. 218; G. Morin, in *Mélanges de l'École de Rome*, xviii. 363, with illustration.

ROBIN HOOD'S STRIDE.—See Harthill Moor.

SCARTHEN NICK.—See Cromford.

SHIPLEY.—Hoard of coins found September 1890 in making the Great Northern branch line from Ilkeston to Heanor. A large earthen jar, 11 inches high by 9½ in greatest diameter (fig. 52), contained many hundred coins of the

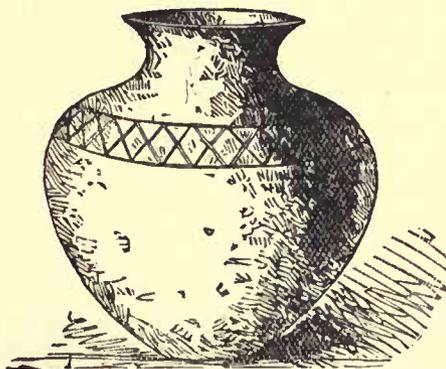


FIG. 52.—URN CONTAINING THE SHIPLEY HOARD.

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late third century: the few that were seen belonged to Gallienus, Tacitus, Victorinus, Postumus, the Tetrici, Claudius Gothicus, Aurelian, and Constantine the Great—one account adds 'Clodius' and Vespasian, which is improbable [*Derb. Arch. Journ.* xiii. 39; *Brit. Arch. Assoc. Journ.* xlvi. 312, xlviii. 137; *Antiquary*, xxii. (1890), 187; E. Trueman and R. W. Marston, *Hist. of Ilkeston* (1899), p. 375.

SMERRIL.—See Middleton by Youlgreave.

SPONDON.—At Stanley Grange, oak coffin containing human remains and small glass phial found 3 feet below surface [*Derb. Arch. Journ.* xxvi. 227]. Doubtful if Roman.

STANTON.—At Durwood Tor, urn with burnt bones and near it 2 querns [Pegge, *Arch.* x. 29: hence Gough, *Adds. to Camden*, ii. 424; Bateman, *Vestiges*, p. 119].

STAPENHILL.—Saxon cemetery with a few Roman coins (Urbs Roma, etc.) used up in it. *Burton Nat. Hist. Soc. Proc.* quoted in *Antiquary* (1881), iii. p. 229. Since 1894 part of Staffordshire.

STAVELEY.—Coin of Claudius Gothicus [Pegge, *Arch.* x. 30: hence Watkin].

STONY MIDDLETON.—See Middleton.

STUFFYNWOOD.—Hoard: see Pleasley.

TADDINGTON.—Iron spade found in old lead mine, thought by some to be Roman [*Brit. Arch. Assoc. Journ.* new series, v. 88]. I am indebted to Mr. J. C. Webster of Chiswick House, Buxton, for a photograph of it.

TANSLEY MOOR.—Lead pig, p. 232.

THIRKEL LOW (in Hartington Middle Quarter parish, $3\frac{1}{2}$ miles S.S.W. of Buxton).—In a barrow opened 1897, near the bottom of it, a coin described by Dr. Grüber as 'a British imitation of a half *folles* of Constantius II. (FEL . TEMP . REPAR .)' [*Salt, Antiquary*,

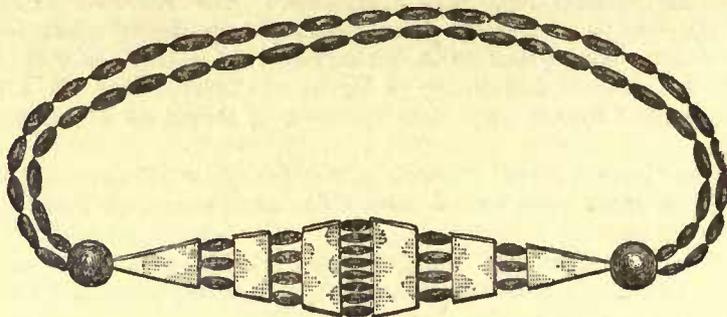


FIG. 53.—JET NECKLACE FROM WINDLE HILL, WORM HILL. (Bateman, *Vestiges*, p. 89.)

xxxiii. 324; Turner, p. 112; *Brit. Arch. Assoc. Journ.* new series, vi. 221. The Ordnance Survey (xxi. SE, xxii. SW.) marks two barrows, one as yielding a Roman coin and British pottery, the other as yielding Roman pottery, flint flakes, etc. But the Roman coin seems to be the only Roman object really found here.]

THIRST HOUSE.—Cave, p. 233.

THORPE.—In a barrow, opened 1847, 'trifling remains of bones and a bit of much worn Samian.' The barrow had been disturbed before and partially removed [Bateman, *Vestiges*, p. 104].

WALTON (near Chesterfield).—Samian sherds, once in the Brampton Museum at Chesterfield, now in the Derby Museum.

WALTON ON TRENT.—Alleged camp between the Old Hall and Borough Hill Farm [Bulmer, *Topog. Direct.* (1895), p. 835].

WINSTER.—Hoard, between Winster and Bakewell: see Bakewell. The glass, silver bracelet, gold fibula, etc. found about 1765 in a barrow on Whitelowe (*Arch.* iii. 274, Bateman, *Vestiges*, p. 19, etc.) are not Roman, and are wrongly included as such by Watkin, *Derb. Arch. Journ.* viii. 205.

WIRKSWORTH (near).—Found, in 1735, 83 denarii ranging from Augustus to Aurelian Verus [West in Soc. Antiq. Minutes, 12 June 1735 (ii. 82): hence Gough's *Add. to Camden*, ii. 423; Reynolds, *Iter.* p. 472; Lewis, *Topog. Dict.* under 'Wirksworth.')

WORM HILL.—In a barrow a necklace of Kimmeridge coal, like that found at Cowlow [Bateman, *Vestiges*, p. 89, with illustration] (fig. 53). See p. 263.

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YOULGREAVE.—At Conksbury Bridge, near river Lathkil, bronze fibula, animal and human bones, and an ornamented bone [Bateman, *Diggings*, p. 243].

LOCALITY UNCERTAIN.—The Minutes of the Soc. of Antiquaries for 9 February 1748-9 (v. 212) record the finding in Derbyshire of over 3,000 denarii, none older than Vespasian and none later than Severus. This seems to be the Alfreton find.

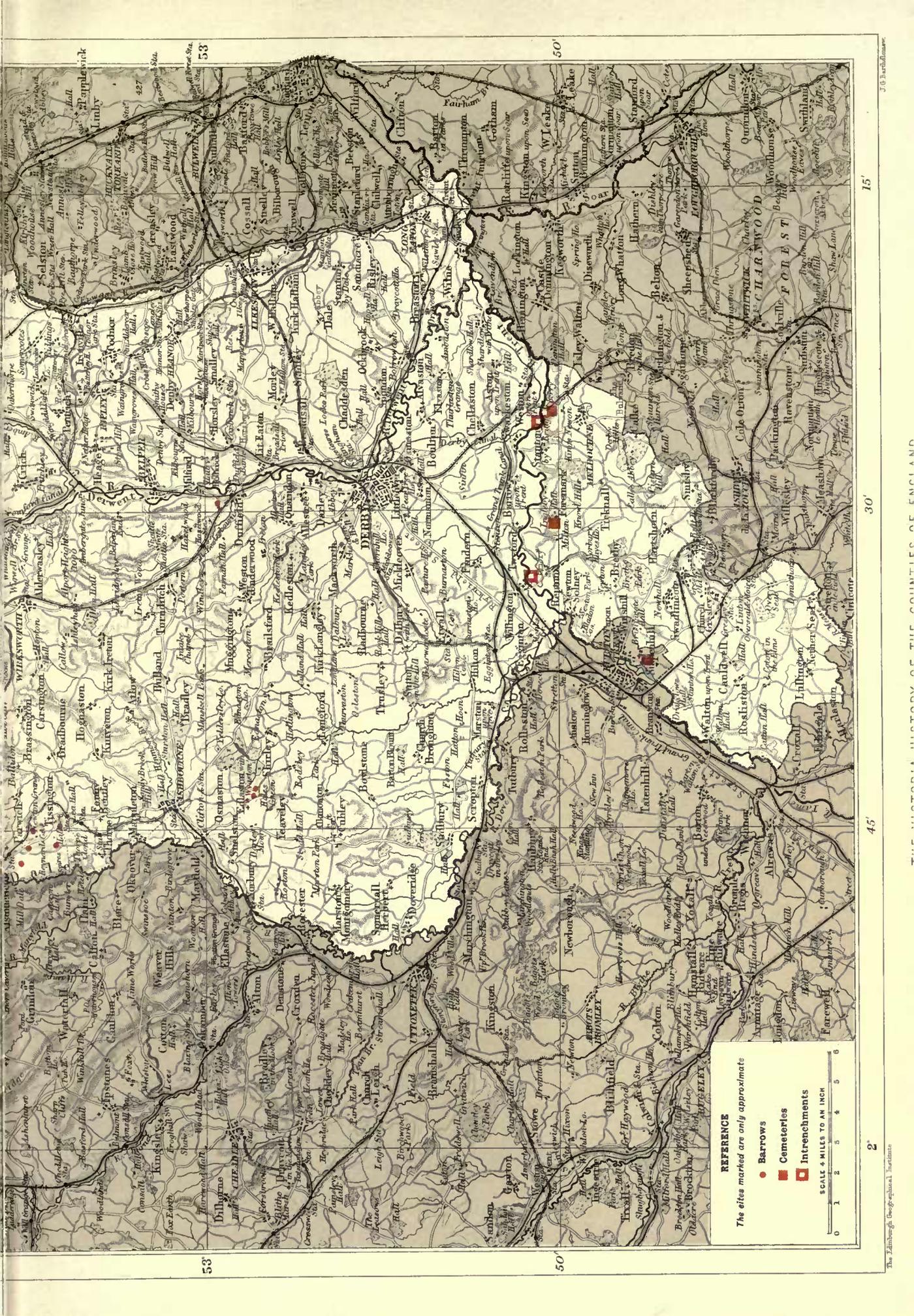
APPENDIX I: THE NAME 'COLD HARBOUR'

As I have stated in earlier volumes of the Victoria History (see especially *Hampshire*, i. 349), the connexion of the name 'Cold Harbour' with Roman sites seems to me to be wholly unproven. It may be convenient to add here the Derbyshire evidence. The name occurs in our county, so far as I can learn, four times. Cold Harbour Moor is two miles east of Glossop and not far from the Roman road from Melandra to Brough. Cold Harbour Farm is near New Mills and Hayfield (O.S. v. SE.) Cold Harbour Lane is near Dethick (O.S. xxxv. NW.), a little south of Matlock. Lastly, there is a Cold Harbour near Wormhill, two miles north-west of Miller's Dale (O.S. xv. SE.). No Roman objects are recorded from any of these sites, beyond the road which skirts the first, and Derbyshire agrees with the other counties which I have examined in suggesting no true connexion between Cold Harbour and Roman occupation. What the true meaning of the name is, must, I fear, be left doubtful. It is very common. But it does not (according to Mr. W. H. Stevenson) occur in early documents, and even the period of its origin is uncertain.

APPENDIX II: THE COWLOW AND WORMHILL NECKLACES

I have included in the preceding list some jet necklaces found at Cowlow and Wormhill which good judges have called Romano-British. There seems, however, to be little doubt that they really belong to the Bronze Age. Both the shapes and the lozenge ornament represented at Cowlow are typical of that period, and (as Mr. A. J. Evans tells me) though they may date from its later years, they cannot be ascribed to any subsequent age. A similar necklace was found with Bronze Age relics at Balcalk in Forfarshire and is now in the Edinburgh Museum (EQ 219: *Catalogue*, pp. 192-3, with illustr.). Another, of somewhat different pattern, is assigned to a post-Roman period in Mortimer's *Burial Mounds of East Yorkshire*, p. 353.





REFERENCE

- Barrows
- Cemeteries
- ▣ Intrenchments

The sites marked are only approximate



ANGLO-SAXON REMAINS

THE Derbyshire remains which come under the present head, consisting of grave-mounds, earth-works and other visible monuments, are few compared with the magnificent pre-historic array, but perhaps not relatively fewer, when we consider how much shorter was their period. They may indeed have been relatively more numerous, for as a rule they are of less enduring character; hence it is that some of the most important discoveries have been accidentally made, there being nothing left above ground to mark their presence.

The literature of these remains in Derbyshire is correspondingly scanty. Here, as before, we are greatly indebted to the spade and pen of Mr. Thomas Bateman, F.S.A., for information. In his *Vestiges of the Antiquities of Derbyshire*, which appeared in 1848, he recounted all the discoveries of the class which were then known to him—barely a dozen barrow-burials, of which six had been opened by himself. Of those which had been opened before his time, two rank among the most notable discoveries of the sort made in the county—the one, a barrow known as White-low near Winster, destroyed by labourers in 1756 or 1757, and originally described by Mr. John Manders of Bakewell¹; the other, a similar barrow on the Garratt Piece, Middleton Moor, also destroyed by labourers in 1788, and described by the Rev. Dr. Samuel Pegge, F.S.A.² Both yielded many objects of rare interest, which may now be seen in the Sheffield Museum. In his next book, *Ten Years' Diggings in Celtic and Saxon Grave-hills*, Mr. Bateman described a larger number of these interments, all opened by himself and Mr. Samuel Carrington between the years 1848 and 1861, mostly in the western part of the county. In the appended notes of Mr. John Wilson of Broomhead Hall, is a reference to the opening of a barrow, Bole or Bone-low near Derwent Chapel in 1780, when three or four cinerary urns were found, which, to judge from the small woodcut given of one, belonged to this period.

In 1863 and 1865 Mr. John F. Lucas, whose name has been mentioned in connection with the pre-historic remains, excavated a large Bronze-age barrow known as Bower's-low near Tissington, which contained an important 'Saxon' interment.³ Several years later, in 1867, a

¹ *Arch.* iii. 274.

² *Ibid.* ix. 189.

³ *Reliquary*, iv. 165.

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large cemetery of this period was discovered at King's Newton near Melbourne, in making a branch of the Midland Railway from Derby to Ashby-de-la-Zouch, accounts of which appeared¹ from the pens of Mr. J. J. Briggs, Mr. Massey and Mr. Llewellynn Jewitt, F.S.A. A similar discovery, but of even greater interest, was made in 1881 at Stapenhill near Burton-upon-Trent. This village now forms part of that borough, and belongs to Staffordshire ; but until recently it was part of the county of Derby, and for this reason an account of this cemetery will not be out of place here. The site was a brickfield, and the first interments were discovered while digging for clay. The matter was at once placed in the hands of the Burton-upon-Trent Natural History and Archæological Society, and a number of careful excavations were made, bringing to light about thirty-one different graves. An excellent report on the whole work was drawn up the following year, which was printed in the first volume of the Society's *Transactions* in 1889. In 1887 a note appeared in the *Reliquary*² in which the Rev. Charles Kerry described the finding of five skeletons at Overton Hall near Ashover, which from the mode of burial appear to be of the same period as the Stapenhill burials. In 1886 the skeleton of a young woman was found during the excavation of the site of Duffield Castle, and with it were associated an amber bead and a part of a cruciform brooch of Anglo-Saxon type. This burial had been disturbed by the builders of the Norman keep.³ Since this date nothing has been discovered in the county to further our knowledge of the period.

The remains in Derbyshire which come within our present range are almost exclusively sepulchral. These sepulchral remains differ among themselves quite as much as do the pre-Roman, but the two groups have sufficiently well-marked points of difference to render their separation comparatively easy. It is only when there are no grave goods that difficulty is experienced, and even then the construction of the grave, and of the mound when present, often supplies a clue. It is possible that some of the interments we have classed as pre-historic may really be of this later period, but we are more likely to confuse certain Romano-British burials with them.

The post-Roman people, like their predecessors, practised both inhumation and cremation ; but it is clear that in Derbyshire at least these were not as a rule practised side by side. In the former method the body was usually laid at full length on its back in the grave, but occasionally it was laid on its side, either at full length as before or with the legs more or less bent, but rarely so much as to resemble the doubled-up attitude commonly seen in the pre-Roman graves. When cremation was practised the burnt remains were either collected into a heap or were placed in urns. These cinerary urns resembled those of the Bronze Age in being of coarse clay modelled by hand instead

¹ *Reliquary*, viii. 2 et seq.

² New ser. i. 111.

³ *Journ. Derb. Arch. and Nat. Hist. Soc.* ix. p. 151.

ANGLO-SAXON REMAINS

of shaped on the wheel, and imperfectly fired, but they differed in their shape and decoration. They were more or less globular with contracted mouths—forms suggestive of being barbaric copies of the familiar jars used by the Romans for cremated remains. The decoration consisted of pushed-out bosses, of incised lines, and of impressed dots, circles and other markings from small stamps or punches. A number of the King's Newton urns were figured by Mr. Jewitt in the account of this cemetery given by him in the *Reliquary*. The mouths were usually covered with flat stones, and very rarely were the urns inverted.

The interments occur singly, or, as just intimated, in groups or cemeteries. When occurring singly they are either covered with their own mounds or have been introduced into already existing mounds. In the cemeteries mounds are rarely discernible, but it is probable that each grave was originally covered by one. As these graves are usually close together, these mounds could never have been large, and so would readily fall victims to the progress of cultivation.

There are published descriptions of about twenty isolated barrows of the period which have been investigated in Derbyshire. The mound, in every case where the material is stated, is described as of earth or clay (always a sign of lateness in Derbyshire) with a few stones or none at all; in size ranging from 18 to 41 feet in diameter, but mostly from 33 to 36 feet, so that on the average these mounds are smaller than those of the Bronze Age. A slight ditch surrounded the foot of one at Benty Grange,¹ a feature which may have been general in these barrows. In every case the grave over and for which the mound was raised—and it may be mentioned here that these barrows do not appear to have been used for secondary interments—was a more or less shallow depression in the natural soil usually in the centre of the site. Occasionally a few large stones were piled over it; more frequently it was filled or covered with puddled earth or clay. It has been suggested that in the preparation of this earth or clay some corrosive ingredient was introduced which is responsible for the frequent presence of thin ochreous seams and the extremely decayed condition of the human bones when in contact with it. The interments of these barrows were, so far as is known, all unburnt. Around many of them were found distinct traces of decayed wood, indicating that the graves were either lined with planks, or that the corpse was deposited in a chest or coffin; and from the traces of leather, woollen cloth and linen, and the presence of buckles, fibulæ, weapons and objects of personal adornment, we may infer that the bodies were consigned to their last rest in their ordinary attire.

A similar number of inhumated interments of this period have been found as secondary burials in barrows of greater age (mostly of the Bronze Age) in Derbyshire. In the mode of burial and the accompaniments they precisely resembled those just described, except that their graves had been cut into the pre-existing mounds instead of in the natural soil.

¹ *Ten Years' Diggings*, p. 28.

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These graves were usually filled with tempered earth, and the height of the barrow was often increased by a capping of earth. The scattered bones of more ancient interments, displaced when digging the graves, have frequently been noticed in the soil above.¹ The introduced interments, being as a rule superficially placed, have suffered much; in fact, in many a barrow all that remained to the explorers to tell of their former presence was an iron knife, a brooch, or other article of the period.

Through the omission of the describers in some cases, and the excessive decay of the skeletons in others, it is only possible to state the position of the body in about half of these barrow interments. It is evident that the prevailing mode was to lay the body at full length on the back with the head to the west. While nineteen are specified as stretched at full length, only five or six are described as lying on the side in a flexed attitude; while of those nineteen eight are said to be on the back, only one is said to be on the side, and with regard to the direction of the head, out of seventeen specified cases twelve had westerly directions ranging from north-west to south-west.

The usual articles associated with the male skeletons are as follows: The most frequent is an iron knife, which is usually found near the hip, showing that it was attached to the belt. The blade varied from 4 to 8 inches in length and was fixed into the handle, which appears to have been of wood, by a long tang, and occasionally the remains of a sheath have been found. An iron spear is also frequently present. The usual position is near the head with the point upwards; and on several occasions portions of the wooden shaft have remained. The sword is less common, having been found with only three Derbyshire interments. In each case it was associated with arms and other objects which indicated the grave of a man of rank. These weapons are double edged, about 2 inches wide and from 32 to 36 inches long. Two retain portions of their wooden sheaths, covered with leather, embossed in the one case and having silver fittings in the other. The shield or war-board is more frequent, occurring with five or six interments. The central iron boss or umbo, which provided a hollow to receive the hand, is usually the only remaining portion.

An earth-barrow opened on Lapwing Hill near Brushfield in 1850² supplied an excellent example of a warrior's grave. In the shallow rock-grave beneath this mound were the decaying remains of a strong bier or coffin, to the construction of which clenched nails had contributed; and upon it were traces of a hide. Upon this couch—but whether before or after it was placed in the grave is not clear—the dead warrior had been laid at full length, clothed and armed, with his head towards the setting sun, his sword and knife at his left side, two spears on his right, and his shield lying flat over the middle of his body. The remains of another warrior similarly equipped were found in opening a small barrow at the same village twenty-five years earlier.³

¹ Human bones in this position have been regarded as those of slaves sacrificed at the graveside.

² *Diggings*, p. 68.

³ *Vestiges*, p. 27.

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The secondary interment of this period found by Mr. Lucas in Bower's-low near Tissington was also precisely similar.¹

A more remarkable warrior's grave was opened by Mr. Bateman at Benty Grange, Monyash, in 1848.² Here the mound seems to have been of tempered earth throughout. Not a vestige of the deceased warrior was left, except his hair,³ near which was a curious assemblage of ornaments, consisting of the remains of a silver-edged leather cup, decorated with four wheel-shaped ornaments and two crosses of thin silver; two or three *champlevé* enamels upon copper discs in silver frames, $1\frac{3}{4}$ inches in diameter; a knot of fine wire; and a quantity of thin bone variously ornamented with lozenges, etc., which had been attached to a silk fabric. Six feet from these, but in an uncertain position in respect to the body, was a large mass of oxidized iron, which resolved itself into the framework of a helmet and the linked bars of a padded cuirass or lorica. The helmet was slightly conical in form. From the iron circle which invested the head, rose several (apparently five or six) iron ribs, which, uniting at the summit, gave support to the small figure of a hog, also of iron, but with bronze eyes. The front rib was prolonged downwards to form a nasal which was ornamented with a silver cross. The spaces between the ribs had been filled in with narrow plates of horn diagonally arranged, and the helmet was further enriched with silver decorations. No sword or other weapon was observed in this grave.

Another mound of a similar type was opened by Mr. Bateman in the following year in a field called the Low near Newhaven House. Two-thirds of the mound had been removed and the rest was in a disturbed condition, but within it were found some small pieces of iron straps not unlike the framework of the helmet above referred to; a boss of thin bronze, and a small circular box ornamented with six vertical ribs or pillars, cast in the same metal.⁴

The graves of women are not always distinguishable from those of the men, as the knife, so frequently present, occurs with both sexes. Ladies of rank, however, may be distinguished by the associated articles. In a barrow of this period at Wyaston, for instance, were found a handsome necklace composed of amber and variegated frit beads, a finger-ring of silver wire twisted into an ornamental knot at the junction of the ends, two silver earrings and a ring-brooch of a yellow alloy. All that remained of the lady herself was the enamel of her teeth.⁵ In a barrow at Hurdlow, opened in 1849,⁶ the skeleton still remained, stretched at full length, with the head to the west. At the hip was a small iron knife, while near the right shoulder and amid the remains of a hazel basket, were a thin bronze canister containing thread, two pins or broken needles, and a mass of corroded iron, consisting of

¹ *Reliquary*, v. 165.

² *Diggings*, p. 28; *Journ. Brit. Arch. Assoc.* iv. 276; Jewitt, *Grave Mounds and their Contents*, p. 251.

³ For a remarkable example of the complete disappearance of a skeleton, see *Vestiges*, p. 58.

⁴ *Diggings*, p. 45.

⁵ *Ibid.* p. 188.

⁶ *Ibid.* p. 52.

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chain work, keys and other objects, 'the whole comprising the girdle and chatelaine with appendages of a Saxon lady.' The iron objects showed the imprint of fine linen and coarse flannel. With a similar interment at Stand-low¹ were two knives (one in a sheath), and other articles which may have been a chatelaine, all of iron, two rings or buckles, and a cylindrical box with a hinged lid, of bronze, and a silver needle; while where the neck had been was a necklace consisting of eleven beads of glass of various shapes, and one formed of a spiral of silver wire.

At Cow-low near Buxton,² two gold pins with settings of ruby glass and linked together by a gold chain must have formed part of the buried lady's head-dress, for they were found near her skull, and close by were the remains of a wooden box, with bronze hinges and hasp, and fastened by an iron padlock. This box contained a few cherished treasures—a small green glass basin, an ivory comb, and a necklace consisting of eight silver pendants, two spiral beads of electrum and a central pensile ornament of variegated porcelain set in silver, etc. More elaborate still was a necklace consisting of fourteen pendants in pure gold, eleven of which were enriched with brilliant garnets on a chequered foil, which was found with a skeleton at Galley-low or Callidge-low near Brassington in 1843.³ Perhaps the finest example of the goldsmith's art of the period, in Derbyshire, was a circular gold brooch ornamented with filigree work and red stones in compartments over chequered foil, found in the barrow known as White-low near Winster, already referred to,⁴ from which were also obtained a looped cross of pure gold of similar workmanship, a silver bracelet, several beads, two glass vessels and two large urns. Another fine example of a brooch, but of somewhat later date and probably of Irish make, now preserved in the British Museum, may be mentioned here. It was found in 1862 at Bonsall near Matlock. It is of bronze, and the ring measures $3\frac{7}{8}$ inches at its greatest diameter, and the acus is $6\frac{3}{4}$ inches long. It was originally set with amber or paste and has been richly gilt and enamelled, the interlaced ornaments being elaborately formed. The head of the acus is finely ornamented, and like the ring has been set with studs. It is described and figured by Mr. Jewitt in *Grave Mounds and their Contents*.⁵

An instructive barrow of the period was opened at Bruncliff near Hartington in 1847. Here, in the rock-grave, was an extended skeleton, with a knife and a small pitcher at its side. The vessel was of hard wheel-made red earthenware with a trefoil-shaped mouth, apparently copied from a Roman original. In the mound, which was of earth as usual, and immediately above the grave, were the calcined remains of a young horse amidst much charcoal, a rare occurrence in this country.⁶

¹ *Vestiges*, p. 74.

² *Ibid.* p. 93.

³ *Ibid.* p. 37; *Arch. Album*, p. 205; Akerman's *Pagan Saxondom*, pl. xl. fig. 4.

⁴ *Vestiges*, p. 19; *Arch.* iii. 274; *Journ. Brit. Arch. Assoc.* xiii. 226.

⁵ pp. 274, 275; see also the *Reliquary*, v. 65, pl. viii.

⁶ *Vestiges*, p. 101.

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Vessels of pottery rarely occur with these interments, but occasionally fragments, seemingly buried as such, and described as 'hard' and as 'Romano-British,' have been found. The only other case of a perfect vessel in these isolated interments was at Winster. Here two contracted skeletons were found 9 feet apart in 1856. With the one were an iron spear-head and the lower stone of a beehive-shaped quern; with the other, a small plain vessel of coarse pottery, a large spear-head and small instrument of iron, a large frit bead, and the upper half of the same quern.¹ Two upper stones of the same shape were found with an extended skeleton in a small barrow near Taddington in 1845, the one at the head and the other at the feet.² Quartz and other pebbles have frequently been found with these interments. In one remarkable example near Alsop-in-the-Dale, such a pebble was held in the left hand,³ but they rarely have any definite position with regard to the skeletons. These, the potsherds, and the occasional chippings of flint, had certainly a religious significance.

Of a similar nature, probably, were the bronze bowls occasionally found with these interments. With a late secondary interment at Grindlow near Over Haddon, was a 'bowl of thin bronze very neatly made, with a simple hollow moulding round its edge,' and near it was a circular enamel in a silver frame.⁴ Reference has already been made to two or three similar enamels at Benty Grange. Another, with a 'hook attached in the form of a serpent's head, probably for suspension,' 'a shallow basin of thin brass,' and other objects, were found near the head of an extended interment on the Garratt Piece near Middleton-by-Youlgreave, already referred to. Similar discs and remains of thin bowls have been found associated together in graves of the period elsewhere in the country. As the discs usually have the hook-like process attached, they have been regarded as pendants of some sort; but years ago the late Mr. C. Roach Smith, F.S.A., suggested that they were mountings of the bowls, and recently Mr. J. Romilly Allen, F.S.A., has collected evidence which proves this beyond a doubt.⁵ He finds that a characteristic feature of these bowls is a hollow moulding below the lip; that the hooked discs, three or four to a bowl, were attached in such a manner that the hollow of the hooks faced that of the rim, and thus provided loops for as many suspension rings; and that usually a larger enamelled disc was attached to the bottom, and sometimes other decorative devices to the sides. The hook invariably terminates in a grotesque head, and the disc appears to represent, or rather replace, the animal's body. Mr. Allen derives the decoration from two sources. In the more elaborate discs, like that from the Garratt Piece, the patterns may be divided into two parts: (1) closely coiled spirals placed at equal distances apart in symmetrical positions with regard to each other; and (2) a background of flamboyant work diversified with almond-shaped

¹ *Diggings*, p. 98.

² *Vestiges*, p. 85.

³ *Ibid.* p. 67.

⁴ *Diggings*, p. 48; Jewitt's *Grave Mounds and their Contents*, p. 284.

⁵ *Arch.* lvi. 39.

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spots. In fact, we have here a combination of spirals of Bronze-age or Mycenæan type with the trumpet-shaped divergent spiral of the Late-Celtic style. The almond-shaped spots, where the two trumpet-ends meet, correspond with raised knobs of the same form at terminations of the long sweeping curves seen on the *repoussé* metal work. He considers that the bowls have a Late-Celtic ancestry, but that the treatment of the decoration is essentially Christian Celtic. For the present, the use of these beautiful bowls must remain a matter for speculation. They probably had some religious purpose; but Mr. Allen thinks that they are not connected with the ceremonies of the Christian Church.

The groups of graves of this period must now receive attention. In 1860 five skeletons laid on their backs at full length with their heads to the west were discovered in as many shallow graves a few feet apart on the brow of Calver-low, but no mounds marked the sites. The only articles found with them were a small iron knife and a piece of red pottery.¹ The five skeletons at Overton Hall near Ashover, which the Rev. Charles Kerry described, were precisely similar, except that they were buried in low ground, and the head of one pointed towards the south-west. No implement of any sort was found with them. Differing much from this group was a 'tumular cemetery' examined by Mr. Bateman on high ground near Foremark Hall in 1855.² The mounds were about fifty in number, and varied from 21 to 30 feet in diameter. He opened five, and found that each covered the site of the funeral pile, upon which the calcined human bones remained as they were left by the fire. Upon this ashy floor 'were accumulated stones bearing marks of fire, which had been first thrown on the glowing embers, and over these earth was heaped to form the bowl-shaped tumulus.' Only a pin and an indefinite fragment of iron were met with. According to Mr. Bateman, tradition marks the place as the scene of a sanguinary conflict between the Saxons and the Danes. The excavations however showed nothing to warrant the interments being other than those of a people in quiet possession of the district.

The similarity of these barrows to those which were designated 'late' in the 'Early Man' section of this work renders it doubtful whether they should not have been referred to there instead of here; but this only shows the need for further comparative study. The King's Newton burials³ also consisted of cremated remains, but otherwise were very different from those of Foremark, the burnt bones having been placed in cinerary urns, and no mounds marking the spot. Whatever doubt there may be as to the age of the Foremark burials does not apply here, for the period of these urns is well known. They are recognized as characteristically Pagan English, and are traceable to prototypes in early Teutonic cemeteries on the continent. It is probable that two hundred or more of these urns were destroyed by the navvies before the discovery was generally known; but to judge from the positions of the thirty or

¹ *Diggings*, p. 107.

² *Ibid.* p. 92.

³ Jewitt, *Reliquary*, ix. pl. 1, and p. 6.

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more described by Mr. Briggs, it would seem that, as a rule, they were in rows generally resting upon flat stones about 2 feet below the surface. They were nearly all upright, and their mouths were usually covered with thin stones; but in one or two instances 'the calcined bones were placed upon a small flat stone and the urn inverted over them.' No grave furniture was found with these interments. Immediately north of the burial ground, which 'covered perhaps fifty square yards,' were traces of an oblong enclosure 498 feet long (east and west) and 195 feet wide (north and south) within the surrounding bank. Its rectangular shape is suggestive of a Roman encampment, but nothing to indicate such an origin was found.

The distribution of these different modes of burial in groups suggests two explanations. The groups may relate to different tribes whose funeral practices differed; or these practices may have been consecutive, each tolerably uniform throughout the region for the time being. The general trend of evidence both within and without the county is in favour of the former hypothesis, but the cemetery of this period at Stappenhill¹ shows that it must not be pushed to an extreme.

From this remarkable burial ground thirty-one inhumated and five cremated interments were obtained, all found in simple graves unmarked by any external features. Taking the inhumated examples first, fourteen were extended on the back and two on the side, five were flexed and lying on the left side,² while the positions of the remaining ten were undetermined. The heads of these skeletons (which were mostly of adults) pointed in various directions, but the majority had a westerly direction, or, to be strict, ranged from north-west to west; a fair proportion, however, pointed south-south-east.

The most interesting interment was that of a lady whose skeleton lay at full length with the head to the west. Close to the head was a richly embossed and decorated drinking cup of pottery; on either shoulder a cruciform brooch of bronze gilt; round the neck a chaplet of twenty or more beads of glass, amber, garnet and terracotta inlaid with coloured pastes; near the waist an iron buckle and two bronze articles supposed to be part of the framework of a leathern bag or portions of a chatelaine; and near the right arm a spindle-whorl of Kimmeridge coal. In another grave a man had been laid at full length on his back, with his spear at his right side and his shield placed over the middle of his body. In another were the remains of a child who seems to have undergone partial burning. Near the head was a small vessel; near the neck, four beads, two of the Roman melon form and two of coloured pastes; and apparently at the shoulder, a small gilt bronze fibula. Three skeletons occupied another grave, all apparently interred at the same time. They were more or less burnt, and were in fact surrounded with charcoal, burnt earth and charred cloth. With them were also associated several worn Romano-British and Saxon potsherds, and

¹ *Trans. Burton Nat. Hist. and Arch. Soc.* i. 156; *Antiquary*, iii. 229.

² See *V.C.H. Northants*, i. 229.

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many animals' teeth and bones, mostly showing the action of fire. The indications of fire are not uncommon in these late graves. There was an abundance of charcoal and burnt earth around the Winster interments above referred to ; and other Derbyshire examples have been met with.¹

The following is a summary of the objects associated with these inhumated interments :—

(1) Nine vessels of the dark hand-made and ill-fired pottery of the period. Several of these were taller and better finished than the rest, and are distinguished as drinking-cups.

(2) Fourteen articles of iron, consisting of 1 spear-head, 3 javelin-heads, 5 knives, 1 buckle, 1 umbo of shield, and 3 'lumps.'

(3) Twelve bronze objects : the frame of a bag (?), 3 brooches, 3 buckles, 1 pair of tweezers, 1 pin, and several fragments.

(4) About thirty-four beads of various kinds—amber, glass (many of Roman character), terracotta, drilled garnet, etc. The two finest were of coloured pastes, and were supposed to be of Egyptian origin.

(5) Potsherds and flints : not found with the first seven or eight interments, probably through being overlooked, but more careful search proved their presence with all the remaining interments by inhumation.

(6) Miscellaneous objects : spindle-whorl of Kimmeridge coal, wooden 'wedge,' and Roman coin of the Constantine period.

We may thus distinguish two classes of articles in these graves : (1) those which were useless in themselves, as the potsherds and flints, or which appear to have been made solely for funeral purposes, as the occasional vessels found with the dead ; and (2) those which were obviously of use in life, as the brooches and buckles introduced into the grave with the apparel of the deceased, or the spears and shields, the jewellery and other trinkets, placed by his or her side with probably no other motive than that they were his or her cherished possessions.

The potsherds were 'some of Roman, others of Saxon manufacture, all old and weathered,' and evidently had been buried as sherds. The flints, too, appear to have been mere shapeless fragments. The presence of these potsherds and flints had doubtless, as was stated in the 'Early Man' section, a symbolic meaning.

As was mentioned above, only three cremated interments were found in this Stapenhill cemetery. The large cinerary urns which enclosed these appear to have been precisely similar to those of King's Newton ; but instead of the contents of all three urns being human remains only, as was the case there, two contained, in addition, the following : in the one, a deer-horn spindle whorl or amulet, decorated with concentric circles ; and in the other, thirty-six beads, some of glass of Roman type, some of coloured pastes and one of amber, and a circular bronze brooch. These interments were so distributed among the inhumated interments that the contemporaneity of the two can scarcely be questioned ; and this applies with equal force to the two varieties of the inhumated burials, the extended and the flexed.

A curious feature of the cemetery, and one which has been observed in similar cemeteries elsewhere, was a ditch 92 feet long and about 5

¹ *Vestiges*, p. 32 ; *Diggings*, pp. 46, 86.

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feet 6 inches wide, which contained hundreds of potsherds, bones of the domesticated animals, and chippings and fragments of flint ; a few pieces of coal, a coin of Antonia, mother of Claudius ; and a few other oddments. The pottery was mostly Romano-British and Roman, but some Saxon occurred near the surface. No whole vessel was found, and the fragments had a cleanly broken appearance, thus contrasting with those associated with the interments. Mr. Heron suggests that the ditch was merely 'a convenient receptacle for the bones of these animals whose flesh was cooked and eaten at the funeral feasts, as well as for various other waste and refuse arising from the burial customs of our pagan English ancestors.' But the absence of Saxon pottery except near the surface, the fresh appearance of the Roman pottery, and the early period of the coin (even if a barbaric copy) suggest a pre-Saxon age for the ditch, unless indeed, as was probable, Roman pottery continued in general use long after the occupation.

This cemetery, therefore, affords an interesting *point d'appui* for different types of burials, which are not found intermingled elsewhere in the county. The particular association of these at Stapenhill points to contemporaneity ; the general dissociation, to local differences. This distribution suggests the presence in our district of communities practising different customs, and yet upon a friendly footing with one another. This is consistent with the view that these were, in great measure at least, Anglo-Saxon settlers who had brought with them the different customs of their ancestral homes on the continent. All this in a general way : we must not press the identity of period or of origin too far. Some extended burials which have been found in the county may be Romano-British.

It is impossible to separate the interments—inhumated, at least—of the Roman and the post-Roman periods by any hard and fast line, for the presence of Roman objects is not determinative, seeing how numerous they were at Stapenhill. This may seem to prove that the Romano-British culture passed by gradual transition into the Anglo-Saxon, but not necessarily so. Even if we suppose that the manufactures established in the island by the Romans had disappeared with the legions, there is little doubt that those established on the continent continued long afterwards, and that their products were dispersed far and wide by commerce. The general absence of characteristic Roman objects from the Peak barrows of this era may be held to favour the theory of a break between the two cultures ; or with equal propriety, these burial-places may be regarded as so much later than the cemeteries of the southern part of the county, that sufficient time had elapsed for Roman things to fall out of use. The presence of spiral and other designs derived from a Late-Celtic ancestry with some of the former, and their absence from the latter, tend to corroborate the second surmise. These designs occur on Saxon and Irish missals and gospels, and thus connect these interments with Christian times ; and we can hardly withhold a Christian source from the White-low gold cross and the silver crosses on

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the Benty Grange helmet and drinking-cup ; but a Christian source does not prove that their owners were Christians. As Mr. Roach Smith wrote, 'Christian emblems on early works of art cannot probably be considered other than a fashion growing out of the spread of Christianity in the south of Europe.' Paganism, it is reasonable to think, would survive longer in a wild highland region like the Peak of Derbyshire than in the more fertile lowlands of our island. It is not unlikely, therefore, that when the latest of these Peakland barrows were raised, Christianity had already become the accepted religion of the people generally.

It is probable that burial in a flexed or contracted posture was really more common during the Roman and post-Roman periods than is generally supposed. Burial in this posture is popularly regarded as an ancient British trait, hence in the absence of grave goods the skeleton's posture is held to determine the age. This is a good working rule, and there is no doubt that the great majority of these deficient interments in Derbyshire have been rightly assigned to the pre-Roman period upon this ground. But now and again some little feature of the mound, or other indication, leads one to suspect whether the interment may not be of a later age. For instance, in 1887 the writer examined an elongated cist near Over Haddon,¹ which had been broken into by labourers. The cist contained the flexed skeleton of a man laid on his right side with the head to the west. Amongst the débris was a fragment of a quern, which either had been used in the construction of the cist or had been near it in the mound. If the former, the interment must have been of late character ; if the latter, the fragment *may* have been a late introduction in the mound, connected perhaps with a secondary interment which had disappeared. In other cases the reference to hard potsherds or the presence of fine soil or clay in the grave should, in a similar manner, deter us from the hasty application of the above-mentioned rule.

The remains other than of a sepulchral nature in Derbyshire, which are sometimes regarded as of this era, are few and of very doubtful attribution. Some of the defensive earthworks referred to in the 'Early Man' section are popularly attributed to the Danes, notably one near Hathersage church. There are earthworks near Eckington, known as the Danes Balk. Near the Trent at Repton is an oblong entrenchment containing two mounds, which is known as the Buries, and is also ascribed to the Danes. These mounds were examined by Mr. Bateman, who, however, found nothing to throw light on their use or age.² A sketch-plan is given in the Rev. F. C. Hipkin's *History of Repton*.

The Saxon castles of Derby and Bakewell are certainly later than the pagan period, and of course the fine examples of pre-Norman crosses and monuments carry us far into Christian times. It is therefore to the sepulchral remains that we turn for evidence of the 'wondrous skill of our forefathers in goldsmith's work, of their knowledge of the manufacture of glass into beads and drinking vessels, of their high cultivation of

¹ *Journ. Derb. Arch. and Nat. Hist. Soc.* x. 47.

² *Diggings*, p. 93.

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art, and of their great practical acquaintance with the mystery of the smith,' during the dark era which preceded their conversion to Christianity.

But little light is thrown upon the physical characteristics of the post-Roman people of Derbyshire by the remains which have been considered in this article, and this is mainly due to the decayed and broken condition of the skeletons. In Mr. Bateman's list¹ only five skulls which can be assigned to this period with a reasonable degree of authority, were sufficiently perfect to admit of their shapes being specified. Of these, four are described as oval and one as short. The lengths of four thigh-bones are given as $20\frac{3}{4}$, $19\frac{3}{4}$, $19\frac{5}{8}$ and 17 inches respectively. The latter may be disregarded, as it seems to have related to an immature person. The remaining three indicate a stature in life ranging from 5 feet 11 inches to 6 feet $3\frac{1}{3}$ inches. If this scanty evidence can be accepted as representative of the post-Roman people of the county, it points to the predominance of a tall long-headed type, and this quite accords with what has been observed elsewhere in the country.

¹ *Diggings*, p. 257.

EARLY CHRISTIAN ART

ANGLO-SAXON PERIOD

DURING the 500 years which preceded the Norman Conquest Derbyshire formed part of the ancient kingdom of Mercia. The Teutonic settlers who displaced the Celtic population somewhere about the middle of the sixth century were Angles from the coasts of Sleswick and Holstein. After the Treaty of Wedmore in 878 this kingdom was divided by a line running approximately north and south into two halves, namely, English Mercia on the west and Danish Mercia on the east. What is now Derbyshire lay on the east side of the dividing line and was consequently in Danish Mercia.

Christianity did not take any effective hold of Mercia until the reign of Wulfhere, who came to the throne in A.D. 657, although Diuma, a Scot, had previously established a missionary church in the district. The see of Lichfield was founded in A.D. 656 with St. Chad as its first bishop.

The only Saxon monastery in Derbyshire mentioned by Bede in his *Ecclesiastical History* was at Repton on the south bank of the Trent and on the east side of the Roman Icknield Street, which runs from Lichfield to Derby.

After the pagan Penda, the most powerful ruler of Mercia was Offa (A.D. 757 to 796), the contemporary and friend of Charles the Great, king of the Franks.

The above historical facts have been briefly stated to justify the conclusions (i) that no Christian monument in Mercia is likely to be older than the middle of the seventh century; (ii) that the best period of Anglian art in Mercia was the second half of the eighth century, and perhaps the first half of the ninth; (iii) that the monuments exhibiting Scandinavian features probably date from 850 to 950; and (iv) that the period from 950 to 1066 is marked by the decadence which preceded the Norman Conquest.

We may thus divide the Christian sculptured stones of Mercia into three groups as regards their age, namely:—(1) An earlier group, showing either Celtic or Byzantine influence; (2) A middle group, showing Scandinavian influence; (3) A later group, debased in style and in some cases showing Norman influence.

The following list shows the localities in Derbyshire where pre-Norman sculptured monuments occur:—

Ashbourne, Aston, Bakewell, Blackwell, Bradbourne, Darley Dale, Derby St. Alkmund, Derby (Public Museum), Eccles Pike, Eyam, Fernilee Hall, Hope, Ludworth, Norbury, Repton, Spondon, Wilne, Wirksworth.

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The monuments which occur at these places may be classified as follows :—

COMPLETE CROSSES : Bakewell, Eyam.

CROSS-HEADS AND FRAGMENTS OF CROSS-HEADS : Bradbourne.

CROSS-SHAFTS AND FRAGMENTS OF CROSS-SHAFTS : Ashbourne, Aston, Bakewell, Blackwell, Bradbourne, Darley Dale, Derby St. Alkmund, Eccles Pike, Hope, Norbury, Spondon.

FRAGMENTS OF ROUND PILLAR-CROSSES : Bakewell, Ludworth, Wilne, Fernilee Hall.

RECUMBENT COPED MONUMENTS : Bakewell, Repton, Wirksworth.

A detailed description of the monuments follows :—

ASHBOURNE.—The bishop of Bristol (formerly the Rev. G. F. Browne, B.D.) says in a paper 'On the Pre-Norman Sculptured Stones of Derbyshire'¹ that at 'Ashbourne there are two fragments. One has been known for some time; it has bold and somewhat unusual interlacement on it. The other was only found in 1885; it has bold interlacements, and also the much perished representation of some animal or nondescript.'

ASTON.²—In the exterior walling of the west end of the north aisle of Aston church is the lower portion of a cross. The sculptured pattern of the exposed surface is in good preservation. Bishop Browne (*Journ. Derb. Arch. Soc.* viii. 177) considers that the pattern much more resembles northern crosses than any other work in the county. He compares the lacertine ornament of the upper part to a panel of the magnificent shaft at Abercorn on the Forth. Below this is a system of three concentric circles with double diameters interlacing, as on the face of the Hope cross.

BAKEWELL.—The monuments now at Bakewell consist of an erect cross in the churchyard close to the east wall of the south transept and a large number of fragments preserved in the south porch, which were found during the repairs executed in 1841. Besides these are a coped stone and a fragment with an inscription in Anglian runes now removed to the Weston museum at Sheffield.

The cross in the churchyard is complete, with the exception of the top arm, which has been broken off. It is 7 feet high, and the shaft measures 1 foot 9 inches by 1 foot 2 inches at the bottom and 1 foot 6 inches by 1 foot 1 inch at the top. The front of the cross (facing north) is decorated with figure subjects, and the remaining three faces of the shaft with scroll foliage. At the top of the north face on the head of the cross and extending some way down the shaft is a representation of the Crucifixion, with the soldiers with the spear and sponge on each side. The shaft is divided into four panels with arched tops containing (i) the Annunciation (?); (ii) a figure holding a cross over the left shoulder; (iii) a figure holding a horn in front of the body; and (iv) sculpture defaced. The borders of the panels are treated like stems of foliage, as indicated by the peculiar markings where the arched tops of the panels branch off from the vertical stems at each side. On the end of the east arm of the cross is a small panel of looped interlaced work, and on the west arm a three-quarter length figure of a saint. On the head of the back of the cross (facing south) is a man on horseback trampling on foliage. It had been suggested that this represents Christ's entry into Jerusalem. The foliage on the south face forms three extremely bold scrolls, with bunches of grapes in the centre of each scroll and leaves filling up the spandrels at the sides. At the bottom is an archer with bow outstretched shooting an arrow through the foliage at a small animal at the top of the shaft, which is nibbling the leaves of the vine. The foliage on the east and west faces is of similar character, but the scrolls are smaller and more numerous to suit the narrower width of the panels.

The coped stone in the porch at Bakewell is decorated with interlaced foliage and a figure subject, which may perhaps be intended for the Flight into Egypt. The second coped stone, now in the Sheffield museum, is sculptured with panels of interlaced work and strange beasts.

Amongst the stones in the porch is to be seen a portion of a pillar cross of round section at the bottom and square section at the top, having interlaced work on one of the square faces.

The remaining stones on the porch consist of fragments of cross-shafts ornamented with interlaced work, spirals, foliage, and figure subjects.

The rune-inscribed³ fragment from Bakewell now in the Sheffield museum measures

¹ *Journ. Derb. Arch. Soc.* viii. 181-2.

² Illustrated in *Journ. Derb. Arch. Soc.* viii. 14.

³ Cox, *Churches of Derbyshire*, iv. pl. 2.

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1 foot long by 9 inches wide. The inscription, which is in Anglian runes and incomplete, reads :—

. . . . G H O
. . . . H E L G

BLACKWELL.¹—Standing in the churchyard here on the south side is a cross-shaft 4 feet 11 inches high by 1 foot 3 inches wide by 1 foot thick, sculptured on the south face with interlaced work composed of a spiral knot with an extra twist ; on the north face with interlaced work composed of knot No. 4 placed alternately facing right and left ; on the west face with a six-cord plait having horizontal breaks along each of the outer edges ; and on the east face with interlaced work composed of Stafford knots with extra bands interwoven, as on cross-shaft No. 2 at Norbury, except that the knots face in a different direction.

BRADBOURNE.—When I visited Bradbourne in July 1885 there was to be seen standing in the churchyard the lower part of the shaft of a cross 3 feet high by 1 foot 8 inches thick. It is sculptured on the front (facing south) with the Crucifixion, having Sol and Luna at each side of the top arm of the cross, and the soldiers holding the spear and sponge on each side of the shaft below. On the back (facing north) are two round-headed panels, the upper one containing two saints with books, placed side by side ; and the lower one a saint holding a book and a bird perched on his right shoulder. Above his left shoulder is a rectangular object. The other two sides (facing east and west) are decorated with scrolls of foliage, and an archer at the bottom in each case shooting an arrow upwards.

At the time of my visit the remainder of the shaft, split vertically into two portions, was used as the jambs for the style in the wall of the churchyard. In August 1886 the two fragments were removed from the wall and placed together on the top of the stump of the shaft in the churchyard, when it was seen that the designs on all four faces were continuous. Above the Crucifixion on the south face are three or four panels of figure sculpture too defaced for the subjects to be made out. On the upper part of the north face are two panels containing pairs of figures much damaged. The continuation of the east and west faces shows that the archer at the bottom is in each case shooting at men and beasts involved in the scrolls of the foliage. The upper part of the shaft is over 4 feet high, which added to the three feet of the stump makes the total height of the shaft 7 feet. One of the pieces which had been removed to Tissington Hall was brought back at the same time that the upper part of the shaft was relieved from doing duty as the jambs of the stile in the churchyard wall. It is decorated with figures of angels on the end and one side, and with interlaced work on the top and bottom.

The Bradbourne cross is described by the bishop of Bristol in *Arch. Journ.* xlv. 7: It was mainly owing to his exertions, assisted by Mr. Albert Hartshorne, that the restoration of this interesting monument was brought about.

DARLEY DALE.²—A fragment of a cross-shaft found during the restoration of Darley Dale church in 1854 is now in the Sheffield museum. It is 1 foot 7 inches long by 1 foot 3 inches wide by 11 inches thick. On one of the wide faces is a plait and ring pattern, and on the adjoining narrow face a twist and ring pattern.

In the outer walling of the church, to the west of the south porch, is another fragment of a cross, built into the masonry in a vertical position. It shows an edge of interlaced knotwork and two rude human figures side by side. This fragment seems to have come to light in a restoration of 1877 and to have been then placed in its present awkward position.

DERBY, ST. ALKMUND'S.³—When the church of St. Alkmund, Derby, was rebuilt in 1845 several fragments of pre-Norman sculptured stones were found. The most interesting of these is a fragment of a cross-shaft now removed to the Public Free Library and Museum, where it has been standing in the open air exposed to the disintegrating effects of the weather for many years. It is 2 feet 9 inches high by 1 foot 2 inches wide at the top by 11 inches thick at the bottom and 10 inches wide at the top. All four sides are decorated with beasts, those on two of the faces being arranged in panels with arched tops. On one of the faces is a bird. Several of the beasts are placed in a characteristic attitude with the neck bent backwards and the fore-paw upraised.

Some other fragments found at St. Alkmund's are now built into the wall of the south porch. One or two of the pre-Norman stones found when old St. Alkmund's church was destroyed are now missing. Fortunately they were all drawn in *Journ. Brit. Arch. Assoc.* ii. 87. (See also Cox's *Churches of Derbyshire*, iv. 121.)

¹ *Journ. Derb. Arch. Soc.* viii. 116 ; Cox, *Churches of Derbyshire*, i. 95 ; *Reliquary*, 1905, 104.

² *Reliquary*, ii. 21 ; *Journ. Derb. Arch. Soc.* viii.

³ *Reliquary*, 1905, 106.

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ECCLES PIKE.—A cross-shaft 4 feet 8 inches high and 1 foot 3 inches wide at the broadest part, tapering to 12 inches, was discovered in 1903 by Mr. W. J. Andrew in a rough stone boundary wall on Eccles Pike, in the parish of Chapel en le Frith. It was almost entirely hidden by the masonry of the wall, but when this was taken away it was seen to be set in a rough stone base 2 feet 10 inches in diameter and 10 inches high above ground level, and it appeared that the cross was *in situ*, there being no evidence of its ever having been out of its socket.

The shaft is complete, the head only of the cross having been lost, and both faces and sides are covered with interlaced patterns within cable borders.

EYAM.¹—The cross in the churchyard at Eyam is complete with the exception of the bottom arm of the head and the top of the shaft. It now stands in a modern base 3 feet 4 inches long by 3 feet wide. The shaft is 5 feet 9 inches high by 1 foot 8 inches wide at the bottom and 1 foot 4 inches wide at the top by 1 foot 3 inches thick at the bottom and 1 foot thick at the top. The head is 2 feet 6 inches high by 3 feet 5 inches in diameter across the arms. On the front of the head (facing west) are four angels holding sceptres over their shoulders—one in a circular medallion in the middle of the head and one on each of the arms. On the top of the front of the shaft are two enthroned figures in panels with arched tops. The lower figure is holding a horn in front of his body. The remainder of the front of the shaft below is decorated with circular interlaced work. On the back of the head (facing east) are four angels, similarly placed to those on the front. The one in the middle holds a sceptre, and the three others on the arms are blowing trumpets. The whole of the back of the shaft is decorated with a magnificent piece of foliage, the stems of which form five very bold spiral coils, with leaves and bunches of grapes in the centre of each, and leaves and buds filling up the spandrels at the sides. On the end of the north arm of the cross is a figure holding a book, and on the end of the south arm an angel. The north and south faces of the top arm and the under sides of the two horizontal arms are decorated with looped interlaced work. The north and south faces of the shaft are completely covered with interlaced work composed of knot No. 6 (see Analysis of Ornament).

FERNILEE HALL.—The rounded shaft of a cross 5 feet 6 inches long, tapering from a diameter of 1 foot 3 inches to 7 inches at the top, is set up in the grounds of Fernilee Hall near Whaley Bridge as the pedestal for a sundial. Its real character was first noticed in 1903 by Mr. W. J. Andrew. The shaft is plain, but has a double necking, above which it is cut back to a square section, the four faces thus formed being outlined with rolls of slight projection. This feature may be to some extent due to its reuse, and one of the faces is inscribed H L 1720. The shaft is not *in situ*, but is believed to have been brought from the old road above.

HOPE.²—In the grounds of the vicarage there stands a cross-shaft 6 feet 6 inches high, 10½ inches wide at the top and 1 foot 4 inches wide at the bottom by 7 inches thick at the top and 1 foot thick at the bottom, sculptured on all four faces. The east face is divided into three panels, containing (i) a six-cord plait merging into spiral knot-work at the top; (ii) within a rectangular frame having slightly rounded corners, a pair of figures grasping a cross which stands vertically between them; (iii*a*) a pair of oval rings crossed and interlaced and combined with a pair of concentric circular rings; and (iii*b*) foliage.

The west face is divided into three panels, containing (i) a figure carrying a cross over his shoulder; (ii) within a rectangular frame having an arched top, a pair of figures wrestling or embracing; and (iii) interlaced work composed of double concentric circular rings and double cords crossing diagonally in the middle of each ring.

The north face is divided into two panels, containing (i) dragonesque monsters with pellets in the background; and (ii) interlaced work founded on a four-cord plait.

The south face is ornamented with interlaced work composed of figure-of-eight knots repeated in a single vertical row.

The Hope cross has been illustrated by E. E. Wilmot in the *Ilam Anastatic Sketchbook*.

LUDWORTH.—The pair of pillar crosses known as 'Robin Hood's Picking Rods' stand on moorland about 1,000 feet high, at the junction of the townships of Mellor, Ludworth, Chisworth, and New Mills. They are first named on a rough survey map of Mellor Commons and Moor of 1640 (P.R.O.), where they are roughly outlined and described as 'the two standing stones called Maiden Stone.' They now stand in an angle formed by two

¹ *Reliquary*, 1904, 200.

² *Ibid.*, 1905, 95.

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rough stone walls. This moor was first enclosed in 1676. In 1791 the two stones were lying on the ground beside their sockets; they had probably been dislodged and broken at the time when stone walls were run up in the early days of the enclosure. Glover's *Derbyshire* (1829) speaks of them as still lying prostrate. At some date subsequent to this the two stone pillars were replaced in their sockets and roughly secured by wooden wedges. Having again become loosened they were again secured and cemented round the bases some three or four years ago by the Hayfield Antiquarian Society, and they were subsequently protected by an iron railing erected by Lord Howard of Glossop. The base into which these two stones are socketed is not rock *in situ*, but a loose boulder stone 2 feet thick and measuring, though somewhat irregular, 6 feet 10 inches in extreme length and 4 feet 1 inch in breadth. Both of these pillar stones are mutilated and lacking part of their original length, and destitute of the filleted heads which, judging by analogy, they once possessed. There is just 12 inches between the circular sockets. The girth of the smaller one at the base is 4 feet 11½ inches, and of the larger 5 feet 7 inches; the smaller one now stands 3 feet 9 inches above the base and the larger one 2 feet 6 inches. Near by, built into one of the walls, is a piece of a pillar stone 2 feet 3 inches long, the girth of which cannot be measured; it is said to be the top of the lower stone; it corresponds in material to that stone and not to the one of lesser girth.

These stones show a striking similarity to the Bow Stones in Lyme Park near Disley, a few miles distant, just over the Cheshire border. The Bow Stones are more perfect, and have the remains of fillets of Saxon work. There is also a small pillar stone with filleted head in the porch of Bakewell, and a taller and more perfect example at Clutton in Cheshire. There can be no doubt that the Derbyshire Picking Rods are of Saxon date.

NORBURY.¹—In 1902, during some alterations in Norbury church, two pre-Norman cross-shafts were found built into one of the buttresses of the north wall of the chancel. Cross-shaft No. 1 is 5 feet 3 inches high by 1 foot 3 inches wide at the bottom and 10 inches wide at the top by 11½ inches thick at the bottom and 7½ inches thick at the top. The lower part of the shaft is left plain, probably for insertion in the ground. On the upper part of the front is a panel of ten-cord plaitwork, and on the upper part of the back a panel of interlaced work composed of concentric rings and cords forming arcs of circles. On the right side at the top is a figure-of-eight knot and a man holding a staff; and on the left side an interlaced pattern composed of an undulating cord with Stafford knots in each of the spandrels.

Cross-shaft No. 2 is 3 feet 9 inches high by 1 foot 3 inches wide at the bottom and 10 inches wide at the top by 1 foot thick at the bottom and 7 inches thick at the top. On the front is some four-cord plaitwork and the figure of a man much defaced, and on the back an interlaced pattern composed of Stafford knots, having an additional cord interwoven with each. On the right and left sides is an interlaced pattern composed of figure-of-eight knots.

REPTON.—S. Lysons in his *Magna Britannia* (v. 223) illustrates a coped stone which formerly existed at Repton. It was of the hog-backed variety, with roofing tiles conventionally represented on the sloping faces at the top and debased scrolls of foliage on the vertical faces below.

SPONDON.²—In the churchyard is a portion of a rectangular cross with the corners rounded off; below the interlacing work on each face a double line runs round the stone, meeting corresponding vertical lines on each of the four sides and thus forming crosses. There is a like arrangement on a cross in the churchyard of Kirkby Malzeard, Yorks. This massive fragment is much mutilated. Dr. Cox, when describing it in 1877 (*Churches of Derbyshire*, iv. 302), says:—'When Mr. Meynell was here in 1817 the stone was by the side of the road leading from Spondon to Locko, but he learnt that it had been recently removed from the churchyard. From inquiries made at Spondon we learn that Mr. John Parker, surveyor of highways, removed it from the churchyard about sixty years ago, but so much was said about the removal and the ill-luck that would attend it that he shortly afterwards restored it to the churchyard, but not to the position that it had previously occupied.'

WILNE.—The font in the church of St. Chad, at Wilne, is made out of a section of the shaft of a round (or more strictly speaking, oval) pillar cross, placed upside down. The height of the font is 1 foot 11 inches, the greatest diameter at the top 2 feet 2½ inches, and the smallest diameter 2 feet ½ inch. The girth at the top is 6 feet 10 inches and 6 feet 5 inches at the bottom. The difference between the greatest and smallest diameter at the top is 2 inches, and only 1 inch at the bottom, so that when the pillar was in the right position it seems to have become more nearly circular in section as it tapered upwards. Supposing the font to be turned the reverse way up, as it was when forming part of the shaft of a pillar cross, it will be seen

¹ *Journ. Derb. Arch. Soc.* xxv. 97.

² *Ibid.* viii. 178.

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that the design is arranged in two horizontal bands. Only the lower band is complete and consists of a rude sort of arcading of six arches. The capitals of the columns of the arcading are ornamented with poorly executed foliage, and the bases of the columns are splayed out so as to form what an engineer would call an invert. Under two of the arches are pairs of birds pecking at foliage, and under two others are beasts with the forepaw upraised (as on the cross-shaft from St. Alkmund's, Derby, now in the museum there). Under the remaining two arches are a beast and a dragonsque creature. Of the tier of ornament above only the bases of the columns of the arcading remain and the feet of the figures beneath each of the arches. These feet when looked at upside down on the font have such a curious appearance that one ingenious gentleman read them as Palmyrene characters, whilst another thought that he recognized them to be runes. The Rev. G. F. Browne (now bishop of Bristol) was the first to detect the reverse position, and showed the absurdity of these wild theories in a paper entitled 'On a supposed Inscription upon the Font at Wilne,'¹ with a photolithograph from a rubbing. Another illustration on a larger scale was given in the proceedings of the *Cambridge Antiquarian Society*, 1885.

WIRKSWORTH.—Built into the wall of the north aisle of Wirksworth church is a coped stone which was probably either the lid of a stone coffin or a recumbent monument placed over a grave. It is rectangular in shape, 5 feet long by 2 feet 10 inches wide, and has a raised ridge along the middle running in the direction of the longest dimension of the slab. The stone is completely covered with figures arranged in rows on each side of the central ridge. The subjects represented are as follows:—(1) Christ washing His disciples' feet. (2) An equal-armed cross with the Agnus Dei in the centre and the symbols of the Four Evangelists in the angles between the arms. (3 and 4) Probably the carrying to the Tomb; the two figures in front of the bier bearers carrying respectively the fine linen and the spices, whilst the outstretched hand of the foremost mutilated figure is that of the one who has reached the tomb and turns round to take the spices from the next. (5) The somewhat blurred figures at the beginning of the second line probably represent the Resurrection. (6) The Ascension, Christ holding the Cross, being within an oval aureole supported by four angels. (7) Probably six of the disciples returning to Jerusalem.

The pupils of the eyes of the figures are represented by drilled holes and the general character of the sculpture is more like Roman work than that of the Saxon period.

Having now described the pre-Norman sculptured stones of Derbyshire in detail we will proceed to analyse their decorative features.

The following different patterns occur on the monuments:—

Plaitwork.—Three-cord plait, Norbury, Darley Dale. Four-cord plait, Bakewell. Six-cord plait, Bakewell, Hope. Ten-cord plait, Norbury. Broken plaitwork (Fig. 1), Blackwell.

Knotwork.—Stafford knot as in Fig. 2, repeated in a double vertical row, Bakewell; Stafford knot combined with undulating cord (Fig. 3), Norbury; Stafford knot interwoven with an extra cord and repeated in a double vertical row (Fig. 4), Norbury; figure-of-eight knot (Fig. 5), repeated in a single vertical row, Norbury, Hope; a variation of the preceding (Fig. 6) repeated in a single vertical row, Blackwell; another form (Fig. 7) repeated in a double vertical row, Bakewell, Bradbourne, Eyam; twist and ring (Fig. 8), Darley Dale; twist and ring formed with double cord (Fig. 9), Hope; plait and ring (Fig. 10), Darley Dale; spiral knot with extra twist (Fig. 11) repeated in a single row, Blackwell; Stafford knots and spiral knot combined (Fig. 12), Bakewell; knot composed of concentric circular rings and arcs of circles (Fig. 13) repeated in a single vertical row, Norbury; circular knot (Fig. 14), Eyam.

Loopwork.—Ring with two loops (Fig. 15), Bakewell; ring with three loops (Fig. 16), Bakewell, Eyam; ring with four loops (Fig. 17), Bakewell, Eyam; ring with four loops twisted across (Fig. 18), Bakewell, Eyam.

Ringwork.—Circular ring combined with ring with one loop distorted (Fig. 19), Bakewell; two concentric circular rings combined with two oval rings placed crosswise (Fig. 20), Hope.

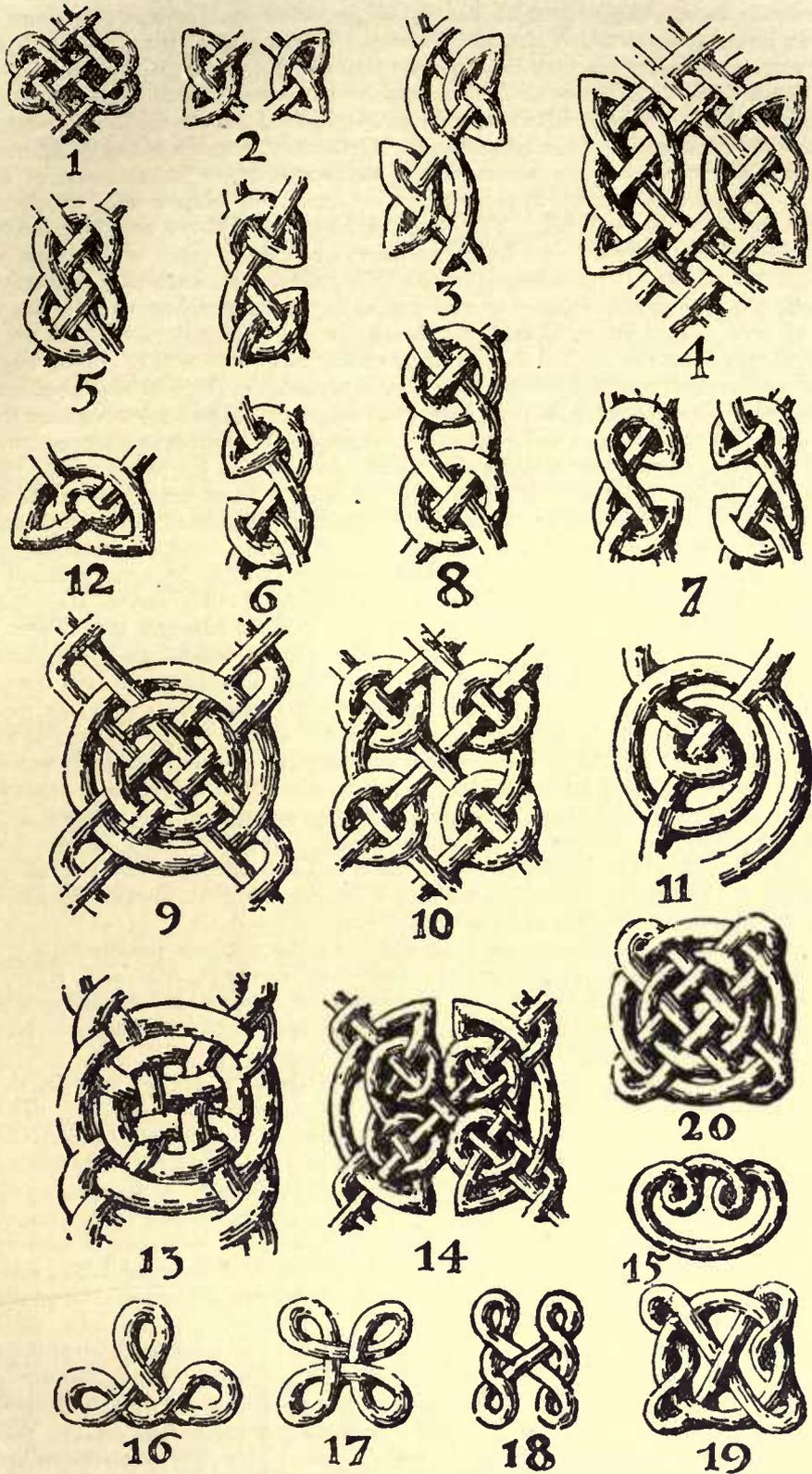
Key-Patterns.—There do not appear to be any instances in which a key-pattern occurs on the pre-Norman sculptured stones of Derbyshire.

Spirals.—The only spiral ornament on the Derbyshire stones is on a fragment at Bakewell. It is doubtful whether the design along the bottom of the hog-backed recumbent monument at Repton is intended for debased foliage or spiral work.

Foliage.—Instances of foliage occur on pre-Norman sculptured stones at the following places in Derbyshire:—Bakewell, Bradbourne, Eyam, Hope, Repton, Wilne.

¹ *Journ. Derb. Arch. Soc.* vii. 185.

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The foliage on the shafts of the crosses at Bakewell, Bradbourne, and Eyam is of the kind now commonly called Anglian, which had its origin either in Mercia or Northumbria, and afterwards spread to Scotland, Wales, and Ireland. The design of the Derbyshire foliage is however very much bolder and finer in all respects than anything of the kind to be found in other parts of Great Britain. The so-called *Acca* cross from Hexham, now at Durham, when placed side by side with the crosses at Bakewell and Eyam looks feeble, not to say futile, by comparison.

The chief peculiarities of the foliage on the Derbyshire stones are the great number of coils given to the scrolls and the cornucopia-like expansions where branches diverge from the main stem. Similar features are to be seen on the carved ivory plaques with which the altar in Salerno Cathedral is decorated. The Anglian foliage of Mercia and Northumbria was obviously derived originally from an Italian source and is nothing more or less than a highly conventionalized form of the classical vine. The deviations from the correct way of representing the vine produced partly by conventionalizing and partly by successive copying are worthy of note. The leaves of the vine, being the least essential part, show the greatest tendency to vary from the original during the process of making successive copies, whereas the grapes, being the most essential feature, only vary as regards the shape of the bunches and the number of grapes in each bunch, but can always be recognized. On the pre-Norman cross-shaft at Nunnykirk, Northumberland, and in other early examples the bunches of grapes are realistically represented with the upper part round and the lower end more or less pointed. As time went on, however, the number of coils of the stem-scrolls was increased to such an extent that there was no room for a bunch of grapes of the proper size and shape in the centre of each scroll. Consequently the bunch was made round instead of having a pointed end, and in extreme cases the number of grapes was reduced to three, so as to look more like a trefoil leaf than the fruit of the vine.

On one face of the shaft of the Bakewell cross and on two faces of the shaft of the Ashbourne cross figures of animals and men may be noticed amongst the foliage, and an archer at the bottom shooting an arrow upwards. Similar representations occur on pre-Norman cross-shafts at Sheffield and Bishop Auckland, Durham, and on the Norman font at Alphington, near Exeter. Such figures involved in the vine-scrolls are merely the mediæval adaptations of the little naked boys, etc., in the vintage scenes of classical art which were afterwards copied on the Christian sculptured sarcophagi of the third and fourth centuries at Rome. The archer is a later addition, either introduced to give greater realism to the sylvan scene or more probably intended to represent the custodian of the vineyard killing the animals and birds who are destroying the buds and fruit. It need hardly be mentioned that the vine has been one of the best-recognized symbols of Christ throughout the whole range of Christian art. The archer, therefore, warring with the creatures that injure the vine no doubt symbolizes the contest between good and evil.

Zoö-morphic Designs.—Instances of zoö-morphic designs occur on pre-Norman sculptured stones at the following places in Derbyshire:—Bakewell, Derby St. Alkmund, Hope, Wilne.

The coped stone from Bakewell now in the Sheffield museum has its sloping sides ornamented with panels each containing a beast biting the end of its tail, which is bent round beneath the body and interlaced with the legs.

On two of the faces of the cross-shaft from St. Alkmund's, Derby, now in the public museum there, are beasts with the neck bent back and the fore-paw upraised. The bodies have a double outline and in some cases appear to have been covered with scales. At the back of the head is what may be intended either for the ear or a sort of crest with an expanded end. The bent-back attitude is to be seen also in the case of the beasts on the cross-shaft of the Viking period at Nunburnholme,¹ Yorkshire. The shape of the heads of the beasts on the St. Alkmund's cross-shaft resembles that of a pug dog, with a round top and thick upper lip. This is altogether unlike the heads of the beasts in the Irish illuminated MSS., and to find anything of the same kind we must go to the English *Baeda*² of the ninth century in the British Museum (Tib. C. ii.).

The beasts on the Wilne pillar are like those on the St. Alkmund's cross-shaft except that they have wings. The pairs of birds pecking at foliage on the Wilne pillar are probably intended to symbolize the same idea as the pair of doves pecking at a bunch of grapes on the Norman font in Winchester Cathedral.³ The style of the zoö-morphs on the Wilne font bears a certain amount of resemblance to that of the pair of bird-like creatures on the ring of Ethelwulf in the British Museum, which possibly was the property of Ethelwulf, king of Wessex A.D. 836 to 838 and father of Alfred the Great.

¹ *Reliquary*, 1901, 98.

² *Palæographical Soc. Public.* pl. 141.

³ *Reliquary*, 1898, 262.

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*Symbolical Figure Subjects.*¹—The following figure-subjects occur upon the pre-Norman sculptured stones of Derbyshire :—

Subjects.	Localities.	Subjects.	Localities.
Annunciation (?). . .	Bakewell, Hope.	Angels	Bakewell, Eyam.
Adoration of Magi . . .	Wirksworth.	Agnus Dei on Cross . .	Wirksworth.
Flight into Egypt . . .	Bakewell.	Saint with horn . . .	Bakewell, Eyam.
Christ washing Disciples' Feet	Wirksworth.	Saint with cross . . .	Bakewell.
Entry into Jerusalem . .	Bakewell.	Saint with book . . .	Bradbourne.
Crucifixion	Bakewell, Bradbourne.	Man with staff . . .	Norbury.
Ascension	Wirksworth	St. Paul and St. Anthony	Hope.
		Figure bearing cross . .	Hope.

Having now classified the decorative features of the monuments, we are in a position to take a survey of them as a whole, and make some suggestions with regard to the relative age of the different specimens.

The coped stone at Wirksworth stands alone, and I know of no other pre-Norman sculptured stone in Great Britain with which it can be compared. In Saxon or Celtic work each of the figure subjects would be placed in a separate panel, but here all the figures are grouped together exactly in the same way as on the early Christian sarcophagi of the third and fourth centuries at Rome. The general style of the Wirksworth stone is certainly more Roman than Saxon, and although probably not going back as far as Roman times, it may fairly lay claim to be the earliest Christian monument in Derbyshire.

The peculiar drilled eyes and the treatment of two of the subjects, the Agnus Dei on the Cross and the Ascension, may perhaps help to fix the date. The drilled eyes occur elsewhere in Saxon sculpture at Chichester Cathedral and Dewsbury, Yorkshire. The Agnus Dei on the Cross preceded the representations of the crucified Saviour on the Cross. The symbols of the Four Evangelists on the Wirksworth stone with human bodies and heads of the symbolic beasts resemble those on pre-Norman sculptural monuments at Ilkley,² Yorkshire; Halton,³ Lancashire; and Kirriemuir⁴ and Inchbrayock,⁵ Forfarshire. The practice of surrounding the figure of Christ with an aureole supported by two or four angels (as at Wirksworth) was introduced into Christian art about the sixth century. Taking all these things into consideration, I think we cannot be far wrong in assigning a date to the Wirksworth stone somewhere towards the end of the seventh century.

Next in order of age come the crosses at Bakewell, Bradbourne, and Eyam, which with the cross-shaft at Sheffield obviously form a group of common origin and the same period. There is nothing whatever Scandinavian in the decorative features of this group, and the foliage and interlaced work may be traced to a Byzantine source. Consequently the group in question belongs to the pre-Viking age, and probably, for reasons we have already given, to the time of Offa (i.e., the latter half of the eighth century).

In analysing the interlaced work on the monuments of a particular geographical area, it will be found that the commoner patterns are of but

¹ For explanations, see J. R. Allen, *Christian Symbolism*.

² *Journ. Brit. Arch. Assoc.* xxxviii. 156.

³ *Ibid.* xlii. 328.

⁴ Allen and Anderson, *Early Christian Monuments of Scotland*, 227.

⁵ *Ibid.* 254.

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little use for fixing dates or grouping specimens together. We must therefore pay special attention to any rare patterns that can be found, as, for instance, on those on the cross-shafts at Norbury; (i) the pattern composed of concentric rings and arcs of circles, and (ii) the pattern composed of Stafford knots with an additional cord interwoven with each knot. Both of these patterns occur on the crosses at Ilam and Checkley,¹ Staffordshire, and the second of the two is to be seen on the fragment of a cross-shaft at Alstonfield in the same county. From the similarity of the ornament on these monuments they may be grouped together as being of the same date. I have proposed in a paper on the Norbury cross-shafts (*Journ. Derb. Arch. Soc.* xxv. 97) that this group shall be called the Dovedale group. We are greatly helped in our endeavour to fix the date of the Dovedale group by observing that the ring pattern already referred to is not derived from a simple plait, like nearly all of the knotwork used in Celtic and Saxon art, but is formed by the repetition of a device made of interlaced rings. Now as this particular device is to be seen on the Lewis chessmen in the British Museum, and on Norman fonts in Norfolk, it is probably of Scandinavian rather than of Celtic origin, and its occurrence on a pre-Norman monument is an indication of a date within the Viking period. I should therefore be inclined to assign a later date to the Dovedale group than to the group of which the Bakewell cross may be taken as the type. The character of the work on the monuments of the Dovedale group is, however, so good that they probably belong to the beginning rather than to the end of the Viking period, when decadence had commenced.

Latest in point of age I should place the cross-shaft from St. Alkmund's, Derby, and the portion of a round pillar used as a font at Wilne. Both of these exhibit zoömorphic decoration of the same kind, which has a distinctly Scandinavian look.

Besides the decorative features of the monuments their shapes are often an indication of their age. Both the round pillar-crosses and hog-backed recumbent stones of which examples are to be found in Derbyshire belong to the Viking period. The pillar-crosses are of two kinds: (i) those which are of round section for the full height of the shaft; and (ii) those which are of round section at the bottom and of square section at the top. The second kind are the most common, and are found chiefly in Mercia and Cumberland. The hog-backed recumbent monuments are much more widely distributed, and extend into the purely Celtic parts of Great Britain. My reasons for attributing a comparatively late date to the round pillar crosses and hog-backs have been given elsewhere.

Summarizing the results thus arrived at, we may now tentatively arrange the pre-Norman sculptured monuments of Derbyshire in the following order as regards their approximate age:—

SEVENTH CENTURY.—Coped stone at Wirksworth.

EIGHTH CENTURY.—Crosses at Bakewell, Bradbourne, and Eyam. Fragments of cross-shafts with Anglian foliage at Bakewell. Fragment of cross-shaft at Blackwell.

¹ *Arch.* i. 287.

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NINTH CENTURY.—Cross-shafts at Norbury and Hope.

TENTH CENTURY.—Fragment of round pillar-cross at Bakewell. Portion of round pillar-cross used as font at Wilne. Coped stones at Bakewell and Repton. Fragments of cross-shafts at Darley Dale and St. Alkmund's, Derby.

SCULPTURE OF THE ANGLO-NORMAN PERIOD IN DERBYSHIRE

For the sake of convenience we have arranged the Norman sculpture in Derbyshire under three heads :—(i) fonts ; (ii) tympana and lintels of doorways ; and (iii) miscellaneous sculpture, such as details of chancel arches, arcades, windows and doorways ; fragments built into walls ; and sepulchral slabs.

Examples of Norman sculpture are to be found at the following places in Derbyshire :—

Fonts.—Ashover, Church Broughton, Mellor, Somersall, Tissington, Youlgreave.

Tympana and Lintels of Doorways.—Ashford, Ault Hucknall, Bolsover, Findern, Hognaston, Kedleston, Normanton, Swarkestone, Tissington, Whitwell, Willington, Parwich, Scarcliffe.

Miscellaneous Sculptured Details.—Ault Hucknall, Bakewell, Bradbourne, Darley, Duffield, Heath, Long Eaton, Shirley, Stanton-by-Bridge, Steetley, Wirksworth.

Fonts : *Ashover*.¹—The font in the church here is of stone encased in lead, and the only excuse for including it with the others is that the style of art is the same. The leaden cover is cast and ornamented with an arcade of twenty round-headed arches having a single figure under each arch. The figures are draped, and all hold a book in the left hand ; but they are of two types or patterns, which recur alternately.² They have no nimbus round the head. Below the figures is a band of fleur-de-lys ornament running right round the font. The bowl of the font is cylindrical, 1 foot $\frac{1}{2}$ inch high and 6 feet 8 inches in circumference at the top.

Church Broughton.³—The font in the church at this place is tub-shaped, 2 feet high and 2 feet 6 inches in diameter at the top. It is ornamented with a series of interlacing circles and diagonal bars. Inside one of the circles is a small cross.

Mellor.⁴—The font in the church at this place is cylindrical, with two stepped projections at the bottom, and stands on a round base 1 foot high, built up of separate stones. The bowl is 2 feet 6 inches high and 2 feet 3 inches in diameter at the top. The part above the two stepped projections is 1 foot 6 inches high, and is ornamented with incised sculpture representing a man on horseback and two beasts biting their tails, with a man between them. The eyes of the beasts and men are diamond-shaped. The style of the sculpture is extremely rude and archaic, so much so that it might almost be Saxon.

Somersall Herbert.⁵—The font in the church at this place is cylindrical, 2 feet 4 inches high and 2 feet 8 inches in diameter. The lower part of the bowl is ornamented with an arcading of intersecting arches, and round the top is a twist and ring pattern, the bends of the twist all being angular.

Tissington.⁶—The font in the church has a cylindrical bowl standing on a round step and a square base. The total height is 2 feet 8 inches. The bowl is 1 foot 5 inches high and 2 feet $2\frac{1}{2}$ inches in diameter, decorated with incised sculpture representing the Agnus Dei, a monster with a knotted tail and a human head coming out of its mouth, two draped figures of men standing close together, a beast with a floriated tail twisted between its hind legs, and a bird.

Youlgreave.⁷—The bowl of the font in the church at this place is round, and is supported by a large cylindrical column, with four other smaller clustered columns round it. At one side of the bowl is a projection hollowed out at the top so as to resemble a stoup. Below this stoup-like projection is sculptured a dragon with a looped tail, in a reversed position crawling upwards. At equal intervals round the bowl of the font are three *fleurs-de-lys*. This font came from Elton, a chapelry of Youlgreave.

¹ *Journ. Derb. Arch. Soc.* ix. 74 ; *Arch. Journ.* lvii. 45 ; Cox, *Churches of Derbyshire*, i. 19.

² Ten of them have the right hand raised with the palm outwards, whilst the other ten have the right hand placed against the breast close to the book.

³ Cox, *Churches of Derbyshire*, iii. 85.

⁵ *Ibid.* iii. 287.

⁶ *Reliquary*, 1887, 24.

⁴ *Ibid.* ii. 221, 353.

⁷ *Ibid.* 1901, 267.

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TYMPANA AND LINTELS: *Ashford-in-the-Water*.¹—Over the south doorway of the church here there is a tympanum sculptured with a representation of a tree in the centre, with a beast on each side of it. The tympanum was for many years built into the south wall of the nave outside, but during the alterations in 1869–1870 it was restored to its original position. The lintel of the chancel doorway was also sculptured with a tree surrounded by a garland.

Ault Hucknall.—In the west wall of the nave of the church here is a blocked-up doorway with a sculptured lintel and tympanum. On the former is represented the contest between St. George and the Dragon,² the two combatants being separated by a cross. St. George is armed with a sword and a kite-shaped shield. Behind him is an object shaped like a Jew's harp, the meaning of which is not clear. On the tympanum to the left is a creature human down to the waist and with the body of a beast below, holding a palm branch in the right hand and a cross in the left. This has been interpreted by Mr. C. E. Keyser, F.S.A., to be St. Margaret bursting out of the body of the dragon, and by other authorities to be a centaur. On the right of the tympanum are two extraordinary beasts, the larger of the two having a cross within a circle of the tail.

Bolsover.³—Over the south doorway of the church here there is a tympanum sculptured with a representation of the Crucifixion with the Virgin Mary and St. John on either side.

Findern.⁴—Built into the north wall of the nave of the church here, on the inside, is a tympanum sculptured with a Maltese cross in the centre on a background of chequer-work; below this a double row of star pattern; and on each side at the lower corners a little human figure with the arms akimbo.

Hognaston.⁵—Over the south doorway of the church here there is a tympanum with incised sculpture, representing a bishop with a crozier in one hand and a book in the other; on the right the Agnus Dei and two birds above; and on the left three beasts, one of which appears to be a wild boar, another a fox, and the third a wolf. The bishop has a belt round his waist, and on the right side of his skirt below is a projecting object resembling a bag or purse, which is close to the nose of one of the animals.

Kedleston.⁶—Over the south doorway of the church here there is a tympanum which appears at one time to have been sculptured with a hunting scene, but the only figure that can now be made out is a man on horseback blowing a horn. Along the lower margin of the tympanum is a band of foliage ornament.

Normanton.⁷—There was formerly built into the south wall of the nave of the old church here,⁸ which was pulled down in 1861, the lower part of a tympanum sculptured with a representation of the Crucifixion with the Virgin Mary and St. John. On the right was the Agnus Dei, and on the left three or four figures much defaced. At the extreme lower corners of the tympanum were two little figures, something like those at Findern and Tissington, except that here one held a horn and the other a pastoral staff.

Parwich.⁹—Over the west door of the new church here is a tympanum (which was removed from the old church, pulled down in 1872) sculptured with representations of the Agnus Dei with a bird perched on the head; a stag trampling on a pair of serpents; a wild boar; and a beast with a floriated tail (similar to the one on the Tissington font).

Swarkestone.¹⁰—There was formerly over the south doorway of the church here a tympanum sculptured with a representation of a tree, with a beast on each side of it, and a serpent at the bottom of it beneath the feet of the beast on the left. The lower part of the tympanum was ornamented with an arcade of nine round-headed arches.

Tissington.¹¹—Over the south doorway of the church here there is a tympanum sculptured

¹ Bateman, *Vestiges of Antiq. of Derbyshire*, 182; Allen, *Christian Symbolism*; *Journ. Brit. Arch. Assoc.* N.S. vi. 247; C. E. Keyser, *Norman Tympana and Lintels*, fig. 43.

² *Gent. Mag.* (1799), i. 449; Allen, *Christian Symbolism*, 366; *Journ. Brit. Arch. Assoc.* N.S. vi. 250; Keyser, *Norman Tympana*, fig. 145.

³ *Journ. Brit. Arch. Assoc.* vii. 318; Cox, *Churches of Derbyshire*, i. 100; *Norman Tympana*, fig. 92.

⁴ *Reliquary*, iii. 191; *Journ. Brit. Arch. Assoc.* N.S. vi. 249; *Norman Tympana*, fig. 23.

⁵ Allen, *Christian Symbolism*, 254; *Journ. Brit. Arch. Assoc.* N.S. vi. 251; Cox, *Churches of Derbyshire*, ii. 491; *Norman Tympana*, fig. 75.

⁶ B.M. Add. MSS. 9463, f. 34; *Journ. Brit. Arch. Assoc.* N.S. vi. 252.

⁷ *Reliquary*, ii. 5; *Journ. Brit. Arch. Assoc.* N.S. vi. 252.

⁸ Now in south wall of tower.

⁹ *Reliquary*, xxi. 201; Allen, *Christian Symbolism*, 254; *Journ. Brit. Arch. Assoc.* N.S. vi. 254; *Norman Tympana*, fig. 76.

¹⁰ B.M. Add. MSS. 9463, f. 65; *Journ. Brit. Arch. Assoc.* N.S. vi. 256.

¹¹ Cox, *Churches of Derbyshire*, ii. 449; *Norman Tympana*, fig. 23.

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with a cross ornamented with a star-pattern, on a background of chequerwork. The central part of the tympanum is recessed, and is surrounded by a raised frame ornamented on the straight part at the bottom with a double row of star-pattern, and on the semi-circular part with a saw-tooth pattern. At each of the two lower corners of the frame of the tympanum is a queer little figure with the arms akimbo (as on the tympanum at Findern).

Whitwell.¹—Over the door of the chancel of the church here there is a lintel sculptured with an animal, foliage, and three rosette ornaments.

Willington.²—Over the south doorway of the nave of the church here is a tympanum sculptured with a geometrical pattern of squares with intersecting lines.

MISCELLANEOUS DETAILS: *Ault Hucknall*.—The chancel arch in the church here is elaborately ornamented with curious sculptures, amongst which is a little figure holding a cross in one hand and a crozier in the other.

Bakewell.—The western doorway of the church here has three orders of mouldings. The innermost moulding is plain, the next in the middle ornamented with beak-heads, and the outermost with queer little figures thrusting their heads out from the hollow part of the moulding and holding their arms up like caryatides. The hood-moulding has a star pattern upon it. On the middle capital of the south jamb of the doorway is a man between two others with hideous faces, perhaps representing Christ seized by the Jews. Amongst the pre-Norman and later fragments in the porch is what may be part of a font with the Lion of St. Mark upon it and the name MARCVS inscribed underneath it.

Bradbourne.—On the south side of the western tower of the church here there is an extremely fine Norman doorway in very good preservation. The arch has three orders of mouldings, the outermost being ornamented with beak-heads and the innermost with a remarkable series of beasts, birds, and other creatures. The most curious of the sculptures represents a monster either swallowing or disgorging a man, perhaps intended for Jonah and the whale.

Darley.³—Built into the interior wall of the tower of the church here are two fragments sculptured with a winged dragon and a beast which appear to have been portions of a tympanum. Another fragment, now preserved in the porch, has been recently discovered during repairs to the tower.

Heath.—Built into the wall of the porch of the church here is a slab with the Crucifixion sculptured upon it. Beneath the feet of the Saviour is an animal of some kind.⁴ There is also a curious slab here with several crosses and three figures upon it.⁵

Duffield.—Built into the wall of the south aisle of the church here below the west window, on the inside, are two nearly square stones, one with a bird sculptured upon it and the other with a beast.⁶

Long Eaton.—The south doorway of the church here has three orders of mouldings, the middle one being ornamented with beak-heads.

Shirley.—Built into the east wall of the church here on the outside is a sculptured fragment 1 foot 6 inches long by 10 inches wide with a bird and five or six animals upon it.⁷

Stanton-by-Bridge.—Built into the walls of a farmhouse on the traditional site of an ancient chapel is a stone 2 feet 6 inches long sculptured with an animal of some kind.⁸

Steetley.⁹—There are several details of the exquisitely beautiful little Norman chapel which exhibit sculpture. The south doorway has three orders of arch-mouldings, the innermost simply moulded, the middle one ornamented with beak-heads, and the outermost with a double row of chevrons. The two nook-shafts of each of the jambs are sculptured, the outer shaft being decorated with medallions enclosing figures of animals and the inner shaft with foliage.

The capitals of the columns of the chancel arch on the north side are sculptured with a lion having a single head and a double body, and a representation of the contest between

¹ B. M. Add. MSS. 9463, f. 71; *Journ. Brit. Arch. Assoc.* N. S. vi. 257.

² Cox, *Churches of Derbyshire*, iv. 437; *Journ. Brit. Arch. Assoc.* N. S. vi. 257.

³ Cox, *Churches of Derbyshire*, ii. 168; B. M. Add. MSS. 9463, f. 16.

⁴ B. M. Add. MSS. 4963, f. 29.

⁵ Cox, *Churches of Derbyshire*, i. 257.

⁶ *Antiquary*, Dec. 1897, 354.

⁷ Cox, *Churches of Derbyshire*, iii. 274; *Journ. Brit. Arch. Assoc.* N. S. vi. 256.

⁸ Cox, *Churches of Derbyshire*, iii. 472; *Journ. Brit. Arch. Assoc.* viii. 153, and N. S. vi. 256.

⁹ See Lysons, *Derbyshire*, ccxx; White, *Workshop and Dukeries*, p. 40; Cox, *Churches of Derbyshire*, i. 399, 475, and iv. 483.

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St. George and the Dragon. The figure of the lady whom the saint is rescuing is seen between the forepaws of the dragon.

The capitals of the columns from which the four vaulting ribs of the roof of the apse spring are sculptured with the Temptation of Adam and Eve, a pair of doves, grotesque heads, and foliage.

The boss where the vaulting ribs meet at the top has upon it a medallion enclosing the Agnus Dei.

Wirksworth.—There is in the church here a rectangular stone sculptured with the figure of a man holding a basket in his right hand and a hoe in the left. Perhaps this may be one of a series symbolising the twelve months by the occupations characteristic of the different times of the year, as on the Norman fonts at Brookland in Kent and Burnham Deepdale in Norfolk.¹

Having now described the various examples of Norman sculpture in Derbyshire we are able to give a list of the subjects which occur upon them.

Subjects	Localities	Subjects	Localities
Temptation of Adam and Eve	Steetley	Pair of men with arms akimbo.	Tissington (on both font and tympanum), Findern.
Christ seized by the Jews (?)	Bakewell.	Pair of men	Normanton.
Crucifixion	Heath, Normanton, Bolsover.	Tree with beast on each side.	Ashford-in-the-Water, Swarkestone.
Agnus Dei	Hognaston, Normanton, Parwich, Steetley, Tissington.	Monster swallowing man	Bradbourne, Tissington.
Lion of St. Mark	Bakewell.	Monster with one head and two bodies	Steetley.
Bishop with crozier	Hognaston.	Stag	Parwich.
Bishop with cross	Heath.	Boar	Ashford-in-the-Water, Parwich.
Bishop with crozier and cross	Ault Hucknall.	Beasts	Bradbourne, Duffield, Shirley, Mellor, Whitwell, Parwich, Hognaston, Ault Hucknall.
Saints	Ashover.	Birds	Steetley, Bradbourne, Duffield, Shirley, Tissington.
St. George and the Dragon	Ault Hucknall, Steetley.	Serpents	Parwich.
St. Margaret and the Dragon (?)	Ault Hucknall.	Beak-heads	Bakewell, Long Eaton, Steetley, Kedleston.
Man on horseback	Mellor.		
Huntsman on horseback	Kedleston.		

¹ Cox, *Churches of Derbyshire*, ii. 553.

DOMESDAY SURVEY

THE Derbyshire portion of the Domesday Survey is short and superficially uninteresting. It contains few of those references to personal history or local customs which give peculiar importance to the description of such counties as Berkshire and Worcestershire, and, in fact, consists of little more than a series of statistics, valuable as Domesday statistics always are, but containing little specially to arrest the attention. Derbyshire possesses no subsidiary record comparable with the 'History' of Abingdon Abbey or Heming's *Chartulary*, for the county contained no religious house in 1086, and the records of the abbey of Burton-on-Trent, which held land in Derbyshire, while very valuable as a commentary on the Domesday text, have reference only to a small portion of it. In point of bulk, the Derbyshire Survey occupies fourteen folios of Domesday Book as against ten folios given to Staffordshire and twenty-seven assigned to Nottinghamshire, counties of somewhat similar area; but in the case of Derbyshire and of Nottinghamshire frequent blank spaces occur in the manuscript which are not found in the account of Staffordshire.

But the survey of our county has an importance much greater than would be gathered from its extent or general character. It was the westernmost of a group of four counties—Lincolnshire, Nottinghamshire, Leicestershire, and Derbyshire—which, with Yorkshire to the north, present features which distinguish them in a marked way from the neighbouring shires to the south and west. These counties form the region which is understood to have been settled by the Danes in the ninth century, and there is no doubt that some of the striking characteristics of this district are due to this Scandinavian influence. As Domesday Book is pre-eminently a fiscal record, the most important of these features is the fact that the unit of taxation in these counties was the 'carucate' of eight bovates as against the 'hide' of four virgates, which is found in the south and west, and that these carucates tend to be combined in groups of six or twelve, whereas the hides of the rest of England are usually combined in groups of five or ten.¹ This duodecimal system of reckoning is very characteristic of the 'Danish' part of England, and helps us to define its limits with an exactitude which would otherwise be impossible, since local nomenclature, the simplest test of 'Danish' settlement, is often misleading. Derbyshire, for instance, has always been reckoned as one of the 'Danish' counties of England, and yet the evidence from place names as to a Scandinavian settlement of the district

¹ See on the assessment of the Danelaw in general, *Feudal England*, 69 et seq.

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is curiously slight.¹ There are only ten places in the county, including Derby itself, which possess the typical Danish termination 'by,' and these are all found in the eastern half of the shire. 'Thorpes' are scarcely more common, although one isolated example—Thorpe, near Ashbourne—occurs on the Staffordshire border. Under the circumstances, therefore, the duodecimal character of the Derbyshire assessment is most welcome as reinforcing the evidence for Scandinavian influence in the county.

The study of the Domesday assessment of Derbyshire, however, is attended by some rather serious complications. To begin with, the number of recorded villas (if we may for a moment assume that every place name recorded in the county survey represents a villa) is very considerable in proportion to the area of the shire, exceeding by more than fifty the total for each of the neighbouring counties—Nottinghamshire and Leicestershire. If we were to adopt the elementary plan of dividing the number of carucates assessed upon the whole shire by the number of places mentioned, we should obtain an average of about two carucates for each villa; if, to form our dividend, we were to use only those places which stand by themselves as 'manors,' and are not merely parts of some larger whole, our quotient would still be well under six. Hence it will be evident that the problem of restoring the groups of assessment in Derbyshire differs essentially from the similar problem as studied, let us say, in Cambridgeshire or Bedfordshire,² where we may consider the normal villa to be rated at five or ten hides by itself. In Derbyshire the task is set us, not of combining the scattered fragments of villar assessment to make a round sum for the villa as a whole, but of combining the assessments of different villas to make a single fiscal group. That the process is largely hypothetical will be evident from the fact that we have for Derbyshire no key to the distribution of the geld such as we possess for Leicestershire in the invaluable survey printed by Mr. Round in *Feudal England*.³

One obvious difficulty may be noted straightway. It is not very uncommon, especially in the description of estates in the east of the county, to find an entry like the following:—'In Morton and Ogston and Wessington Suain cilt had 1 1½ bovates and 8 acres of land (assessed) to the geld.' Now in a case of this kind we have absolutely no means of knowing what proportion of this sum must be debited to Morton, to Ogston, and to Wessington respectively. And, as the bare fact of tenure has no significance in relation to the geld, the combination of unspecified villar assessments in a tenurial group spoils our chances of reconstructing the fiscal groups to which they must have belonged. And to this cause of perplexity we have to add that the Domesday wapentakes of Derbyshire are excessively obscure. There is no consistent rubrication at all, and, unfortunately, in the few rubrics that are given we get the names of

¹ Cf. Green, *Conquest of England*, 121-2. It is certainly incorrect to say that place names ending in 'by' extend to 'the very borders' of Derbyshire.

² *V.C.H. Beds.* i. 192-3, and *Feudal England*, 44 ff. ³ pp. 196-214.

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two wapentakes, 'Hammenstan' and 'Walecros,' for the existence of which we have no other authority. High Peak wapentake is not mentioned at all; Appletree wapentake only incidentally in the list of local customs in the counties of Nottingham and Derby, which comes between the surveys of the two shires. After all this, it will be seen that any attempt to divide out the total assessment of the county according to wapentakes must contain too much guesswork to have any scientific value.¹

Imperfect as is the rubrication of the Derbyshire Domesday, it incidentally reveals the existence of another problem which cannot be settled on the Derbyshire evidence alone, but which certainly deserves mention in this place. On page 334 there occurs the heading Morelestan Wapentake, Salle [Sawley] Hundred. Now Sawley is situated close to the Trent, which divides Derbyshire from Leicestershire at this point; and we happen to know that each of the four wapentakes which existed in Leicestershire at this time was subdivided into a number of small territorial 'hundreds,' each 'hundred' consisting of a number of vills, which are sometimes spread over a considerable area and intermingled with other similar groups. We know very little about the functions of these 'hundreds,' but it seems clear that they represent a stage in the subportionment of the geld intermediate between the wapentake and the vill, for the number of carucates assessed upon a Leicestershire 'hundred' will normally be some multiple of six or twelve.² It is very probable that this system was not confined to Leicestershire, for we meet with several 'hundreds' in the course of the Nottinghamshire survey, and it would seem as if Lincolnshire was divided in a similar manner, while the existence of the unique hundred of Sawley, in Derbyshire, looks very much as if the system was extended into that county also. The importance of the question lies in the fact that in these vanished hundreds would rest the best proof of the duodecimal organization of the Derbyshire assessment, proof which it is not possible to recover without further evidence than we at present possess.

On working through the Derbyshire Domesday, however, the following instances of a duodecimal system lie upon the surface of the record:—'Mestesforde' and its berewicks assessed together at 9 carucates; Walton-on-Trent and Rosliston assessed (together) at 6; Repton and Milton, likewise together, at 6; Melbourne at 6; Bakewell, with its berewicks, at 18; Sawley, with Draycott and Hopwell, at 12; (Long) Eaton at 12; Shottle with Wallstone at 6; Croxall at 3; Atlow at 3; Scropton, with its three unspecified berewicks, at 6; Barlborough with Whitwell at 6; Willington at 3; Clifton at 3; Catton at 3; Tibshelf at 3; Bolsover at 3. Combining fractional parts of a vill we obtain:—Etwell assessed at 6 carucates ($5 + 1$); Osmaston by Derby at 3 ($2 + \frac{1}{4} + \frac{3}{8} + \frac{3}{8}$); Edingale at 3 ($2 + 1$); Breaston at 6 ($\frac{3}{8} + \frac{1}{8} + 2 + 3 + \frac{1}{2}$). Still more significant is the assessment of the three royal manors of Wirksworth,

¹ It was attempted by Mr. Eyton, but his results are not convincing.

² See for these 'hundreds' the survey mentioned on the previous page.

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Ashbourne, and Parwich, which may be displayed thus (the figures represent carucates) :—¹

<table style="width: 100%; border-collapse: collapse;"> <tr><td>Wirksworth . . .</td><td>3</td><td>0</td><td rowspan="8" style="font-size: 3em; vertical-align: middle; padding: 0 10px;">}</td><td rowspan="8" style="vertical-align: middle;">21</td><td rowspan="8" style="vertical-align: middle;">0</td></tr> <tr><td>Cromford . . .</td><td>2</td><td>0</td></tr> <tr><td>Middleton . . .</td><td>2</td><td>0</td></tr> <tr><td>Hopton . . .</td><td>4</td><td>0</td></tr> <tr><td>'Welledene' . . .</td><td>2</td><td>0</td></tr> <tr><td>Carsington . . .</td><td>2</td><td>0</td></tr> <tr><td>Callow . . .</td><td>2</td><td>0</td></tr> <tr><td>Kirk Ireton . . .</td><td>4</td><td>0</td></tr> </table>	Wirksworth . . .	3	0	}	21	0	Cromford . . .	2	0	Middleton . . .	2	0	Hopton . . .	4	0	'Welledene' . . .	2	0	Carsington . . .	2	0	Callow . . .	2	0	Kirk Ireton . . .	4	0	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Ashbourne . . .</td><td>3</td><td>0</td><td rowspan="10" style="font-size: 3em; vertical-align: middle; padding: 0 10px;">}</td><td rowspan="10" style="vertical-align: middle;">17</td><td rowspan="10" style="vertical-align: middle;">0</td></tr> <tr><td>Mapleton . . .</td><td>2</td><td>0</td></tr> <tr><td>Bradley . . .</td><td>2</td><td>0</td></tr> <tr><td>Thorpe . . .</td><td>2</td><td>0</td></tr> <tr><td>Fenny Bentley . . .</td><td>2</td><td>0</td></tr> <tr><td>Offcote . . .</td><td>2</td><td>0</td></tr> <tr><td>Hognaston . . .</td><td>4</td><td>0</td></tr> <tr><td>Parwich . . .</td><td>2</td><td>0</td><td rowspan="4" style="font-size: 3em; vertical-align: middle; padding: 0 10px;">}</td><td rowspan="4" style="vertical-align: middle;">4</td><td rowspan="4" style="vertical-align: middle;">0</td></tr> <tr><td>Hanson Grange . . .</td><td>2</td><td>0</td></tr> <tr><td>Alsop le Dale . . .</td><td>2</td><td>0</td></tr> <tr><td>Cold Eaton . . .</td><td></td><td></td></tr> </table>	Ashbourne . . .	3	0	}	17	0	Mapleton . . .	2	0	Bradley . . .	2	0	Thorpe . . .	2	0	Fenny Bentley . . .	2	0	Offcote . . .	2	0	Hognaston . . .	4	0	Parwich . . .	2	0	}	4	0	Hanson Grange . . .	2	0	Alsop le Dale . . .	2	0	Cold Eaton . . .		
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It will be seen here that the 21 carucates assigned to Wirksworth and its berewicks are exactly balanced by the 17 and 4 carucates belonging respectively to Ashbourne and Parwich with their appendages, the whole group making up a joint sum of 42 carucates. This case is of some importance, because it shows that rather unpromising figures may combine to make a purely duodecimal total. Still neater, however, is the case of Longdendale, the constituent manors of which form an isolated group in the extreme north-west of the county :—

	car.	bov.			
Thornsett	4		}	2	0
Ludworth	4				
Charlesworth and Chisworth	1	0			
Chunal	4		}	2	0
Hadfield	4				
Padfield	1	0			
Dinting	2				
Glossop	4				
Whitfield	4				
Hayfield	4		}	2	0
Kinder	2				

Here the roundness of the total, which in this case is supplied by Domesday itself, and the symmetry of the group, which, by simply following the order in which the places are mentioned are entered in the survey, falls naturally into three sections of 2 carucates each, are alike remarkable. And the second point makes it advisable to remember that a very large proportion of the villis of Derbyshire was assessed either at 2 or 4 carucates each. There is no need to give instances, which occur on every page of the record; and, in face of the Longdendale example given above, we cannot doubt that if we only possessed the key to the grouping of these figures we should find them duly combined in blocks of six and twelve. But it may be well to give three instances in which fractional assessments work out to figures of this kind. Such are Ticknall, assessed at 4 carucates ($2\frac{1}{3} + \frac{2}{3} + 1$); Ingleby, at 2 ($\frac{3}{8} + 1\frac{1}{8} + \frac{3}{8} + 1\frac{1}{2}$), and Risley, which before the Conquest had been divided thus :—

Wulfsige ('Ulsi')	5	$\frac{1}{3}$	bovates	}	Total, 2 carucates.
Godric	5	$\frac{1}{3}$	"		
Leofwine ('Lewine')	5	$\frac{1}{3}$	"		

¹ The places are here set out in the order in which they occur in Domesday.

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This last very remarkable case undoubtedly suggests partition between co-heirs.

First in order among the holders of land in Derbyshire, as elsewhere, stands the king, whose possessions in our county were derived from three sources. He had succeeded his predecessor King Edward in a very remarkable group of manors stretching almost without a break across the county from Ashbourne to the Yorkshire border. These are the manors of Ashbourne, Parwich, Wirksworth, 'Mestesforde,' Darley Dale, Bakewell, Ashford, and Hope, which with their dependent villages form such a noticeable feature of the Domesday map. The structure of these manors will be discussed later,¹ but it is important to note that they had been 'farmed' together before the Conquest, as at the time of the Survey, in two groups, one consisting of the three northern manors of Bakewell, Ashford, and Hope, the other consisting of the five western manors. The payments made by these manors are interesting. In King Edward's time the former group paid £30, 5½ 'sestiers' of honey, and 5 cart-loads of lead, consisting of 50 slabs; the latter group, including Wirksworth, which long continued the centre of the lead-mining industry, rendering £32 and 6½ 'sestiers' of honey. It will be noted that the total of the honey rendered amounted to twelve 'sestiers,' a fact which shows that the honey payment from the Derbyshire manors was arranged on a plan similar to that which prevailed in Warwickshire, Oxfordshire, and elsewhere,² namely, according to a unit of six 'sestiers.' At the time of the Survey the Ashbourne group paid £40 'of pure silver,' a phrase which seems to be unique in Domesday, while the payments from the three northern manors had shrunk to £10 6s. Of these last manors it is said that 'William Peverel has charge of them' (custodit), a phrase which probably means that he acted as the king's bailiff, paying over to him the full profits of these estates. But they must have come into his personal possession soon after Domesday, as between 1100 and 1108 he and his men granted tithes from them to his new foundation of Lenton Priory, Notts.³

The second division of the king's land consisted of the forfeited estates of the late earl of the shire, Edwin, the grandson of Earl Leofric of Mercia. But it is curious that in Derbyshire, as in Staffordshire, the former holder of these manors is given, not as Edwin, but as his father, Earl Ælfgar, although the latter had died in 1065. Earl Edwin himself appears as a former landholder at Doveridge and Edlaston, which had passed to Henry de Ferrers. Earl Ælfgar's manors lie along the Trent in the south of the shire, and include Walton-on-Trent, Repton, famous in earlier Mercian history, (King's) Newton, and Weston-on-Trent. Close to King's Newton Edward the Confessor had himself held the (for

¹ See below, page 312.

² See *V. C. H. Warw.* i. 272.

³ See his foundation charter, Dugdale, *Mon.* v. 111. It is witnessed by Archbp. Gerard, of York (1100-1108). That it was Henry I. who made the final grant of these estates to Wm. Peverel is proved by an interesting writ printed in the *Monasticon* (viii. 1272), in which that king directs that Robert, Bishop of 'Chester,' is to re-obtain possession of his churches in the Peak as he had held them 'ca die qua Willelmo Peverell dominium meam de Pecco dedi.'

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Derbyshire) valuable manor of Melbourne.¹ In the borough of Derby Earl Ælfgar had held eight messuages with sac and soc, which had also passed to the king.

The king's property in the shire was still further increased by a number of manors which, before the Conquest, had belonged to various holders. These are usually found in the north of the county. To the west of the Derwent come Eyam and Stony Middleton, while Beeley, 'Langeleie' and Chatsworth and Walton connect the king's estates along that river with the wide-spreading manor of Newbold, the pre-Conquest owner of which, curiously enough, is not given in Domesday. Further south come Tibshelf, close to the Nottinghamshire border, and Mapperley. It looks almost as if the addition of the first five of these manors to the royal demesne marks a deliberate attempt on the part of the king to round off his possessions in the north of the county.

Of the two ecclesiastical tenants-in-chief in the county, the bishop of the diocese in which Derbyshire was situated comes first in order. This was Peter, a Norman ecclesiastic, who had removed the seat of the Mercian diocese from the insignificant village of Lichfield to the great city and port of Chester, in accordance with the continental usage by which a bishop would generally reside in the chief town of the district under his spiritual care. In Derbyshire he only held Sawley and its adjacent 'soke' of Long Eaton in the south-east corner of the county, and the manor of Bupton in its centre, which long continued to be held of his successors.

The only religious house which held in chief in Derbyshire was the abbey of Burton-on-Trent, and it is interesting to note that most of its possessions in this county had been acquired since the Conquest, a fact which is especially remarkable, as its English abbot, Leofric, seems to have held his office until his death in 1085. This was the case with the great manor of Mickleover, which had belonged to Edward the Confessor, and the gift of which was therefore probably the act of the Conqueror himself.² It was also undoubtedly the case with Caldwell, of which it is said that 'King William gave this manor to the monks "pro beneficio suo."' The word 'beneficium' is rare in Domesday, but probably in this case it has no specially ecclesiastical meaning, and on page 335 the phrase is simply translated 'for their own advantage.' A more interesting grant is the manor of 'Cotes,' now Coton-in-the-Elms. In Domesday this manor merely appears as a former possession of Earl Ælfgar;³ but from an entry in the *Burton Charters* we gather that it had been given to the abbey in the Confessor's time by Earl Morcar, that at the Conquest it had fallen into the hands of the king, and that finally the Conqueror, when

¹ The account of Melbourne contains the curious statement that 'In King Edward's time it was worth £10, now it is worth £6, but nevertheless it renders £10.' It is by no means unknown elsewhere in Domesday for a manor to pay, under the Normans, a sum of money in excess of its estimated value.

² The grant of Mickleover is assigned to William I. in the *Annals of Burton*, and also in the bull of Pope Lucius III., confirming the abbey's possessions in 1185. See Dugdale, *Mon.* iii. 42.

³ It so happens that in this entry the earl appears without his comital style.

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actually present at Burton, restored the manor to the church. But the king's writ is appended in which the grant is made *de novo*, without any reference to Morcar's gift, and the abbey is to hold the manor 'as the mother of Earl Morcar best held it.'¹ This must refer to the Countess Ælfgifu, the wife of Earl Ælfgar, and the statement that she had been herself the former owner of 'Cotes' is noteworthy, for although she figures in a list of those who had exercised rights of sac and soc before the Conquest,² she does not appear in the body of the Survey as having held land in her own right in either of those counties. Of the other possessions of the monastery Winshill, Stapenhill, and Appleby had been left to the abbey in the will of its founder Wulfric 'Spot,'³ together with many other estates in the counties of Derby and Stafford which failed to reach their destination.

Highest in rank among the lay tenants-in-chief of Derbyshire was Earl Hugh of Chester, who held Markeaton, and appears in the introduction to the County Survey as exercising rights of sac and soc over that manor, which had formerly belonged to Earl Siward of Northumbria. Belonging to Markeaton were the three waste 'berewicks,' Kniveton, Mackworth, and Allestree. The entry relating to these appendages displays one of those strange inconsistencies which every now and then occur in Domesday. They were assessed at four carucates, of which it is said, 'one carucate of these four belongs to Ednaston, a manor of Henry de Ferrers. Gozelin holds it of the earl, and Colle renders 10s. 8d. for it to Gozelin.' Similarly, in the above-mentioned introduction, Henry de Ferrers is entered as enjoying sac and soc over Ednaston, and yet this manor appears on page 34⁸ as belonging, not to him, but to Geoffrey Alselin, and as having belonged to his regular predecessor, Tochi. As the statement that Ednaston belonged to Henry de Ferrers occurs twice over in the Survey, it cannot be explained away as a scribal error, and indeed remains inexplicable. In any case the conflict of rights between Earl Hugh, Gozelin, Colle, and the owner of Ednaston must have been sufficiently complicated.

By far the greatest landholder in Derbyshire was Henry de Ferrers, the lord of Longueville in Normandy, whose son became in 1136 the first Earl of Derby. Although he possessed in this county over ninety manors, the head of his barony lay just outside the border of Derbyshire at Tutbury,⁴ where was his castle and where the priory which he founded must have been already in being in 1086. The description of his estates occupies more than five folios of Domesday Book, and their general distribution will be gathered from the map. Vast as is their extent it will be noticed that, with the exception of some ten manors to the south of the Trent adjoining his Leicestershire property, they are almost confined to the west of the Derwent. Moreover they are concentrated to a very remarkable degree in the modern wapentake of Appletree, the whole of

¹ *Burton Chartulary* (Coll. for Hist. of Staffs. Salt Soc.), i.

² Fol. 280-6, page 327

³ Kemble, *Codex Diplomaticus*, 1280.

⁴ King William had granted him Tutbury and its castle which had previously been held by Earl Hugh of Chester. Ordericus Vitalis, *Hist. Eccl.* (Soc. de l'hist. de France), ii. 222.

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which, with the exception of some ten carucates variously distributed, belonged to him. Compact blocks of territory of this kind are so rare in Domesday that one is tempted to suggest that this was the reason for the pointed entry in the introduction to the county survey, to the effect that the financial rights of the king and the earl in Appletree wapentake made part of the sheriff's farm.¹ Henry's possessions in Appletree wapentake were separated from his land in the north of the county by the royal manors of Ashbourne, Parwich, and Wirksworth, and he and the king between them absolutely dominated the western half of the shire.

It will be clear that a territory of this kind must have been divided before the Conquest among many holders of land and Domesday gives us the names of these, to most of which it is impossible to attach any more definite meaning. Some of them possessed typically Norse names, such as Ketel, Swegen, Gamel, Hacon, Turgis, and Uctebrand. All of them seem to have been totally dispossessed; in only one case does a former English landowner appear to have continued to hold his estate under Henry de Ferrers.² Nevertheless, English undertenants do appear, among them being the Ketel who held at Mugginton, the Godric at Shottle, the Alsi (Ælfsige) at Yeaveley, and the Ælfric (Alric) at (Potter) Somersall. It is quite possible that this last undertenant may be the same as the 'Elric' who had held the same manor before the Conquest. An Orm appears as holding of Henry de Ferrers at Wyaston and at Little Ireton, and there is no doubt that in the latter we have the 'Ormus' who gave two-thirds of his demesne tithes to Tutbury priory;³ but there is no evidence to show whether or not he was identical with the Wyaston Orm. Very possibly the 'Cola' who held at Yeldersley and at Winster under Henry de Ferrers was an Englishman, as a 'Cole' appears before the Conquest at 'Salham' (in Hartington) and a 'Colle' appears at Youlgreave. With the exception of Earls Edwin and Waltheof one only of Henry de Ferrers' English predecessors can be recognised outside Domesday. This is the Siward who appears several times as a pre-Conquest owner on Henry's fief, and he may be identified with the Siward Barn who in 1071 joined Hereward and his fellow insurgents in the Isle of Ely. His general position in Domesday has been discussed in the *Victoria History of Warwickshire*,⁴ where it is shown that his estates in that and in several other counties had been granted to Henry de Ferrers. In Derbyshire our difficulty is that the Siward who had preceded Henry appears without any distinctive suffix, so that we cannot be certain that in all cases we are dealing with the right man. There cannot, however, be much danger of our confusing him with Earl Siward of Northumbria, as we have seen that the latter's manor of Markeaton had passed to Earl Hugh of Chester; moreover earls in Domesday are usually though by no means invariably distinguished by an interlineation expressing their rank. Accordingly we

¹ Fol. 280.

² The Suain who had held two bovates at Cowley before the Conquest was very probably the same person as the 'Suan' who held the whole manor under Henry de Ferrers.

³ Dugdale, *Mon.* iii. 392.

⁴ *V. C. H. Warw.* i. 282.

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may recognise our thegn in the Siward who held before the Conquest the adjacent vills of Catton and Croxall, near the junction of the Trent and the Tame, and who had an important estate on the Derwent north of Derby comprising Duffield with its appendages, Breadsall, and Morley. There is no reason to doubt that it was the same man who held Norbury with Roston and Great Cubley in the west of the shire, Brassington near Wirksworth, and Wormhill in Miller's Dale.

In one case, however, we are able to ascertain definitely that an Englishman not only held land at the time of the Survey under Henry de Ferrers but was the ancestor of a family which continued for centuries to hold of his successors. This was the 'Elfin' who held Brailsford, Osmaston, Lower Thurvaston, and part of Bupton (Longford), in the first of which places he had succeeded no less a person than Earl Waltheof, at Thurvaston and Bupton his predecessor being a certain 'Ulchil' or 'Uchel.' The Domesday form 'Elfin' is very difficult to explain; it may be a mistake for either Ælfwine or Ælfsige, the latter seeming the more probable; but in either case the name represented would be old English, and it is therefore of great interest to see the descendants of this man continuing to hold land in these vills. We are enabled to do this through the Chartulary of Tutbury Priory, which shows us Alfinus de Breleford granting Osmaston to that house with the consent of his son Nicholas.¹ In the *Red Book of the Exchequer*² Earl William de Ferrers states that his grandfather had enfeoffed Nicholaus de Breileford in one knight's fee which his son Henry was then holding, and members of the family of de Brailesford are frequently met with in later mediæval records. Here then we have a clear instance of an important Derbyshire county family being of English descent.

But the same chartulary affords us other information about the undertenants of Henry de Ferrers. It includes a charter of Earl Robert de Ferrers the younger in which he confirms all the grants which had been made to Tutbury Priory by his grandfather (the Henry de Ferrers of Domesday) and father and their respective 'men,' and in the list of grantees which follows we can identify many names which occur in Domesday. A list of these may be convenient for purposes of reference:—

Vill.	Domesday undertenant.	In Earl Robert's charter.
Osmaston	Elfin	Alfinus de Breleford
Catton	Nigellus	Nigellus de Albinacio
Hoon	Saswalo	Sewallus
Osleston	Johannes	Johannes
Ash	Rotbertus	Robert fitz Sarle
Sedenefeld	William	William de Rolleston
Dalbury	Robert	Robert de Dun
Trusley	Hugh	Hugh le Arbalaster
Little Ireton . . .	Orm	Orm
Egginton	'Aselin'	Anselin de Heginton
Upper Thurvaston .	Robert	Robert de St. Quintin

¹ Dugdale, *Mon.* iii. 392.

² *Red Book of the Exch.* (Rolls Ser.), i. 338.

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Here the first point to be noted is the danger of inferring that all the men who bear the same Christian name are identical.¹ In this short list we find three distinct bearers of the name Robert. In Earl Robert's charter we also find two Englishmen appearing as benefactors of Tutbury: 'Chetel' (Ketel) gave the customary two-thirds of his demesne tithes in Sturston, and 'Ulsius' (Wulfsige?), the same in Twyford and Stenson. In neither of these cases is the immediate holder of the manor mentioned in Domesday, and we must add them to our list of Englishmen who weathered the Conquest in Derbyshire. But the list has other features of note. It is interesting to see that the undistinguished Nigel who held Catton of Henry de Ferrers was so important a person as Nigel de Albini, the lord of Cainhoe in Bedfordshire and the son in law of his overlord. He also seems to have held part of Awstrey in Warwickshire of Henry de Ferrers, and his tenure of Catton illustrates the process by which one tenant in chief often held of another. This is also curiously shown in the case of Henry de Ferrers himself. Vast as his possessions were he did not disdain to hold of the abbey of Burton the latter's portion of Ticknall at a rent of 10s. yearly.² As the 'valet' of this part of Ticknall was 10s. it is interesting to find this sum identical with that actually received by the abbey for this estate. The case of Nigel de Albini given above also illustrates in a striking way the possibility of confusing different bearers of the same name. Nigel is not a very common name in Domesday, and yet the Nigel who is entered in the Leicestershire survey as the undertenant of Henry de Ferrers at Linton, which is only distant some four miles from Catton, was not Nigel de Albini but Nigel de Stafford, an important tenant in chief in the south of Derbyshire where he was lord of Drakelow.³

One of Henry de Ferrers' undertenants can, as it happens, be proved to be the ancestor in the male line of a still existing family. This is the man who appears in the Survey with the strange name of Saswalo, which in the Tutbury Register is reduced to Sewallus. He held of Henry de Ferrers in several counties; in Derbyshire his estate consisted of Hatton, Hoon, and Etwall. He has been ascertained to be the ancestor of the Shirley family, and his position is discussed in the *Victoria History of Warwickshire*, vol. i. 281-2.

The statement under the manors of Marston on Dove and Doveridge that 'the monks hold (them) of Henry' deserves notice because it is the earliest record of the existence of Tutbury Priory. The foundation charter of the latter, printed in the *Monasticon*,⁴ purports to have been

¹ This has been illustrated by Mr. Round in the case of the knights of Peterborough (*Feudal England*, 138), and he has shown what error has resulted from confusing Henry's undertenants Nigel de Albini and Nigel de Stafford.

² This appears from a very interesting grant made by Abbot Geoffrey de Malaterra to Robert de Ferrers the first Earl of Derby. He is to hold Ticknall 'quam tenuit pater suus,' paying 10s. yearly at Martinmas, and also 'debet diligere et manutenere nos et ecclesiam nostram et per se et per suos sicut amicus et tutor ipsius ecclesie.' *Burton Chartul.* (Salt Soc.), i. 32. Doubtless the monks found it advisable to enlist in their behalf the greatest landowner in Derbyshire.

³ See Mr. Round's paper on the origin of the Shirleys and of the Gresleys in *Derbyshire Arch. Journal* (1905). It may be noted that Mr. F. Madan, '*The Gresleys of Drakelowe*,' 182, wrongly includes Catton among the original possessions of the Gresleys.

⁴ iii. 391.

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granted after Henry de Ferrers had come to an agreement with King William II. at Marlborough, although four later Latin verses added to the document as there printed ascribe the foundation to the year 1080. Here then, as in other cases, the monastery would seem to have been in being before it received a formal confirmation of its possessions. The original endowment in the county consisted of Marston on Dove, which was given by Henry, and Doveridge, a former estate of Earl Edwin which was the gift of Bertha, Henry's wife. Together they bestowed Little Broughton or West Broughton in Doveridge, which is not mentioned in Domesday and must be distinguished from Church Broughton, which the monks obtained later in part exchange for Stanford.¹ They also obtained by the foundation charter the tithes of many of Henry's Derbyshire manors, and we have seen the extent to which the new foundation was supported by his undertenants.

Following Henry de Ferrers in the Derby Survey comes William Peverel. His estates in Derbyshire were less extensive than might have been expected in view of the immortality which his name has gained in connexion with the Peak. Nothing certain is known of his origin, although a seventeenth-century antiquary² started the very improbable theory that he was an illegitimate son of the Conqueror himself. The possessions entered under his own name fall into two groups, one consisting of a number of manors scattered down the eastern border of the county from Bolsover to Codnor, the other making a compact block of territory on the edge of Peak Forest. It is to this second group that special interest attaches as it includes Peak Castle,³ the site of which is described vaguely as 'the land of William Peverel's castle in Peak Forest,' the structure being evidently too recent a creation in 1086 to have given rise at that date to the modern name, Castleton, of the village in which it stands. It is one of a class of fortresses which at the time of the Survey was somewhat rare in England proper, those namely which were wholly in private hands. In many castles, especially those situated in boroughs, the lord appears at this time rather as the king's lieutenant than as a private owner; others again were the personal property of the king. But even before the death of the Conqueror many castles had arisen which were simply the residence of their lord and the head of his fief, and Peak Castle, like those of Tutbury and Berkhamstead, belongs to this class. It was moreover situated very conveniently for a castle which was to be the centre of the royal manors of north-west Derbyshire. We have seen already that William Peverel held these manors in 1086 simply on the king's behalf as his representative or bailiff, and that they had become part of his own property before 1108. The foundation charter of Lenton Priory,⁴ from which we obtain a limit of date for the change, gives us other information about his possessions in north Derbyshire. From it we gather that they extended to the

¹ In Leic.

² Glover the Herald. See *V. C. H. Northants*, i. 289.

³ For a description of Peak Castle, see *Engl. Hist. Rev.* lxxv. and Mr. St. John Hope's paper in *Archæological Journal*, lx. 88.

⁴ Dugdale, *Mon.* v. 111.

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western edge of the county, covering a barren district which is not described in Domesday and which William Peverel significantly calls his 'demesne pastures in the Peak.' Among the obscure places mentioned it is interesting to meet with Buxton, which here appears (as 'Buchestanes') for the first time in any record. It is not possible to identify William Peverel's undertenants in Domesday among the benefactors to Lenton, as has been attempted above with those of Henry de Ferrers in the case of Tutbury, partly no doubt because Lenton Priory was the later foundation of the two, but partly also because the grants to Lenton were made out of lands which had belonged to the king at the time of Domesday and of which the immediate holders are not specified.

On the next folio of the Survey are entered the Derbyshire estates of Walter de Aincurt, and Geoffrey Alselin, each occupying rather more than half a column of the record. With the exception of Brampton and Wadshelf, all Walter de Aincurt's land in this county had belonged to a certain Suain 'cilt.' This is noteworthy, for in the account of Derby borough 'Stori' appears to be regarded as the normal predecessor of Walter de Aincurt. He certainly, however, does not appear as such in the actual Survey, the name occurring only once in Derbyshire, at Spondon, on the fief of Henry de Ferrers. A Stori appears in Nottinghamshire as the predecessor of the count of Mortain in nearly all his manors, and the same name occurs among those who had exercised soc and sac in Lincolnshire before the Conquest. At Lincoln itself Stori had held a messuage which had passed to the Countess Judith, and an 'Estori' had preceded her at 'Hecham' in the same county. A Bedfordshire Stori had been the 'man' of Earl Tostig, but there is no evidence to connect him with his northern namesake, nor indeed to connect the latter with Walter de Aincurt. This case, therefore, it would seem, must for the present remain unexplained. A Suain or Suen, who is once described as 'cilt,' had several times preceded Walter de Aincurt in Derbyshire. It is curious that a person of the same name appears in Lancashire seventy years after Domesday, for among the signatures to the foundation charter of Penworthan Priory we find that of 'Sweni child.'¹ The account of Brampton and Wadshelf is of interest for the statement that 'Walter vouches the king as warrantor of this land (protector) and Henry de Ferrers as having given him seizin (liberator),'² one of the early instances in Domesday of the technical practice of 'vouching to warranty' which is so common in mediæval transfers of land. As we might expect in the case of a later acquisition, Walter's English predecessor in this manor was not the usual Suain cilt, but an otherwise unknown man called Wade. It may be well to notice here that Walter de Aincurt was the only landowner in the county whose estates, taken as a whole, had risen in value since the Conquest. His six manors had risen from £12 15s. 4d. to £19 5s. 4d. This advance, however, is more apparent than real, since Morton,

¹ Dugdale, *Mon.* iii. 419, and Farrer, *Lancashire Pipe Rolls*, 322-5, where the charter is dated 1153-1160.

² 'De ista terra advocat Walterus regem ad protectorem et Henricum de Ferraris ad liberatorem.'

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Brampton, and Pilsley had remained stationary, while Holmesfield had actually fallen by half, so that the gain is entirely due to the extraordinary rise made by Elmton from £2 to £7, and by Stony Houghton from 10s. to £3.

The estates of Geoffrey 'Alselin,' scattered as they are all over England, afford an excellent instance of a Norman baron being placed in the exact position of one English predecessor. Geoffrey's predecessor in Derbyshire, as elsewhere, was a certain Tochi, the son of Outi, who must from the mere extent of his possessions have been a very important person in the days before the Conquest, although absolutely nothing is known of him apart from Domesday. A great landowner in the several counties of the northern Danelaw, he had a hall in Lincoln which, like his rural manors, passed to Geoffrey Alselin. In Derbyshire, Geoffrey became in this way possessed of Alvaston, Ednaston, Egginton and Ockbrook, and we are not surprised to read that he laid claim to Tochi's manor of Scropton which had been appropriated by Henry de Ferrers. Tochi had also been one of several people who had possessed a church in Derby itself, and here too he was succeeded by Geoffrey. Only two of Geoffrey's undertenants are recorded in Domesday—one of whom, the 'Azelin' who held at Etwall and Egginton, who has already been mentioned, granted half a carucate of land to Tutbury Priory 'with the consent of Geoffrey Alselin, his lord.'¹

Next to Geoffrey Alselin on the list of landowners comes Ralf fitz-Hubert, the lord of Crich, the description of whose estates fills more than a folio of the Survey. He had succeeded to the lands of two Englishmen who appear in Domesday as Levenot (Leofnoth) and Leuric (Leofric) and who had preceded him in Nottinghamshire as well as in Derbyshire. Some manors had been held by each of these men separately, others they appear to have held jointly, while one manor, that of Stony Middleton, is said to have been held by Levenot and his brother. This makes it very probable that the two men held parts of a divided inheritance, but we have no further clue to their identity. We may, however, note at this point that a considerable part of the property of 'Leuric and Levenot' had belonged, some three quarters of a century earlier, to that great Mercian thegn Wulfric 'Spot,' to whose 'will' we have several times had to refer. In this document² he bequeaths Whitwell, Clowne, Barlborough, Duckmanton, Mosbrough, Eckington, and Beighton, in this county to a certain Morcar, who may certainly be identified with the 'chief thegn of the seven boroughs,' who, with his brother Sigferth, was murdered in 1015.³ What, if any, was the connexion which existed between this Morcar and the Leofnoth of our Survey must remain uncertain, but Domesday shows us the latter in possession of all the above 'manors,' which

¹ In Earl Robert's charter to Tutbury this land is said to be situated 'apud Herdewike.' As no such name occurs anywhere in the neighbourhood of Egginton we must see here a reference to one of those 'herdwicks' which like berewicks were outlying appendages of some central manor. Another Derbyshire 'herdwick' appears in the foundation charter of Bredon Priory at Hethcote, near Hartington. Dugdale, *Mon.* vi. 97.

² Kemble, *Codex Diplomaticus*, 1280.

³ *Anglo-Sax. Chron.* (Rolls Ser.) sub anno.

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constitute the Derbyshire property which passed to Morcar by Wulfric 'Spot's' will. For the rest Ralf fitz Hubert, as his English predecessors had done, held a fairly compact estate in mid-Derbyshire round Crich and Ashover with isolated manors in the north and west and south.¹

The next three fiefs, those of Ralf de Burun, Ascuit Musard, and Gilbert de Gand, are not very important. The juxtaposition in the Survey of Ascuit Musard, who was a Breton, and Gilbert de Gand, who was a Fleming, may help us to realise the extent of the area from which William derived his resources for the conquest of England, the former of these two men being a tenant in chief in Gloucestershire and Warwickshire. Gilbert de Gand had only two manors in Derbyshire, Ilkeston, and Shipley. Of these Ilkeston had belonged to a certain Ulf, styled 'fenisc,' who not only had the rights of sac and soc over his land before the Conquest,² but in company with the Archbishop of York and Countess Godiva possessed the earl's third penny also. In all but two of his Nottinghamshire manors³ Gilbert had been preceded by an Ulf, who appears in that county without any further designation, but is doubtless the Ulf 'fenisc' of Ilkeston. That Ulf 'fenisc' in Derbyshire at any rate was the recognised predecessor of Gilbert de Gand is proved by the statement, evidently as an exceptional fact, that Shipley, which was in his possession, did not belong to Ulf fenisc in King Edward's time, but to two thegns who could dispose of it by gift or sale to anybody they wished.

The next fief, that of Nigel de Stafford, has a peculiar interest in that its owner can be proved to be the direct ancestor in the male line of a family which still exists in its original seat. The Gresleys of Drakelow and Gresley continue to hold in these places two of the manors of their Domesday ancestor, and in the whole of England there is probably no case in which the descent of an existing family can be traced from a Domesday tenant in chief with equal precision.⁴ Gresley itself is not mentioned by name in the Survey, but would seem to be represented by the Heathcote which is surveyed together with Drakelow. We have seen already⁵ that Nigel de Stafford held part of Linton as a tenant of Henry de Ferrers, and it is from the Ferrers Carta of 1166 that we are able to ascertain the first steps in the splendid descent of his family. He held as tenant in chief several other manors in south Derbyshire, including land in Oakthorpe and Donisthorpe, which made part of a group of villis until quite recently surrounded by Leicestershire, and Ravenstone, still further separated from the body of the county.

Roger 'de Busli,' whose estates occupy the next column to that assigned to Nigel de Stafford, will more fittingly be considered under Nottinghamshire, where he was by far the greatest landholder. The last column of the Derby Survey is devoted to the anomalous class of king's thegns. This class deserves notice, for all its members were Englishmen, and Professor Freeman attached much importance to its

¹ For the descent of this fief see 'The Barons of Criche,' *Academy*, June, 1885.

² *Dom.* fol. 28ob.

³ *Ibid.* fol. 29ob.

⁴ Round, *Feudal England*, 213.

⁵ See page 302 above.

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appearance in any county. In reaction from Thierry, who insisted on the expropriation of all Englishmen as such, Mr. Freeman was disposed to make the most of all the cases in which men of the conquered race can be proved to have held land or wealth under the Norman kings.¹ In particular he made the existence of this class of king's thegns a test by which to determine the circumstances under which the several counties of England came under William's power. Where no Englishmen appear as holding of the crown, as in Kent and Sussex, he maintained that a severe resistance to the Conqueror on the part of the shire had caused its thegns to lose their lands; where, as in Derbyshire and in Nottinghamshire they are to be found, he argued that a timely submission had been the cause of the king's favour. But the status of the class does not support so far reaching a theory. The king's thegns did not rank with the tenants in chief by military service; they are placed after the sergeants in those counties where both occur, and they quickly died out as a distinct class south of the Humber under the sons of the Conqueror. There was no place for them in the feudal system which was growing up under the Norman kings. The conditions of their tenure, so far as these can be gathered from authorities of later date than Domesday, were proper to an older system of society than the feudalism of the end of the eleventh century—they could not be fitted into the new scheme and they disappeared. Moreover in Derbyshire at least their holdings were insignificant in extent. Out of a total of 700 carucates cast upon the whole shire the king's thegns only held twenty-three, and their current value is only returned as £14 4s. 8d. out of a total *valet* for the county of £425. With regard to the individual members of the class it does not seem that we can recover any personal detail. There seems to be nothing to mark them off from the undistinguished crowd of landholders who did not survive the Conquest. Very rarely does the Domesday thegn appear to be identical with the man who held his land in King Edward's time. At Ilkeston, part of which had been held by one Osmund, styled 'benz,' we are told that 'he himself holds it of the king,' and the same formula appears at 'Cellesdene,' the former owner of which was an Osmund. So careless are the Domesday scribes about the names of Englishmen that it is quite possible that these two men may be identical. An Earnwig (Ernui) held at Clowne the land which he had held in King Edward's time, and it is probable that the 'Toli' who held the greater part of Sandiacre in 1086 was the same as the 'Toli' who with two other thegns, one of whom bore the historic name of Cnut, had held the same manor before the Conquest. Of course, in the twenty years which had passed since that event many changes might take place in the ordinary course of succession; in the case of Risley it is distinctly stated that the son of the former owner held of the king, and in several instances the existing tenant is not mentioned by name.

Before passing from the tenants in chief of Derbyshire to the rural society found on their estates, it will be well to consider the account which

¹ *Norman Conquest*, iv. passim. See *V. C. H. Northants*, i. 324.

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Domesday gives us of the county town itself. In general, it may be said that Domesday fails to satisfy the modern student in the descriptions which it gives of urban life, for its compilers were concerned essentially only with such matters as bore directly on the king's revenue, and were not mindful of the details of borough organisation. Only one column of loosely-written manuscript is assigned to Derby, which, nevertheless, contains some features of special interest. In the first place, the mere position of the account of Derby in the Survey is in itself suggestive. It is usual in the shires north of the Thames for the description of the county town to stand at the head of the county survey.¹ But Derbyshire, in the eleventh century and, indeed, onwards, until the reign of Elizabeth, was united with Notts under one sheriff, and the connexion between the two counties is strikingly expressed by the way in which their surveys are interworked in Domesday. Folios 272 to 279 of the record are occupied with Derbyshire; one column each in folio 280 is given to the boroughs of Nottingham and Derby; folio 280b is assigned to a statement of certain local customs affecting the two counties jointly, and the Survey of Nottinghamshire follows immediately. So close an association as this of two counties is probably unique in Domesday, but we learn, in addition, from an incidental notice occurring in the column assigned to Derby borough, that the two shire courts sat together for the purposes of the Domesday inquest.² We know that the shire courts of Notts and Derby were combined long after this date, and that it was only by special petition that the Derbyshire men obtained their autonomy. The first line of the description of the borough of Derby contains an unusual phrase, which arrests the attention at once: 'In the borough of Derby' we read 'there were, in King Edward's time, 243 resident burgesses' (*burgenses manentes*). Now, if the last two words mean anything in particular, they certainly imply the possibility that there might exist a class of burgesses who were not resident in the boroughs to which they belonged. This class has been somewhat neglected by writers on the Domesday borough, although the Survey frequently refers to men styled 'burgesses' whose habitation, nevertheless, is in some rural manor,³ but as the question does not directly affect Derby, it cannot be discussed here. It is more to the point to remark that the description of our borough clearly reveals the existence of a land-holding class within the borough community in the period before the Conquest, when the 12 geldable carucates belonging to the borough were divided among forty-one out of its 243 burgesses. The same phenomenon reappears at Nottingham, and raises the difficult question whether the geld laid upon the borough may not have been paid only by those burgesses who held shares in the borough lands. It is certain that at Derby the assessment of the borough is brought into unusually close connexion with its agricultural basis. On the face of our record, indeed, Derby appears as essentially an agricultural

¹ For the general significance of this point see Maitland, *Dom. Bk. and Beyond*, p. 176.

² 'Testimonio duarum scirarum.'

³ See for account of these 'burgenses ruremanentes' Miss Bateson in *Eng. Hist. Rev.* xx. 148-9.

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community. It would certainly be very possible to exaggerate the significance of this fact; situated as it was at the point where the 'Ryknield Street' crosses the Derwent Derby was a natural place for a trading centre, and we read that receipts from its tolls form part of the revenue which it furnished to the king. But we read in much greater detail about its ploughlands, mills, woodland and meadows, which are described in the same terms as those of an ordinary country manor. It must be admitted that no support can be derived from Derby for the 'garrison theory'¹ of the borough. We find no references to 'wall work,' nor to military service of any kind, nor yet do any rural manors appear to have possessed houses appurtenant to them in the borough.² The general impression left by the Domesday account of Derby is that of a group of traders superimposed upon an economic organisation of the land such as was common to the whole of the county.

The revenue which the king derived from a borough may be divided into two heads, which are kept well apart in the case of Derby. First comes the sum which the borough contributed to the county 'geld'; Derby was assessed at 12 carucates, Nottingham at 6.³ In the second place there is the 'farm' of the borough, a round sum of money representing several distinct sources of revenue which the burgesses paid to the king, or, rather, to his officer the sheriff.⁴ At Derby this sum in King Edward's time was £24, in which the prevalent duodecimal system reckoning is still evident; by the time of the Survey it had risen to £30 'with the mills and the vill of Litchurch.' The twin borough of Nottingham likewise paid £30 by way of farm, but, in addition, rendered £10 from the mint. Now Domesday contains no mention of any mint at Derby, and yet we know, from the evidence of the coins themselves, that money was struck there in the Conqueror's time,⁵ a fact which illustrates the danger of arguing from the omissions of the great Survey. We are, however, given one very important statement relating to the pre-Conquest finance of Derby when we are told that 'two parts belonged to the king and the third part to the earl of rent and toll and forfeiture, and of every customary due.' This 'third part,' which belonged to the earl, is clearly the 'tertius denarius redditus burgi'; and we have in this passage a distinct proof that here at least it was assigned to the earl in the period preceding the Conquest, just as from the Warwickshire portion of Domesday we learn that the quite distinct 'tertius denarius placitorum comitatus' was also in that case a recognised possession of the earl in the Conqueror's time.⁶

A rather unexpected feature of Derby as it appears in Domesday is the ecclesiastical character of many of the entries relating to it. No

¹ Maitland *Dom. Bk. and Beyond*, 188 et seqq.

² The importance of the agricultural side of borough life is discussed in Maitland's *Township and Borough*.

³ For the round sums of geld cast upon the boroughs see Mr. Round in *Domesday Studies*, i. 117.

⁴ See for a full discussion of the farm of the borough the article on Domesday Finance, *ibid.* i.

⁵ *Numismatic Chron.* vol. (1904,) iii. 260.

⁶ *V.C.H. Warw.* i. 273. For the distinction between these two sources of comital revenue see Round, *Geoffrey de Mandeville*.

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fewer than six churches are recorded within the borough, of which two belonged to the king, the remaining four, each of which was the property of a different owner, being made the subjects of as many different entries. Ecclesiastical in character is the statement that the burgesses rendered to the king at Martinmas 12 thraves of corn, of which the abbot of Burton had 40 sheaves. The importance of this entry has been discussed by Mr. Round, who has shown that it refers to that somewhat obscure due 'churchscot,' and that it gives us an unusual instance of this due being paid—in the first place by a borough, and, secondly, to the king and not to any church.¹

The last feature of our borough which calls for notice here is the extraordinary number of its burgesses who had disappeared since the Conquest. Only 140 remained out of a pre-Conquest total of 243, and of these forty are described as 'lesser' burgesses. Nottingham also had suffered, though there the decrease was only from 173 to 120. The case of Derby is more remarkable in every way, as no castle appears to have been founded there by the Conqueror. Castle-building was to Mr. Freeman the cause of most of the evil which came upon many English boroughs as a result of the Conquest, and he was possibly disposed thereby to overlook other causes for their depreciation. It may be remarked that houses in towns were not for the most part large or costly structures, so that a slight decrease in the profits derived from trade in any town might lead many merchants to abandon their houses and seek some other place where they could obtain a more profitable return. Something may also be allowed for the devastation which we know Derbyshire to have undergone at the Conqueror's hands, but the loss by a town of nearly half its population in twenty years is difficult to understand even in the unquiet times of the eleventh century.

We may now pass from the consideration of the county borough and deal with the rural committees found within the shire. One of the gravest difficulties affecting the study of Domesday Book is our ignorance of the precise meaning which ought to be attached to the terms which it employs. This is especially the case with reference to the words describing the various forms in which the communities of the land are represented in the Survey. It has, for instance, been found impossible up to the present to define such a simple and common term as 'manor' (manerium) in the sense in which it is employed in Domesday. Professor Maitland, indeed, in a brilliant discussion of this subject, propounded the theory that 'manerium' simply meant an estate answering to the geld by itself.² This theory has been proved by Mr. Round to be untenable for several reasons, one of the most important being that 'manerium' is used in Domesday interchangeably with such a vague term as 'terra.'³ A Derbyshire instance of this will be found in the case of Ticknall, which is discussed in the notes to the translation of the Domesday text.⁴ An even more difficult term to define is 'soke,' and its compound 'sokeman.'

¹ *Engl. Hist. Rev.* v, 101.

³ 'The Domesday Manor,' *Engl. Hist. Rev.* xv. 293-5.

² *Dom. Bk. and Beyond*, 107-128.

⁴ See p. 335.

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As all these words occur frequently in the Derbyshire portion of the Survey they cannot be passed without some discussion.

Now on the whole we shall probably be safe in recognising four types of manorial structure in the Domesday survey of Derbyshire. There is first the case in which 'manor' and 'vill' are identical. This is the normal state of things in many counties, but by no means in Derbyshire, or indeed generally in the Danelaw. It is much more usual here to find that several manors are included under one vill,¹ their individuality being recognised by the common Domesday practice of placing the letter M to denote 'manerium,' with a figure attached to the letter indicating the number of constituent manors, at the side of the villar heading. Instances of this occur on almost every page of the Derby Survey; thus on the fief of Henry de Ferrers we find Tissington reputed to contain seven 'manors,' Barton Blount, eight; Shirley, Sutton-on-the-Hill, and Etwall, five each; Hilton and Swarkeston, four. Each of these 'manors' is considered to have been the estate of some definite owner before the Conquest, whose name is specified, and it would seem as if the unity of the manor was not necessarily destroyed by the fact of its being held by two co-owners, since in the case of Shirley, which is stated in the margin to have consisted of five manors, we find the previous holders represented by seven names—'Chetel and Ulmer, Turgis, Elric, Algar, Ulviet and Lepsi.' Here it looks as if the men whose names are connected by a conjunction were considered to hold one manor between each two of them, though in view of the possibility of scribal error in Domesday it would be unsafe to attach much importance to the point. In one instance the assessment of each 'manor' is given separately in an interlineation. Burnaston and Bearwardcote, which were assessed (together) at two carucates, were divided into five 'manors,' one containing 10 bovates, two of 2 bovates each, and two of 1 bovate each.² These last represent the inferior limit of size for the 'manor' in Derbyshire, so far as we can tell in the absence of detailed assessments for other similar cases.

A third type of manor is especially well represented in Derbyshire. This consists of a central 'manor,' with satellitic 'berewicks.' 'The "barton" and the "berewick",' says Professor Vinogradoff in his latest work, 'are settlements connected with barns for the collection of corn and other produce with no special agricultural plots attached to them.'³ Similarly Professor Maitland says of the berewick:—

Its name seems primarily to signify a wick or village in which barley is grown; but like the barton ('bertona,') and the grange ('grangia') of later days, it seems often to be a detached portion of a manor which is in part dependent on and in part independent of the main body. Probably at the berewick the lord has some demesne land and some farm buildings, a barn or the like, and the villeins of the berewick are but seldom called upon to leave its limits; but the lord has no hall there, he does not consume its produce upon the spot, and yet for some important purposes the berewick is a part of the manor.⁴

¹ See for instances from other parts of England *Dom. Bk. and Beyond*, 116-118.

² Fol. 275b.

³ *The Growth of the Manor*, 224.

⁴ *Dom. Bk. and Beyond*, 114.

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The great series of royal manors which is described above on page 297 supplies us with some excellent specimens of this variety of manorial economy, which was much more developed in Derbyshire than in any other county of the Danelaw. In the case of these royal estates the unity of each manorial group even affects its fiscal responsibilities, for we have seen above that such manors as 'Mestesforde,' Ashbourne, Wirksworth, and Bakewell were assessed to the geld each as a united whole, thus forming an exception to the general rule that a manor as such is not recognised in the subpartitionment of the geld. With their curious payments in kind, and their groups of dependent hamlets, these manors would seem to represent the most archaic type of agricultural estate to be found in the county; but we have to remember that the nature of the country in which they occur, consisting of great tracts of barren limestone rock with slender strips of cultivable soil along the watercourses, was not favourable to the development of the neat villar-manorial economy of the south of England. There is no doubt that the royal manors of north Derbyshire were largely the product of their geographical conditions. In this region at the present day we do not find 'nucleated' villages of the normal Midland type, but scattered hamlets grouped into parishes for purposes of administrative convenience, while north Derbyshire on the map resembles south Derbyshire much less than it resembles west Somerset or Devonshire. Under these circumstances it is only natural to find these hamlets on the royal land grouped into large manorial blocks for the sake of agricultural organisation, and this helps to account for the fact, otherwise strange, that the wildest part of the county is covered the most thickly with place names on the Domesday map.¹

Very frequent in the Danelaw taken as a whole, though less prominent in Derbyshire than in any other county of this group, is the fourth manorial type, which consisted of a central 'manor,' with 'sokeland' appurtenant to it. This is not the place to enter into the thorny questions connected with sokeland.² We may, however, note Professor Maitland's opinion, that sokeland 'in this context seems to be the territory in which the lord's rights are or have been of a justiciary rather than of a proprietary kind.'³ The territory over which the lord enjoyed 'soke' was usually much scattered; it seems to represent rather a chance agglomeration of rights casually acquired than an estate regarded as an agricultural unit, and in Derbyshire at least it has no fiscal significance. We can unfortunately by no means affirm that a lord who possessed a manor with 'sokeland' enjoyed rights of private jurisdiction over the latter either in

¹ The distinction between manor and berewick is well shown in a writ which must be dated 1093 (Dugdale, *Mon.* viii. 1271), by which William II. grants the churches of Chesterfield and Ashbourne, Derbyshire, and Mansfield and Orston, Notts, to Robert Bloet, bishop of Lincoln 'et capellas quæ sunt in berewicis quæ adjacent prædictis quatuor maneriis.' It is, however, curious to find Chesterfield regarded as an independent 'manerium' within seven years of Domesday, since in that record it appears merely as a berewick of Newbold. Manorial geography at this early date was less stable than is always recognised.

² See Round, *Feudal England*; Maitland, *Dom. Bk. and Beyond*; Vinogradoff, *The Growth of the Manor*.

³ *Dom. Bk. and Beyond*, 115.

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1086 or in Anglo-Saxon times. The fact that in our county we have a list of some twenty-one people only who are mentioned as exercising jurisdictional privileges¹ which might be advanced in this connexion is not altogether to the point; the franchises specified in the list are of a high order, and rights of simple jurisdiction might be enjoyed by many persons who did not possess the full set of privileges set forth in the list. But in view of what we learn from other counties, for Derbyshire sources throw no light on this matter, it is clear that the power of jurisdiction was no inseparable part of the lord's rights over his sokeland, which included labour services and the payment of customary dues, and a number of vague rights comprised under the Domesday formula of 'commendation.'² In some parts of the country the Domesday sokes have maintained their individual existence up to the present time; it fortunately happens that we can trace back one Derbyshire soke for over sixty years before the Conquest. In the above-mentioned list of franchises it is stated that Walter de Aincurt exercised soc and sac over Morton. Now in the will of Wulfric 'Spot' we read of 'Mortune and eal seo socna the thæрто hereth.'³ In this case 'socna' has a territorial signification, for the will goes on to recite the places which were included within the 'soke' of Morton.⁴ One of these was Ogston, 'Oggodestun,' which Domesday describes in the same entry as Morton itself. We are so much in the dark as to the growth of private jurisdiction in the Danelaw that this instance of the continuity of jurisdictional rights recorded in Domesday is doubly welcome. We may note here that there is one instance⁵ in Derbyshire of the difficult word 'thegnland,' which in Domesday seems to be usually contrasted with 'sokeland.' It is so contrasted in the present case, but we have no further details. Its meaning in Cambridgeshire has been discussed by Mr. Round in the light of the *Inquisitio Eliensis*, and he has shown it to be applied in that county to land which the owner could not alienate without the consent of his lord.⁶ Whether it bears the same meaning in Derbyshire, in the absence of details it is difficult to say, but there seems no reason to doubt that it does.

Of course the last two of the above manorial types might, and frequently in practice did, overlap; a manor might well contain both 'sokeland' and 'berewicks.' Thus Newbold, the first manor entered in the County Survey, contained six 'berewicks' and also 'sokeland,' which is made the subject of eight distinct entries.⁷ But the above classification may help us to realise the variety of the tenurial rights which are represented by the Domesday 'manerium,'⁸ and the impossibility of finding an exact definition to cover all these various forms of local organisation.

¹ pp. 328-329.

² *Dom. Bk. and Beyond.*

³ Kemble, *Codex Diplomaticus*, 1280. The phrase is repeated in the charter of Ethelred II. to the monastery, printed in the *Mon.* iii. 39-40.

⁴ '& þ land piperinn.'

⁵ In Hatune, 'Hatton vi bov. terræ de soca & i bov. & dim. de Tainland.' This entry is added at the foot of folio 274b.

⁶ *Feud. Eng.* 28-9.

⁷ See the opening of the Domesday text.

⁸ Great stress is laid on this point by Prof. Vinogradoff in *The Growth of the Manor.*

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Nor is our difficulty lessened when we turn from the land itself to the people who were settled on it. The classes of society in Domesday are intricate, and the Derbyshire portion of the record contains so little detail on these matters that we are here left more than usually in doubt as to their significance. Excluding priests, five classes of peasantry are to be found in Derbyshire, sokemen, villeins, bordars, serfs, and 'censarii,' of which the numbers recorded in the county may be given here for purposes of reference: sokemen, 128; villeins, 1,849; bordars, 737; serfs, 20; censarii, 42. The latter form an interesting class; the name 'censarius' seems to denote a rent-paying tenant, and is so rendered in the translation of Domesday below; it probably represents a portion of the widespread class of 'liberi homines,' of which no member occurs in Derbyshire. The distribution of the 'censarii' in the county is very curious; four members of it appear at Weston-on-Trent, and five at Trusley, the same sum being rendered by two sokemen in that vill. Six appear at Egginton, and four at Ockbrook, while no less than eighteen are found at Duckmanton, of which manor they constitute the sole recorded population. Three occur at Ashover, and one each at Palterton and Swadlincote. The capricious distribution of the class raises the important question whether the Domesday scribes have consistently entered 'censarii' whenever they were to be found in the original returns. This point has been considered by Mr. Baring with reference to the *Burton Chartulary*.¹ No 'censarii' are found on the Burton estates in the Derby Domesday, and yet large numbers of them occur in a survey of these estates which belongs to the second decade of the twelfth century. The significance of this for us will depend on whether we regard it as more probable that the compilers of Domesday should have considered themselves free to include or admit at will a distinct class of society mentioned in the original returns, or that the great economic change implied in the appearance of these 'censarii' should have taken place within thirty years on the estates of Burton Abbey.

A similar uncertainty attends the reckoning of the serfs in Domesday. The Derbyshire serfs do not quite amount to $\frac{5}{7}$ per cent. of the total recorded population of the county. Small as this number is, it is greater than the number found in Nottinghamshire, but much less than the number occurring in Leicestershire. It has often been remarked that no *servus* is recorded in the Lincolnshire Domesday.² Thirteen out of the twenty Derbyshire serfs are to be found on the fief of Henry de Ferrers, and ten of them occur on the manor of Duffield alone. Elsewhere in the Survey they appear at Morton (four), Newbold, Eckington, and Barlborough (one each). No conclusion can be drawn from so haphazard a distribution as this.

The sokemen form a very interesting class, the exact position of which is, however, by no means clear. Here again the most recent

¹ *Engl. Hist. Rev.*, vol. xi. (1896), pp. 98-102.

² The varying proportions of the servile class is graphically shown in the maps in Mr. Seebohm's *English Village Community*. The figures on which the maps are based are not always reliable, but in general the results are sound.

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authority is Professor Vinogradoff, who is indisposed to see any very deep line of cleavage marking off the sokemen from the ubiquitous class of 'villani.' He says:—

Beginning with 'sokemen' we may notice that besides Domesday it occurs in Latin versions of old English law, for instance in the laws of Edward the Confessor, where a distinct fine is mentioned as appertaining to the villein and the sokeman, the fine of 12 shillings for the breach of their home peace. These instances show to my mind that the distinction between villein and sokeman is a later Norman one, and that originally both groups belonged to the same class of 'twyhyndmen' or 'ceorls.' Why should otherwise the fine be identical? It is applied to two subdivisions which appear differentiated only in Norman documents. There was no call for a differentiation of fines in the time of Edward the Confessor because both the ancestors of later villeins and those of later sokemen were as yet merged in the one class of twyhynd ceorls.¹

This is not the place to discuss this subtle argument, which must largely depend for its validity upon the weight to be attached to the 'laws' of Edward the Confessor, an authority of by no means the best reputation.² Turning to the sokemen as they are found in Derbyshire we have seen that they are by no means a large class, numbering only 128, or between 4 and 5 per cent. of the recorded population. It may sound a truism to remark that in Derbyshire sokemen are mostly found settled on sokeland, but in view of the inconsistencies of Domesday the note is worth making. Twenty-nine sokemen appear on the king's land, none of whom, we may remark, are found in the great group of royal manors on the Dove and Upper Derwent, twenty-two occur on the small fief of the bishop of Chester, and twenty-seven on the estates of Ralf fitz Hubert. The most considerable groups of sokemen are found at Wingerworth (14), Long Eaton (22), Chaddesden (11), Mosbrough (13), Barlborough with Whitwell (10), and Ilkeston (10). It thus appears that eighty sokemen, or nearly two-thirds of the total number recorded for the county, are found concentrated in six places, the first four of which are duly denoted by the marginal letter S as sokeland. With the exception of four sokemen divided between Trusley, Barrow-on-Trent, and Boulton not a single sokeman appears west of the Derwent and north of the Trent. This may be accounted for partly by the non-appearance of sokemen on the royal demesne in this quarter, and partly by the very small size of the pre-Conquest manors in Appletree wapentake, for we have seen that the class is most frequently represented on large manors with appurtenant sokeland, the fourth manorial type described above. In any case it is suggestive to find so large a proportion of the class occurring on the borders of Notts and Leicestershire, in both of which the sokemen were much more prevalent than was the case in our county. The Derbyshire portion of Domesday contains little or nothing to help us in determining the relationship of these sokemen to their lord. We read once of a payment which they made to him;³ but the most interesting statement relating to the class occurs in the entry concerning Winshill, a manor belonging to Burton Abbey, in which we are told that

¹ *The Growth of the Manor*, 341-2.

² See Pollock and Maitland, *Hist. of Engl. Law*, i. 103-4.

³ At Trusley, see below p. 340.

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King William 'placed' (apposuit) eight sokemen belonging to Repton.¹ This probably means that for tenurial purposes these sokemen would hold of the abbot, but that the rights of jurisdiction over them, and perhaps other profits as well, would remain in the king's hands as attached to his manor of Repton.

The one remaining class of men in the Derbyshire Domesday consists of the priests, of whom the Survey records forty-seven in this county. Usually they are classed with the peasantry, but at times they reach a higher position. Thus at Bakewell, where there were two priests who had two villeins and five bordars under them, no less than three carucates are entered as belonging to the church. At Ashbourne the priest, who possessed one carucate assessed to the geld, had under him two villeins and two bordars with 'half a plough' and also a man who paid him 16 pence, the priest himself having a plough of his own. Both these instances however are taken from the royal demesne; on the estates of undertenants the church endowments were not so valuable.²

Derbyshire was one of the few English counties which already by the date of the Survey possessed a distinctive industry. Lead-mining was as characteristic of Derbyshire as its salt works were characteristic of Worcestershire, and in either case the connexion between the county and its most noteworthy production has lasted until our own time. Lead works (*plumbariæ*) occur in the Derbyshire survey at Wirksworth, where there were three, at 'Mestesforde,' Bakewell, and Ashford on the royal demesne and at Crich on the fief of Ralf fitz Hubert, in each of which places there was one, the pre-eminent position of Wirksworth in the industry being thus shown even in Domesday. In his foundation charter to Lenton Priory William Peverel gave the tithe of his lead to that house, and in the *Valor Ecclesiasticus* of 1535 the value of the tithes of lead in the High Peak which resulted to the priory from that grant is estimated at £6 13s. 4d.³ We have already dealt in another connection with the rents in lead paid by the manor on the royal demesne. It is quite possible that the reference to 'pure silver' on page 331 of the translation, a phrase which is very abnormal if not unique in Domesday, may point to some metallurgical connexion between the working of silver and lead. The suggestion is tacitly made by the editors of the *Dialogus de Scaccario*,⁴ who point out that the only instances of payment 'puri argenti' which they have found in the Survey occur in a lead-mining district. With the exception of the solitary smith who appears at Alvaston no artisan of any kind occurs in the county Domesday.

Lead-mining was confined to five manors only; the universal industry of agriculture was in Derbyshire, as elsewhere, the basis of the survey. The great plough of eight oxen was the unit employed by the Domesday commissioners in estimating the actual agricultural condition of a manor; its potentialities in the matter of cultivation are expressed by the number

¹ Fol. 273.

² Bakewell and Repton, which is also on the royal demesne, are the only places which are credited with two priests in Derbyshire.

³ Dugdale, *Mon.* v. 115.

⁴ Oxf. Univ. Press, 1902, pp. 34-5.

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of these ploughs which could find employment on its lands. This seems evident when we find as at Markeaton that there was land for nine ploughs, but that there were only two in demesne, the tenants having five between them. We must also keep in mind that when there was not land enough in a manor for the full eight-ox plough its amount was denoted by the number of oxen considered necessary for its tillage. Thus when an estate is described as containing land for four oxen, this phrase is used to represent half a ploughland, land for two oxen representing a quarter of the same unit. Similarly, 'land for twelve oxen' was evidently considered by the compilers of Domesday to be a more compendious phrase than 'land for $1\frac{1}{2}$ ploughs.' When the number of 'ploughlands' was identical with the number of carucates a simple statement was often made to that effect which usually works out easily enough, a carucate representing a 'ploughland,' and each of the eight bovates into which the carucate was divided standing for the land assignable to one ox. Once however this principle leads us into a very curious calculation; at Chad-desden, which was assessed at 2 carucates, $4\frac{2}{3}$ bovates, we are told 'there is land for as many ploughs.'¹ Strictly construed this entry would introduce us to two-thirds of an ox, but it is doubtless due to inadvertence on the part of the Domesday scribe, who merely wished to say that the rateable value of the land corresponded well enough with its agricultural possibilities. But the whole matter is very seriously complicated by the fact that we frequently find a manor actually stocked with more ploughs than the number of ploughlands which it is reputed to contain. Taking half-a-dozen consecutive entries from the fief of Henry de Ferrers² we may express them in tabular form thus:—

	Carucates.	Ploughlands.	Ploughs.
Winster	$1\frac{1}{2}$	$1\frac{1}{2}$	4
Cowley	$\frac{1}{2}$	$\frac{1}{2}$	1
Elton	2	2	5
Brassington	4	4	9
Bradbourne	4	4	6
Tissington	4	4	7 ³

Here the unusual correspondence between the rateable value of each manor and its agricultural strength as expressed in ploughlands accentuates the uniform excess of the actual ploughs over both these quantities. Taking Derbyshire as a whole we obtain a total of 881 ploughs as against $744\frac{2}{3}$ ploughlands. Striking as this divergence is, it is quite thrown into the shade by the figures for Nottinghamshire, where we find an excess of the actual teams over the ploughlands of more than 700. These figures make it difficult to believe that the ploughland was in any consistent sense a 'real' quantity, and in the *Victoria History of Northamptonshire*⁴ Mr. Round has proved that the ploughland in that county represented an obsolete assessment to the geld much heavier than its current rating in 1086. An analysis of the Derbyshire Survey does not reveal any such constant ratio between geldable carucates and teamlands as would lead

¹ Fol. 275, 'terra totidem carucis.'

² Ibid.

³ Fol. 274.

⁴ Vol. i. p. 264.

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to the supposition that the Derbyshire teamland had ever been a fiscal unit.¹ One difficult phrase, however, deserves attention here. At the end of the fief of Henry de Ferrers two entries occur which have the appearance in the manuscript of being somewhat later additions to the text. The first of these entries will be discussed later, the second relates to Edensor, where we read, 'Henry now has 4 carucates of land (assessed) to the geld and "totidem car' ad arandum."' A good deal depends on the way in which we extend the compendium 'car' in this entry. If we render it as *carucatarum* we shall have an extremely rare reference in this part of England to the actual field carucates existing in the manor; if we read *carucarum* we shall have a no less unusual phrase, which we must translate 'teams for ploughing.' On the whole the former seems the more natural rendering; but the known habits of the Domesday scribes prove them to be quite capable of the tautology which would exist if the second reading were the true one. However, as in the account of the borough of Nottingham we read of 'vi caruc' terræ ad arandum,'² where 'caruc,' must undoubtedly be extended as 'carucataë,' we may use this phrase to illustrate our Edensor entry³ and to support the first reading given above. It is therefore very interesting in this solitary reference to the 'real' carucates existing on the land to find them identical in numbers with the fiscal carucates representing the assessment of the manor.

It is impossible to read the Domesday account of Derbyshire without being struck by the enormous amount of land entered as 'waste.' No less than 10 per cent. of the total number of places mentioned in the county are entered with this significant phrase attached to them, and they are scattered so widely that nothing is to be learned from the study of their distribution. Much of this waste is probably due to the devastation of Derbyshire which we know to have taken place when King William put down the revolt of Stafford. We have, however, to remember that when a place is entered in Domesday as waste, this does not necessarily imply that its land was thrown entirely out of cultivation. In Derbyshire at least a devastated manor will commonly be credited with a small value, usually, of course, showing a large decline from that assigned to it for the time of King Edward. Thus taking a few instances:—

	Value T.R.E.			Value T.R.W.		
	£	s.	d.	£	s.	d.
Tupton . . .	0	8	0	0	5	0
Totley . . .	0	10	0	0	1	0
Killamarsh . . .	0	1	4	0	1	0
Willesley . . .	1	0	0	0	16	0
Hartshorn . . .	4	0	0	10	0	0
Barrow-on-Trent . . .	0	13	4	2	0	0
Chellaston . . .	0	12	0	3	0	0
Ravenstone . . .	0	15	0	1	0	0
Donisthorpe . . .	0	5	0	1	0	0
Oakthorpe . . .	0	5	0	0	0	4
'Trangesbi' . . .	0	5	0	0	2	0

¹ The difficult questions connected with the ploughland are discussed in *Domesday Book and Beyond*, p. 418 ff.

² Fol. 280.

³ On the 'carucata ad arandum,' see Round, *Domesday Studies*, 199 ff.

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Twopence would seem to be the lowest value recorded for any manor in the county. Quite apart, however, from questions of actual devastation, Derbyshire, as a whole, had suffered a very marked depreciation in value since the Conquest—namely, from £596 7*s.* to £425. This decrease is not confined to a number of exceptional manors, but is spread pretty evenly all over the county. Taking a few representative fiefs, we find that of Burton Abbey shrunk from £15 to £12, that of Henry de Ferrers from £228 1*s.* 8*d.* to £148 15*s.* 10*d.*, that of Ralf fitz Hubert from £59 8*s.* to £29 8*s.* 6*d.*, and that of Nigel de Stafford from £10 to £6 0*s.* 6*d.* It is difficult to obtain good figures for the king's land, as the estimate of his most important manor is given as a render and not as a value; but we notice that his receipts from Bakewell, Ashford, and Hope were less by £9 14*s.* than their value to Edward the Confessor. On the whole, the Domesday valuation of a manor seems to represent a rough estimate of the amount which it would bring in to its lord if leased under ordinary conditions.¹ The case of Ticknall, which bears on this point, has already been quoted. Perhaps the most interesting valuation in the county is that of Risley, which has been mentioned before on account of the symmetry of its assessment. Its pre-Conquest condition may be expressed thus:—

Tenures.	Assessment.		Value T.R.E.		
	car.	bov.	£	s.	d.
'Ulsi' . . .	0	5½	1	1	4
'Godric' . . .	0	5½			
'Lewin' . . .	0	5½			

Here not only was the vill divided for purposes of assessment into three equal portions of 5½ bovates each, but each of these portions would seem to have been valued at the same amount, namely, 10*s.* 8*d.*, of which sum £1 1*s.* 4*d.* is double. After the Conquest this symmetry was destroyed, Lewin's share having decreased by half to 2*s.* 8*d.*, while the other two shares rose to a joint value of £1 2*s.* 8*d.*

Now this sum of 2*s.* 8*d.* reappears either simply or in some multiple in a number of Derbyshire valuations relating to the Confessor's time as well as to 1086. To save space it will be best to set out the instances of this unit in tabular form:—

£ s. d.	Value T.R.E. of:	Value T.R.W. of:
0 5 4 .	Brampton and Wadshelf	Brampton and Wadshelf
. . . .	Harthill	Dore
0 10 8 .	Risley	Shirland and Ufton
.	Mackworth, etc. ²
0 16 0 .	Shirland and Ufton	Youlgreave
. . . .	Mapperley	Rowthorn
1 12 0 .	Youlgreave	'Langeleie' and Chatsworth
.	Beighton

In view of the fact that the overwhelming majority of values in the county are cast in simple multiples or fractions of a pound, it is difficult to regard these figures, which are still more in evidence in Nottingham-

¹ The question is very difficult, but this seems the most probable view in ordinary cases.

² As a 'render.' See above p. 299.

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shire, as wholly the result of chance, and the probability that they mean something is increased when we find that incidental sources of manorial revenue, such, for instance, as mills,¹ are frequently expressed in terms of the same unit. The only denomination, in fact, to which it can be brought to refer is the 'ore,' which is not mentioned by name in the Domesdays of Derbyshire or Notts. In several counties we are distinctly told by Domesday that the 'ore' (or ounce of silver) equalled 20 pence, but, on the other hand, we have good evidence that a counter-reckoning of 16 pence to the 'ore' was known,² and as the Survey is silent on the point in one county, there is nothing to hinder the belief³ that the latter equation prevailed there. If this were so, then we can better understand the very important statement which occurs in the list of local customs relating to Notts and Derbyshire to the effect that for certain breaches of the peace a fine was paid by eighteen 'hundreds,' each hundred paying £8. This has been connected by Mr. Round with the statement in the York *Liber Albus*, that the peace of that church was safeguarded by a system of fines graduated according to 'hundreds,' and that 'in a hundred there are contained £8.'⁴ If 16 pence went to the ore in this part of England, we can understand the latter statement, for £8 would contain just 120 ores, which, according to the 'long hundred' which prevailed in the Danelaw, would normally be described as a hundred in themselves. The same sum of £8 appears in our Survey as the 'relief' which a thegn having more than six manors paid to the king.

In studying Domesday, it is always advisable to pay attention to more than one county at the same time, for villas situated on the border of two counties are frequently surveyed under each of them, while there also exist cases in which a villa is described in the Survey under a county with which it had no territorial connexion.⁵

The latter cause of perplexity does not affect us in dealing with Derbyshire, but our county was curiously implicated with Leicestershire in the extreme south of it. Until quite recently a group of villages belonging to Derbyshire formed an island surrounded by Leicestershire. Appleby, Oakthorpe, Donisthorpe, Stretton-en-le-Field, Willesley, Chilcote and Measham, with probably the unidentified 'Trangesbi,' were reckoned as part of Derbyshire in 1086 as afterwards, but were separated from the body of the county by the Leicestershire parishes of Over and Nether Seal.⁶ The first four of these villas, together with Ravenstone, which is still further imbedded in Leicestershire, and Linton, which seems to be wholly in Derbyshire, were surveyed, in fact, under each county in

¹ The following valuations of mills may be quoted: Spondon, Hope, Winhill, Staveley, Youlgreave, Sandiacre (5s. 4d.), Brailsford, Bakewell (10s. 8d.). A villein at Osmaston-by-Derby paid 2s. 8d. Mr. Round considers that the valuation of mills in 'ores' was widespread in Domesday.

² Chadwick, *Studies in Anglo-Saxon Institutions*, pp. 24-5.

³ Mr. Round points out that the *Burton Chartulary*, combined with the *Okeover Charters*, contains proof that the 'ore' of 16 pence was recognised 'eo nomine' in the district.

⁴ *Feudal England*, p. 73.

⁵ Thus parts of Oxfordshire and of Warwickshire are found surveyed with Northants.

⁶ In 1893 Over and Nether Seal were transferred to Derbyshire in exchange for the group of villages mentioned above. In the Domesday map they are represented as in Derbyshire.

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Domesday. In the case of Appleby, by combining the 5 carucates held by Burton Abbey, in Derbyshire, with the 4 carucates held by the 'countess' Godeva in Leicestershire we obtain a 'duodecimal' total of 9 carucates for the vill as a whole, and at Linton the 2 carucates with which Henry de Ferrers is credited in the Derbyshire survey combine in a similar way with the 1 carucate which is assigned to him under Leicestershire. In addition to these cases, certain manors situated in other counties had appendages in Derbyshire. The economic arrangement of the manor sometimes overlapped the political division of the county. Thus the king's great manor of Rocester, in Staffordshire, extended itself across the Dove into Derbyshire. Of Wyaston and Edlaston we read:—

Hæc iia^e villæ sunt de firma R(egis) in Rouecestre præter 1 bovata^m quæ jacet in Osmundestune.

The interest of this entry is twofold. In the first place we see the farm of an important royal manor derived from estates situated in more than one county; and, secondly, this passage supplies an argument against the universal autonomy of the Domesday 'manerium.' The symbol M is duly applied to the entry of Wyaston and Edlaston, and¹ yet we find that for one most important purpose these villas merely formed part of a larger whole. It may be noted in passing that while Earl Ælfgar is given as the former possessor of Rocester, his son, Earl Edwin, is represented as having been the owner of Wyaston and Edlaston.

Another tangle of rights, occurring this time in the extreme south of the county, is to be found at Chilcote, which is entered as a 'berewick' among the lands dependent on the king's manor of Repton. Yet the Survey goes on to mark 'H(aec) ad Cliftune pertinet in Stadford.' Clifton Campville, in Staffordshire, is the next village to Chilcote, but it is not easy to see in what sense Chilcote can have been dependent both on Repton and on Clifton Campville. A converse case in which land outside our county is assigned to a manor within it occurs in connexion with Sandiacre. Land at Thrumpton, Notts, situated on the fief of Hugh de Grentemaisnil, is stated to 'lie' in Sandiacre.² As no previous owner is given in the Thrumpton entry, and as Hugh de Grentemaisnil held no land in Derbyshire, it is difficult to account for the connexion with Sandiacre, which, in 1086, was divided into three 'manors,' all entered on the land of the king's thegns. We have seen that one of these manors was held by a certain 'Toli,' who also held in Ilkeston land to which the symbol 'M' is applied. Yet at the end of this latter entry we read, 'Haec terra pertinet ad Sandiacre.' Here, then, we not only find the vague word 'terra' applied to a recognized 'manerium,' but we have another case in which one manor was dependent on another manor.

Some of the most interesting entries in Domesday are those which relate to the disputed possession of land. There is always the possibility that these notices will contain some statement of the local customs affecting the matter in dispute, and we may also expect to find the wit-

¹ Mr. Round observes that this passage does not stand alone.

² 'In Sandiacre iacet,' fol. 191b.

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ness of the local bodies, the hundred or wapentake, thrown up into relief. The latter is the case in Derbyshire, at Radbourne, which is entered on the fief of Henry de Ferrers, a note, however, being added to the entry that 'Ralf fitz Hubert claims the third part of Radbourne and the wapentake bears witness in his favour.'¹ Nothing more is stated about the matter, but Ralf's claim may not have been entirely unconnected with his possession of the neighbouring manor of Kirk Langley. The Domesday use of the word 'intercapere' as denoting unjust seizure is illustrated at Breaston. Here two Englishmen, Ligulf and 'Lewin cilt,' had held a 'manor' before the Conquest, and in addition Ligulf had possessed half a carucate of sokeland in the same place, which we are told 'Fulk de Lusoris has intercepted in despite of Gilbert de Gand.' The latter was at this time possessed of two carucates of sokeland in Breaston belonging, it would seem, to his manor of Ilkeston which he had derived from his regular 'predecessor' Ulf 'fenisc.' Evidently the opinion of the jurors supported Gilbert's right to the sokeland held by Fulk de Lusoris. Possibly Ligulf may have been the 'man' of Ulf fenisc with reference to the sokeland which he held in Breaston, in which case the law represented in Domesday would assign the latter to Gilbert as the recognised successor of Ulf, the former lord of the land. This, however, is only a guess. Of Ligulf nothing more is known, but in 'Lewin cilt,' his partner at Breaston, strange as it may appear, we may quite possibly recognise Leofwine of Caddington, Herts, whose position in Domesday and elsewhere has been worked out by Mr. Round, in the *Victoria History* of the latter county,² where also he appears as 'Lewin cilt.' He held land in Herts, Bucks, and Beds, but we should not certainly be prepared to meet with him so far north as Derbyshire were it not for the coincidence of the designation 'cilt,' meaning apparently a person of noble birth, which seems unlikely to have been applied to two different persons of the same name. If the two are identical, this Lewin cannot be the same as the 'Lewin, the son of Alwin,' who is entered among the possessors of sac and soc before the Conquest, as the father of the Hertfordshire Lewin cilt was called Edwine.³

It is unfortunate that none of these disputed or doubtful claims gave rise in Derbyshire to duplicate entries of the land in question, as we sometimes draw from the latter very valuable information as to the employment of equivalent terms in Domesday. One entry in our Survey, however, although the land which it describes does not seem to have been contested, bears every appearance of being duplicated at the end of the description of the fief on which it stands. We may place the two entries side by side:

I.

Ibidem In Morleia (Morley) habuit Siward iiii partem duarum carucatarum ad geldum. Ibi habet Henricus iiii villanos cum i carucam. Silva past- (ilis) iiii quarentenae longitudine et iii latitudine.

II.

In Morelai terciam partem (sic) duarum carucaratum terrae ad geldum. Seward habuit. Nunc Henricus habet.

¹ Probably Appletree Wapentake.

³ Kemble, *Codex. Dipl.* iv. 259.

² *V. C. H. Herts*, i. 281.

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This second entry reads like an ungrammatical précis of the first, omitting the statements about the villeins and the woodland. As it is inconceivable that Henry de Ferrers should have held two distinct manors in the same place, both of which were rated at the same complicated sum of two-thirds of two carucates, we may dismiss the supposition that we are dealing with two different entries. We may note that 'carucata terrae' is used indifferently with 'carucata' alone, and also that the names of the place of its former owner are spelt differently in the two entries.

This account of Morley may serve to introduce us to a rather important point. We have seen that in Derbyshire generally the assessment of a vill, or part of a vill, is unusually low¹; in many entries it will be expressed in fractions of a bovate. We have therefore to consider more minutely than is needful elsewhere the ratio which the assessment bears to the actual amount which would have to be paid to the danegeld at the normal rate of 2*s.* to the carucate, and this is specially necessary because the fractions into which the assessment is cast have in many cases a rather formidable appearance. We read of half acres, of thirds of bovates, and of subdivisions of the carucate which will not work out into even numbers of bovates or even of acres. These last, indeed, refuse to be smoothed away altogether, but it is remarkable to notice the ease with which the rest adapt themselves to the payment of a 2*s.* geld on the assumption that one carucate equals eight bovates composed of fifteen acres each. We may in fact draw up a table of payments on this scale as follows :—

					£	s.	d.			
1	carucate	=	8	bovates	=	120	acres . . . pays	0	2	0
$\frac{1}{2}$	"	=	4	"	=	60	" . . . "	0	1	0
$\frac{1}{6}$	"	=	$\frac{2}{3}$	of 2 "	=	20	" . . . "	0	0	4
$\frac{1}{8}$	"	=	1	"	=	15	" . . . "	0	0	3
						5	" . . . "	0	0	1

At this rate we may remark that two-thirds of two carucates would pay 2*s.* 8*d.* Here the neatness of the equation '15 acres pay 3*d.*' helps to account for the frequency with which in Derbyshire the bovate is found split up into thirds. Such being the simplicity of the payments made according to the basis which underlies the table, it may fairly be adduced as an argument in favour of the accepted view that the carucate consisted of 120 acres. If it contained any considerably smaller number of acres than this, such for example as 46 or 30, the payment made by these thirds of bovates would be reduced to some unintelligible fraction of a penny.³ On the above basis, however, the most complicated fractions worked out neatly. We may take for example the case of Snelston, which affords an unusually convincing instance of Domesday arithmetic, and place beside the fractions into which its assessment is divided the payment which would be made by each according to the above calculation.

¹ See above p. 294.

² If there were any doubt as to the contents of the Derbyshire carucate the tendency would probably be to give it more than 120 acres. See *Dom. Bk. and Beyond*, p. 484, for the cases of Morton and Norton. The explanation there given seems probable, especially as in the former case more than one place is included in the same entry.

A HISTORY OF DERBYSHIRE

	Assessment.			Payment.		
	car.	bov.	ac.	£	s.	d.
Levenoth } . . .	2	2	10	0	4	8
Elfric } . . .						
Saulf } . . .						
Soke to Micklover .	0	4	0	0	1	0
„ „ Rocester .	0	3	0	0	0	9
‘Belonging to Norbury’	0	5	20	0	1	7
Total	4	0	0	0	8	0

It will be evident from the above table that the thirds and sixths of carucates which are met with in the Survey would in practice pay an equally simple sum of money.

We may now turn to certain miscellaneous points of interest which occur in our portion of the Survey. On page 334 we have an abnormal entry in which Domesday itself contrives to warn us not to place too much reliance on its own statistics. Of Long Eaton which was assessed at 12 carucates we read :—

Ibi xxii sochmanni et x bordarii sub ipsis habent ix carucatas de hac terra et xiii carucas. Aliæ iii carucatæ terræ sunt villanorum.¹

Here the presence of villeins on the land is distinctly stated, but their number is left unspecified, and it is interesting to find this class so clearly separated from the sokemen and bordars. But it is quite unique in this county to find bordars holding of sokemen,² or at any rate to find the fact directly stated. Moreover in this entry, as in that relating to Edensor quoted above, we are brought into direct contact with actual carucates of land, and here also they appear as just equal in number to the carucates (assessed) to the geld, for the three carucates belonging to the villeins and the nine held by the sokemen cannot well mean anything except the real divisions of the soil called by that name. Another abnormal entry, the peculiarity of which, however, consists merely in its general position in the Survey, relates to (South) Wingfield. Standing as it does at the head of a column which is occupied by it alone, and separated by a considerable interval from the writing preceding it, it is not placed on the land of any tenant in chief, and seems clearly intended to stand outside any tenurial rubrication.³ The reason can be gathered from the entry itself, in which it is stated that ‘Robert holds (the manor) of (de) Count Alan under (sub) William Peverel, for Count Alan (of Richmond) held no other land in Derbyshire.’ Of the distinction between ‘sub’ and ‘de’ implied in this entry Professor Maitland writes :—‘We catch a slight shade of difference between the two prepositions ; “sub,” lays stress on the lord’s power, which may well be of a personal or justiciary rather than of a proprietary kind, while “de” imports a theory about the origin of the tenure, it makes the tenant’s rights look like derivative rights—it is supposed that he gets his land

¹ Fol. 273.

² A good deal depends on the way in which we translate *sub ipsis* in this entry. It would be possible to render it simply ‘under themselves,’ but this rendering would be so unusual in this connexion that it is better to take *sub ipsis* as above.

³ It is preceded by the land of Roger of Poitou, of which it is stated, ‘Has terras habuit Rogerius Pictavensis, modo sunt in manu regis.’ This ‘escheat’ of Roger’s land in Derbyshire has not yet been explained. Fol. 273b.

DOMESDAY SURVEY

from his lord.¹ It is very unusual, however, to find as here both these prepositions used with reference to the tenure of the same land at the same time.

In general the consideration of difficult identifications is reserved for the notes, but a few words on the subject may be in place here. The number of Derbyshire place names which have resisted all attempts at their identification is rather considerable, but we have to remember, first, that most of these names refer to places which even at the date of the Survey must have been very unimportant, and, secondly, that no reliance can be placed upon the forms of proper names in the Survey. Thus Alfreton appears as 'Elstretune,'² Trusley as 'Toxenai,' Duffield as 'Duvelle,' Bubnell as 'Bubenenli,' and Sinfin as 'Sedenefeld.' Dalbury is represented in one entry by 'Delbebi,' in another by 'Dellingeberie'; 'Bredelawe' and 'Braidelai' both stand for Bradley, as do 'Hoogen' and 'Hoge' for Hoon. Mere carelessness as to exact spelling on the part of the compilers of Domesday is not the only cause of our perplexities, we have also to be on our guard against scribal errors. Thus 'Dulvestune' undoubtedly represents Edlaston, the initial E having probably dropped off in the process of transcription, while the latter part of one name, 'Ravenes . . .,' is quite illegible in the manuscript. Ilkeston appears with an initial T; this however is possibly not a mistake, but represents the final letter of the Anglo-Saxon preposition 'æt' (at), which was frequently compounded with place names in the period before the Conquest.³ In one case in the county we are supplied with alternative spellings of a place name. The scribe had rendered the modern Osleston as 'Oswardestune,' and then without deleting his mistake⁴ added the letters 'laves' above the line.

When all these considerations are taken into account it will not seem surprising that a number of place names in the county refuse to be resolved into their modern equivalents. One of the most extraordinary names in the county is 'Muchedeswelle,' which occurs twice over, once on the king's land as a berewick of the manor of Hope, and once on the fief of Henry de Ferrers in association with Wormhill. It is therefore evident that it must have lain in the north-west of the county in the neighbourhood of the Upper Wye and Dove, and with this clue to its general position and having regard also to its double ownership in Domesday the problem might appear to be simplified, for we should expect to find the place divided in later times between William Peverel, representing the king in these parts, and the Earls of Derby, the heirs of Henry de Ferrers. King Sterndale and Earl Sterndale in fact lying on the Dove south of Buxton might seem reasonably to represent 'Muchedeswelle' were it not that William Peverel's portion of Sterndale already within fifteen years of Domesday appears in his charter to Lenton Priory as Stauredal.⁵ We cannot reasonably accept so quick a name

¹ *Dom. Bk. and Beyond*, 154, with reference to land in Cambridgeshire.

² The uncorrupted form of this name, 'Ælfredingtune,' is preserved in the will of Wulfric Spot.

³ On this point see Mr. Plummer's edition of *Bede*, ii. pp. 103-104.

⁴ Deletion in Domesday is to be understood by the scribe drawing a line underneath the words to be considered erased.

⁵ Dugdale, *Mon.* v. 111.

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shifting as this change would imply to have taken place. That a manor could in course of time come to take upon itself another name is shown in the case of the great manor of 'Bubedene,' which was for many years a crux to Derbyshire topographers. There is no doubt that it represents the modern village of Longford, though Bupton, the representative of the Domesday name, has now shrunk to cover a few cottages at the east end of the village.

Another vanished Derbyshire place is the 'Herdebi,' which denoted part of the manor of Duffield and also an independent manor on the fief of Ralf de Burun. By analogy with the transformation of similar names in other counties¹ 'Herdebi' ought at the present day to appear as Harby. Local research might perhaps discover a 'Harby' in the neighbourhood of Coxbench and Kilbourne which would suit the conditions required.

The first and last pages of the Derbyshire Survey present special difficulties to the topographical investigator. In addition to the imperfect Ravenes . . . it has proved impossible to identify 'Padinc' or 'Upetun,' while 'Greherst' can only be recovered from the Wingerworth Estate map, and 'Cotes' from the Darley parish map, neither name appearing in the 25-in. Ordnance Survey. The name 'Padinc' should be interesting as an instance of that mysterious 'ing' termination about which so much controversy has arisen, only one other example of this termination occurring (at Dinting) in the county survey. The last page of our record contains the entries of two manors, 'Uluritune' and 'Mers,' the position of which is still insoluble. The special difficulty here is that the account of the land of the king's thegns is drawn up seemingly without much regard to geographical considerations. Thus Edingale and Lullington, in the extreme south of the county, are wedged in the Survey between Clowne and Ilkeston. Hence we have no clue as to the position of 'Mers' and 'Uluritune,' which names have no modern representatives.

One last point may be mentioned here, only, however, to be referred to local investigation. It is usual in this series to give some account of the county hundreds as shown in Domesday and their connexion with those of later times. In Derbyshire this has proved impossible for a double reason. We have seen that in this county Domesday in its rubrication gives no guide to the number or position of the several wapentakes into which the shire was divided, so that any inquiry into this question would have to start at the other end from a consideration of the modern local divisions of the county. But the modern wapentakes of Derbyshire are extraordinarily discrete; so much so that it would be quite hopeless to attempt to connect them with their Domesday representatives without a minute investigation of the mediæval geography of the shire. In any case the gap between Domesday and the thirteenth century, when local records become numerous and full, would place serious difficulties in the way of this investigation, and the only prospect of tracing the history of the Derbyshire wapentakes lies in an inquiry proceeding 'from the known to the unknown.'

¹ e.g. Notts and Leic.

NOTE TO DOMESDAY MAP

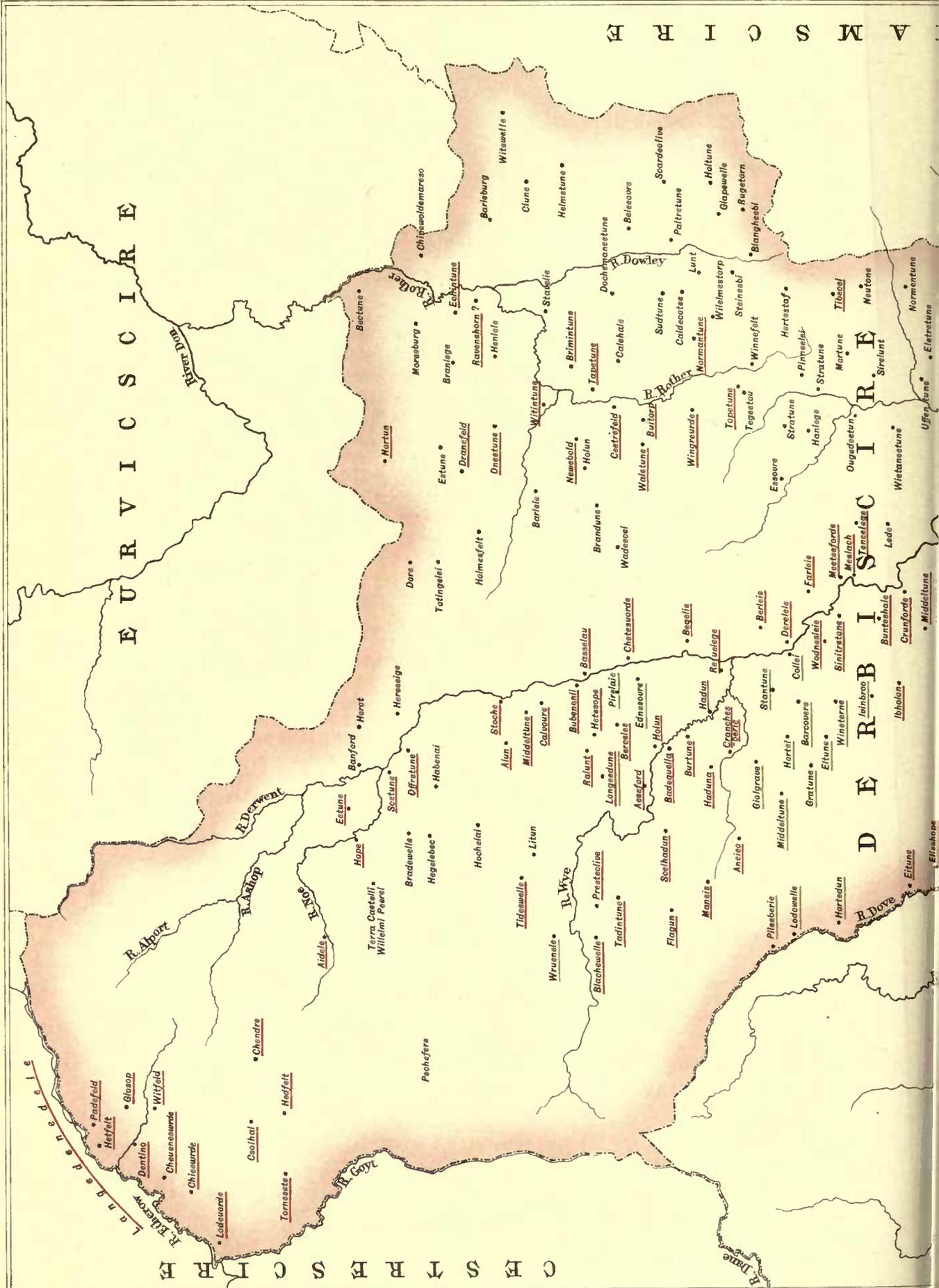
COMPILED BY F. M. STENTON, B.A.

In this map those manors in which the king had an interest have a red line under them ; a blue line denotes those in which the chief ecclesiastical tenant, the abbot of Burton, held land ; those which belonged to the chief lay tenant, Henry de Ferrers, are distinguished by a green line.

With reference to the king's estates, which figure so largely on the map, a distinction should be made between the manors of the south and east, which have no remarkable features, and the very interesting group of manors which extends in a slightly broken series from Ashbourne to the Yorkshire border. Each manor here consists of a single village and a number of tributary hamlets (berewicks), the group being assessed as a whole to the Danegeld and in combination with other similar groups paying a rent to the king as landlord. Such an arrangement seems to bear marks of antiquity, and the enumeration in Domesday of all the 'berewicks' of each manor has influenced the map very considerably.

So few relevant headings are given in Domesday that no attempt can be made to distinguish the wapentakes on the map. In two instances, 'Hammenstan' and 'Walecros,' the Domesday name, which possibly represents a primitive meeting place, has since been replaced by the name of a village, for 'Hammenstan' wapentake seems to stand for the modern wapentake of Wirksworth, and 'Walecros' wapentake for that of Repton and Gresley. Defective as the rubrication is it yet contains a single reference to a 'hundred' of Sawley. This by itself is unintelligible, but we know that in Leicestershire the wapentakes were divided into a number of small groups called 'hundreds' with the probable object of securing the accurate distribution of the Danegeld ; there are distinct traces of such a system in Nottinghamshire, and seeing that Sawley stands at the point where the Nottingham and Leicester county boundaries meet that of Derbyshire the case of Sawley hundred may safely be taken as indicating the existence of a similar arrangement in the latter county.

The county boundary given is that which existed previous to 1897. River names also are given in their modern form.



E U R V I C S C I R E

A M S C I R E

C E S T R E S C I R E

D E R B I S T A S C I R E

R. Athort

R. Dewent

R. Ashop

R. Noe

R. Goy

R. Wye

R. Dove

R. Rothe

R. Rother

R. Dowley

Hafelfeld

Witfield

Cheneourde

Chilhal

Hafelfeld

Tomseats

Ladewarde

Paohesere

Wraenels

Blachewelle

Tadintune

Flagun

Manils

Terra Castell

Willeimi Peerel

Hope

Bradewelle

Hegalebec

Hochalal

Liton

Wraenels

Stachewelle

Tadintune

Flagun

Manils

Estune

Scartune

Diffrastune

Habenal

Alun

Middeltune

Calpours

Bubensell

Relunt

Hitesops

Pirglais

Langweduna

Barneles

Dore

Tedingelei

Halmesfelt

Barfels

Brandunes

Wadencel

Chettesorde

Bagellis

Reinelege

Barolis

Derelele

Collet

Wodnalsic

Hartun

Dransfeld

Dreestune

Witintuns

Barfels

Brandunes

Wadencel

Chettesorde

Bagellis

Reinelege

Barolis

Derelele

Collet

Moresburg

Braslege

Raeshorn

Hanlele

Witintuns

Stafelis

Brimintune

Tapetune

Catehals

Doehemancetune

Sudtune

Caldecotee

Normantune

Chitawoldemars

Barleburg

Clane

Halmetune

Belesore

Doehemancetune

Paitretune

Scordealio

Haltune

Glospawelle

Rugeterm

Blangheebi

Witintuns

River Dove

R. Trent

R. Mersey

R. Stafford

R. Yorkshire

R. Lancashire

R. Cheshire

R. Stafford

R. Yorkshire

R. Lancashire

R. Cheshire

R. Stafford

R. Yorkshire

R. Trent

R. Mersey

R. Stafford

R. Yorkshire

R. Lancashire

R. Cheshire

R. Stafford

R. Yorkshire

R. Lancashire

R. Cheshire

R. Stafford

R. Yorkshire

R. Lancashire

[DERBISCIRE]

fo. 280

IN THE BOROUGH OF DERBY, in King Edward's time, there were 243 resident burgesses (*burgenses manentes*), and there belong to this borough 12 carucates of land (assessed) to the geld, which 8 teams can plough. This land was divided among 41 burgesses who also had 12 ploughs. To the king belonged two parts and to the earl the third of rent (*censu*) and toll (*theloneo*) and forfeiture (*forisfactura*) and of every customary due (*consuetudine*).

In the same borough there was 1 church in the king's demesne with 7 clerks who held 2 carucates of land freely in Cestre [Little Chester¹].

There was also another church similarly the king's, belonging to which 6 clerks held 9 bovates of land likewise freely in Cornun [? Quarndon] and Detton [? Little Eaton].²

In the vill (*villa*) itself there were 14 mills.

Now there are 100 burgesses there and 40 other lesser ones (*minores*). 103 tenements (*mans'*) are waste which used to pay rent. There are now 10 mills and 16 acres of meadow. Underwood (*silva minuta*) 3 furlongs in length and 2 in breadth. In King Edward's time it rendered 24 pounds in all (*inter totum*); now with the mills and the vill of Ludecerce [Litchurch] it renders 30 pounds.

M. In Ludecerce [Litchurch] the king has 2 carucates of land (assessed) to the geld. (There is) land for 3 ploughs. There 1 sochman and 9 villeins have 2 ploughs and 12 acres of meadow.

In Derby the abbey of Bertone [Burton] has 1 mill and 1 messuage (*masuram terræ*)³ with sac and soc, and 2 dwellings of which the king has the soc, and 13 acres of meadow.

Geoffrey Alselin has 1 church which belonged to Tochi.

Ralf son of Hubert (has) 1 church which belonged to Levric with 1 carucate of land.

Norman of Lincolia [Lincoln] (has) 1 church which belonged to Brun.

Edric has there 1 church which belonged to Coln his father.

Earl Hugh (of Chester) has 2 messuages and 1 fishery with sac and soc.

Henry de Ferrariis 3 messuages with sac and soc likewise.

Osmer the priest has 1 bovate of land with sac and soc.

¹ Adjoining Derby.

² A passage in the Hundred Rolls makes these identifications almost certain. It is possible that in the original return 'Cornun' and 'Etton' were bracketed and the 'd' in the former omitted and being afterwards interlined was misread as the initial letter of the latter.

³ This difficult phrase seems equivalent to the more usual '*mansio*,' and it is important as showing that the '*mansio*' or '*masura*' was not merely a house. Indeed from the description of Nottingham (fo. 280) it appears that several houses might be situated in one '*mansio*,' which thus seems to represent the land immediately surrounding the normal dwelling of a burgess as distinguished from his actual house on the one hand and from any share which he might have in the arable lands of the borough on the other.

A HISTORY OF DERBYSHIRE

Godwin the priest 1 bovate of land similarly.

At the feast of St. Martin the burgesses render to the king 12 thraves (*traves*) of corn (*annona*) of which the abbot of Bertone [Burton] has 40 sheaves (*garbæ*).

There are in addition (*adbuc*) in the same borough 8 messuages with sac and soc. These belonged to Ælgar; now they are the king's.

The king's two pennies and the earl's third which come out of Apletreu [Appletree] Wapentake in Derberie [Derbyshire] are in the sheriff's hand or rent¹ (*censu*) by the witness of the two shire(-courts).²

Of Stori,³ Walter de Aincurt's predecessor (*antecessor*), it is said that without any one's leave he could make for himself a church on his own land and in his own soc and could assign (*mittere*) his own tithes (*decima*) where he wished.

In Snotingehamscyre and in Derbiscyre if the king's peace, given under his hand or seal, be broken, a fine is paid (*emendatur*) by 18 hundreds. Each hundred (pays) 8 pounds. The king has 2 parts of this fine (*emendationis*), the earl the third. That is, 12 hundreds pay to the king and 6 to the earl.

If any one be exiled according to law for any crime, none but the king can restore peace to him.

A thegn having more than 6 manors does not give relief of his land except 8 pounds to the king alone. If he has only 6 or less he gives 3 marks of silver to the sheriff as relief wherever he dwells in the borough or without. If a thegn having sac and soc forfeit his land, the king and earl have half his land and money between them, and his lawful wife with his legitimate heirs, if there be any, have the other half.

Here are noted those who had soc and sac and thol and thaim and the king's dues (*consuetudinem*) of the two pennies.⁴

The Archbishop of York over his manors, and the Countess Godeva over Newerca [Newark, Notts] Wapentake and Ulf fenisc over his land; the Abbot of (Peter) Borough over Colingeham [Collingham, Notts]; the Abbot of Bertune [Burton, Notts]; Earl Hugh (of Chester) over Marcheton [Markeaton, Derby]; the Bishop of Cestre [Chester]; Tochi; Suen the son of Suave; Siward barn; Azor the son of Saleva; Ulfric cilt; Elsi; Illinge; Lewin the son of Alewin; the Countess Alveva; the Countess Goda; Elsi the son of Caschin over Werchesoppe [Worksop, Notts]; Henry de Ferrers over Ednodestune [Ednaston,

¹ The words 'vel censu' are interlined.

² The meaning of this entry is that the revenue from the pleas of the Wapentake (of which the king was entitled to two-thirds and the earl to one-third) was 'farmed' by the sheriff at a fixed rent in 1086.

The mention of 'the two counties' should be observed as implying that the two county courts sat together for the Domesday Inquest, which would account for the surveys of Nottingham and Derby appearing together on this page (J. H. R.).

³ No such name occurs among Walter de Aincurt's predecessors in Notts or Derby. In all but one of his Derby manors he was preceded by 'Suain cilt,' in 10 out of his 17 Notts manors he was preceded by Tori, in 4 other cases by Suain, and in 1 other instance Swain and Tori are given together as his predecessor. The latter may thus have held different parts of a divided inheritance, and 'Stori' might represent a mistaken fusion of their names. (See Introduction, p. 304).

⁴ *i.e.*, the two-thirds of certain profits, of which 'the third penny' went to the earl.

THE DOMESDAY SURVEY

Derby] and Dubrige [Doveridge, Derby], and Breilesfordham [Brailsford, Derby]; Walter de Aincurt over Granebi [Granby, Notts] and Mortune [Morton, Derby] and Pinnesleig [Pilsley, Derby]. None of all these could have the earl's third penny except by his grant, and that for as long as he should live, except the Archbishop and Ulf fenisc and the Countess Godeva.

Over the soc which belongs to Cliftune [Clifton] the earl ought to have the third part of all customs and services (*operum*).

fo. 272¹

HERE ARE ENTERED THOSE WHO HOLD LANDS IN DERBY SCIRA

- | | |
|---|--|
| <p>I KING WILLIAM
 II The bishop of Chester
 III The abbey of Burton
 IIII Earl Hugh (of Chester)
 V Roger of Poitou
 VI Henry de Fereires
 VII William Pevrel
 VIII Walter de Aincurt
 IX Geoffrey Alselin</p> | <p>X Ralf the son of Hubert
 XI Ralf de Burun
 XII Hascuith Musard
 XIII Gilbert de Gand
 XIIIII Nigel de Statford
 XV Robert the son of William
 XVI Roger de Busli
 XVII The king's thegns</p> |
|---|--|

I. THE KING'S LAND

SCARVEDELE [SCARSDALE] WAPENTAKE

M. In NEWBOLD [Newbold] with (its) 6 berewicks WITINTUNE [Whittington], BRIMINTUNE [Brimington], TAPETUNE [Tapton], CESTREFELD [Chesterfield], BUITORP [Boythorpe], ECHINTUNE [Eckington], there are 6 carucates of land and 1 bovate (assessed) to the geld. (There is) land for 6 ploughs. There the king has 16 villeins and 2 bordars and 1 serf who have 4 ploughs. To this manor there belong 8 acres of meadow. Wood(land) for pannage (*silva pastilis*) 3 leagues in length and 3 leagues in breadth. In King Edward's time it was worth 6 pounds; now (it is worth) 10 pounds.

The Soc of this Manor.³

S. In WINGREURDE [Wingerworth] (there are) 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. There 14 sochmen have 4 ploughs.

¹ We here turn back to fo. 272 for the commencement of the survey of the shire at large.

² The work of identifying the places which follow is very difficult. Several of the names are obscure and are not represented in any form on the modern map, while the difficulty is increased by the MS. being corrupt in places.

S. In GREHERST [? Greyhurst in Wingerworth] and PADINC [] (there are) 4 bovates of land (assessed) to the geld. It is waste.

S. In NORMANTUNE [Temple Normanton] (there is) the fifth part of 1 carucate of land (assessed) to the geld. (There is) land for 1 plough. There 1 sochman has 2 ploughing oxen (*boves in car*²).

S. In HONESTUNE³ [? Unstone] (there is) the third part of 1 carucate of land (assessed) to the geld. (There is) land for 2 oxen.

S. In DRANEFELD [Dronfield] (there is) 1 carucate of land (assessed) to the geld. (There is) land for 1 plough. There 3 villeins and 1 bordar have 2 ploughs.

S. In RAVENESH . . . N [? Renishaw] and UPETUN [] (there is) 1 carucate of land (assessed) to the geld. (There is) land for 1 plough. There 4 sochmen have 1 plough.

S. In TOPTUNE [Tupton] and NORTUNE [Norton] (there are) 2 bovates of land (assessed) to the geld.

To these sochlands there belong 7 acres of meadow, wood(land) for pannage 5 leagues in length and 3 leagues in breadth (and) 60 acres of open land (*plana terra*).

³ Possibly the initial H here is a mistake for D.

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2 M. & B. In ONESTUNE [Unstone] and NORMANTUNE [Temple Normanton] Lewine and Edwine had 7 bovates of land and 4 acres (assessed) to the geld. (There is) land for 12 oxen. There (is) now 1 plough in demesne; and (there are) 6 villeins and 4 bordars who have 4 ploughs. There (is) a church and a priest and 2 mills (rendering) 4 shillings and 2½ acres of meadow. Wood(land) for pannage half a league in length and half (a league) in breadth. In King Edward's time it was worth 13 shillings; now (it is worth) 20 shillings.

M. In WALETUNE [Walton] Hundulf had 2 carucates of land (assessed) to the geld. (There is) land for 3 ploughs. It is waste. Wood(land) for pannage 1 league in length and 1 in breadth. In King Edward's time (it was worth) 20 shillings.

HAMMENSTAN [Wirksworth¹] WAPENTAKE

M. & 3 B. In DERELEIE [Darley] King Edward had 2 carucates of land (assessed) to the geld. In FARLEIE [Farley] and COTES [Cotes in Darley] and BERLEIE [Burley] (there is) 1 carucate of land and 2 bovates² (assessed) to the geld. (There is) land for 3 ploughs. There the king has 1 plough; and 7 villeins who have 3 ploughs. There (is) a priest and a church and 12 acres of meadow. Wood(land) for pannage 2 leagues in length and 2 in breadth. In King Edward's time it was worth 40 shillings and 2 sestiers (*sextarii*) of honey; now (it is worth) 4 pounds.

M. In MESTESFORDE [Matlock Bridge³] King Edward had 2 carucates of land exempt from geld (*sine geldo*). It is waste. There (are) 8 acres of meadow and 1 lead mine (*plumbaria*). Wood(land), for pannage in

¹ So little information is given about the Domesday Wapentakes that they can only be approximately identified with their modern representatives.

² 'et 11 bov.' interlined.

³ The identity of Mesteforde with Matlock Bridge is suggested by the following indications:

- (1) The 'ford' must, from the general position of the manor, be on the Derwent.
- (2) The hill which forms the western boundary of Matlock Dale between Matlock Bridge and Matlock Bath is said to have been called anciently Mestes or Mester.
- (3) The nature of the ground between Matlock Bridge and Cromford absolutely prohibits the existence of any ford across the river, nor do traces of any lateral road occur between these points, but the ancient bridge at Matlock Bridge gives access from the west to an important

places (*per loca*), 3 leagues in length and 2 in breadth. To this manor belong these berewicks: MESLACH [Matlock], SINITRETONE [Snitterton], WODNESLEIE [Wensley], BUNTESHALE⁴ [Bonsall], IBEHOLON [Ible], TENESLEGE [Tansley]. In these (there are) 7 carucates of land (assessed) to the geld. (There is) land for 7 ploughs. There 11 villeins and 12 bordars have 6 ploughs and 22 acres of meadow. Wood(land) for pannage 2 leagues in length and 1 league in breadth. Underwood (*silva minuta*) of the same extent.

fo. 272b

M. In WERCHESURDE [Wirksworth] there are 3 carucates of land assessed to the geld. (There is) land for 4 ploughs. There (is) a priest and a church and 16 villeins and 9 bordars who have 4 ploughs. There are 3 lead mines (*plumbariæ*) and 26 acres of meadow. Wood(land) for pannage 2 leagues in length and 2 leagues in breadth.

Berewicks of this Manor

In CRUNFORDE [Cromford], 2 carucates, and MIDDELTUNE [Middleton by Wirksworth], 2 carucates, and OPETUNE [Hopton], 4 carucates, and WELLEDENE [Weldon⁵], 2 carucates, and GHERSINTUNE [Carsington], 2 carucates, and CALDELAWE [Callow], 2 carucates, and HIRETUNE [Kirk Ireton], 4 carucates,⁶ (there are) 18 carucates of land (assessed) to the geld. (There is) land for as many ploughs. In these (vills) there are 36 villeins and 13 bordars who have 14½ ploughs. There (are) 14 acres of meadow. Wood(land) for pannage and underwood (*silva pastilis et minuta*) 3 leagues in length and 2 in breadth.

M. In ESSEBURNE [Ashbourne] there are 3 carucates of land (assessed) to the geld. (There is) land for 3 ploughs. It is waste; nevertheless it renders 20 shillings. There (is) a priest and a church with 1 carucate of land (assessed) to the geld, and (the priest) has there 2 villeins and 2 bordars who have half a plough. He himself has 1 plough and 1 man who renders 16 pence, and 20 acres of meadow. Wood(land) for pannage 1 league in length and half a league in breadth.

series of roads diverging at this point to Alfreton, Chesterfield and the north.

- (4) The berewicks of the manor of Mesteforde are distributed in a rough half-circle round Matlock Bridge. (See also on this point *Derb. Arch. Soc. Journal*, xxiii.).

⁴ This name is interlined.

⁵ Close to Hopton. Now depopulated.

⁶ All these figures are interlined above the place names to which they refer.

THE HOLDERS OF LANDS

Berewicks of this Manor

In MAPLETUNE [Mapleton], 2 carucates, and BREDELAW [Bradley], 2 carucates, and TORP [Thorpe], 2 carucates, and BENEDLEGE [Fenny Bentley], 2 carucates, and OPHIDE-COTES [Offcote], 2 carucates, and OCHENAVES-TUN [Hognaston], 4 carucates,¹ (there are) 14 carucates of land (assessed) to the geld. (There is) land for as many ploughs. They are waste except for 11 villeins and 17 bordars who have 6½ ploughs. There (are) 25 acres of meadow.

M. In PEVREWIC [Parwich] there are 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. It is waste. Colne holds it of the king and has there 6 villeins and 2 bordars with 3 ploughs. There (are) 12 acres of meadow.

To this manor belong three berewicks: ELLESHOPE [Alsop le Dale], HANZEDONE [Hanson Grange], EITUNE [Cold Eaton]. There are 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. It is waste.

² These five manors, DERELEI [Darley], MESTESFORDE [Matlock Bridge³], WERCHE-SUORDE [Wirksworth], ESSEBURNE [Ashbourne] and PEVREWIC [Parwich] with their berewicks rendered in King Edward's time 32 pounds and 6½ sestiers of honey; now (they render) 40 pounds of pure (*puri*)⁴ silver.

M. & B. In WALETUNE [Walton-upon-Trent] and REDLAUESTUN [Rosliston] Earl Algar⁵ had 6 carucates of land (assessed) to the geld. (There is) land for 7 ploughs. There the king has 2 ploughs in demesne; and 3 sochmen and 33 villeins and 10 bordars who have 12 ploughs. There (is) a church and a priest and 1 mill (rendering) 6 shillings and 8 pence and 40 acres of meadow. Wood(land), for

¹ See note 6, p. 330.

² The assessment here seems very artificial. Wirksworth with its berewicks is rated at 21 carucates (3 + 18), which is exactly the sum reached by the combined assessment of Ashbourne and its berewicks (3 + 14 carucates) and Parwich and its berewicks (2 + 2 carucates). Further the joint assessment of the two adjacent manors of Darley and Matlock stands at 12 carucates (and 2 bovates), so that the complete group of five manors would seem to have been rated as a whole at 54 carucates. This instance is of importance as it seems to carry the application of the 'six carucate unit' to the royal demesne well beyond the Conquest.

³ See note 3, p. 330.

⁴ This is an abnormal phrase.

⁵ Son of Leofric; Earl of Mercia 1057-65; father of the Earl Edwin who held Doveridge and Edlaston.

pannage in places, 7 furlongs in length and 5 furlongs in breadth. In King Edward's time it was worth 6 pounds; now it is worth 10 pounds.

⁶ In WESTONE [Weston-upon-Trent] (there are) two thirds (*partes*) of 2 carucates of land and in SMALEI [Smalley] and CHITESLEI [Kidsley] (there are) 4 bovates of land.

M. & B. In NEWETUN [Kings Newton] and BRETEBI [Bretby] Algar had 7 carucates of land (assessed) to the geld. (There is) land for 5 ploughs. There the king has 1½ ploughs; and 19 villeins and 1 bordar who have 5 ploughs. There (are) 12 acres of meadow. Wood(land) for pannage 2 leagues in length and 3 furlongs in breadth. In King Edward's time it was worth 100 shillings and (it is worth the same) now.

M. In MILEBURNE [Melbourne] King Edward had 6 carucates of land (assessed) to the geld. (There is) land for 6 ploughs. There the king has 1 plough; and 20 villeins and 6 bordars who have 5 ploughs. There (is) a priest and a church and 1 mill (rendering) 3 shillings and 24 acres of meadow. Wood(land) for pannage 1 league in length and half a league in breadth. In King Edward's time it was worth 10 pounds; now (it is worth) 6 pounds; nevertheless it renders 10 pounds.

Berewicks of this Manor

THIS SOC(LAND) belongs to Melbourne in SCARVESDELE [SCARSDALE⁷] Wapentake. In BAREWE [Barrow-upon-Trent] 12½ bovates. In SUERCHESTUNE [Swarkeston] 1 carucate. In CELERDESTUNE [Chellaston] 1½ carucates. In OSMUNDESTUNE [Osmaston-by-Derby] 2 carucates and 2 bovates,⁸ and CODETUNE⁹ [Cottons], 4 bovates.¹⁰ In NORMANESTUNE [Normanton-by-Derby] 1 carucate. (There is) land for 12 ploughs. (This is assessed) to the geld (as) 8 carucates and 2 bovates.¹¹

⁶ This entry stands in the margin.

⁷ Either Domesday is in error or we have here an instance of 'notional mobility,' for these six places are all contained in the angle made by the Trent and Derwent south of Derby, a district which is now divided among several wapentakes, but in any case is separated from Scarsdale Wapentake by that of Morleston and Litchurch.

⁸ This sum is interlined.

⁹ Now represented by Cottons Farm in Normanton parish.

¹⁰ This sum is interlined in place of 'ii car' *ej bov'* deleted.

¹¹ It will be noted that the figures here, which amount to 7 carucates, 6½ bovates do not agree with the total as given by Domesday.

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M. & B. In RAPENDUNE [Repton] and MIDDELTUNE [Milton] Earl Algar had 6 carucates of land (assessed) to the geld. (There is) land for 8 ploughs. There the king has 2 ploughs in demesne; and 37 villeins and 3 bordars who have 12 ploughs. There (is) a church and 2 priests with 1 plough. There (are) 2 mills and 42 acres of meadow. Wood(land) for pannage 1 league in length and half a league in breadth. In King Edward's time it was worth 15 pounds; now (it is worth) 8 pounds.

Soc(land)

S. In WIVLESLEIE [Willesley¹] (there are) 3 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. There 2 sochmen and 7 villeins and 1 bordar have 2½ ploughs. There (are) 16 acres of meadow. Wood(land) for pannage 1 furlong in length and 1 furlong in breadth.

S. In TICHENHALLE [Ticknall] (there are) 2 carucates of land and 2 bovates and 2 parts of 1 bovate (assessed) to the geld. (There is) land for 2 ploughs. There 2 sochmen have 1 plough and 22 acres of meadow.

S. In TRANGESBI [] (there is) half a carucate of land (assessed) to the geld. (There is) land for 4 oxen.²

B. In MESSEHAM [Measham¹] (there are) 2 carucates of land (assessed) to the geld. (There is) land for 3 ploughs. It is waste. There (are) 20 acres of meadow. Underwood (*silva minuta*) 1 furlong in length and 1 furlong in breadth.

B. In CALDECOTE [Chilcote¹] (there are) 3 carucates of land (assessed) to the geld. (There is) land for 3 ploughs. There 3 villeins have 2 ploughs and 12 acres of meadow. In King Edward's time it was worth 40 shillings; now (it is worth) 10 shillings.

This belongs to Cliftune [Clifton Campville] in Staffordshire (*Stadford*).

S. In ENGLEBI [Ingleby] (there are) 3 bovates of land (assessed) to the geld. (There is) land for 4 oxen.² The soc belongs to (*in*) RAPENDUN [Repton]. There 3 sochmen have 1 plough and 4 acres of meadow and 1 acre of brushwood (*broces*).

Wood(land) for pannage in TICHENHALLE [Ticknall] 1 league in length and half a league in breadth.

M. In BADEQUELLA [Bakewell] with (its) 8 berewicks King Edward had 18 carucates of land (assessed) to the geld. (There is) land for 18 ploughs. There the king has now 7 ploughs in demesne; and 33 villeins and 9 bordars; there (are) 2 priests and a church³ and under them there are 2 villeins and 5 bordars; all these (together) have 11 ploughs. There 1 knight has 16 acres of land and 2 bordars. There (is) 1 mill (rendering) 10 shillings and 8 pence and 1 lead mine and 80 acres of meadow. Underwood (*silva minuta*) 1 league in length and 1 in breadth. 3 carucates of this land belong to the church. Henry de Ferrar(iis)⁴ claims 1 carucate in HADUNE [Haddon].

These are the berewicks of this manor: HADUN [Haddon], HOLUN [Holme], REUSLEGE [Rowsley], BURTUNE [Burton], CRANCHESBERIE [Conksbury], ANEISC [One Ash], MANEIS [Monyash], HADUNA [Over Haddon].

M. In AISSEFORD [Ashford]—with (its) berewicks, RALUNT [Rowland], LANGESDUNE [Longstone], HETESOPE [Hassop], CALVOURE [Calver], BASSELAU [Baslow], BUBENENLI [Bubnell], BERCELES [Birchill], SCELHADUN [Sheldon], TADINTUNE [Taddington], FLAGUN [Flagg], PRESTECLIVE [Priestcliff], BLACHEWELLE [Blackwell]—King Edward had 22 carucates of land (assessed) to the geld and 1 carucate of land exempt from geld (*sine geldo*). There the king has now in demesne 4 ploughs; and 18 villeins have 5 ploughs. (There is) land for 22 ploughs. There is 1 mill (rendering) 12 pence, and the site of 1 mill and 1 lead mine and 40 acres of meadow. Wood(land), not⁵ for pannage, 2 leagues in length and 2 in breadth.

M. In HOPE [Hope]—with (its) berewicks, AIDELE [Edale], ESTUNE [Aston], SCETUNE [Shatton], half OFFRETUNE [Offerton⁶], TIDESWELLE [Tideswell], STOCHE [Stoke], MUCHEDSWELLE⁷ []—King Edward

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had 10 carucates of land (assessed) to the geld. (There is) land for 10 ploughs. There 30 villeins and 4 bordars have 6 ploughs. There (is) a priest and a church to which there belongs 1 carucate of land. There (is)

³ 'et ecclesia' is interlined.

⁴ de Ferrar is interlined.

⁵ 'non' is interlined.

⁶ The other half belonged to Ralf Fitz-Hubert (see p. 349).

⁷ See Introduction on p. 325.

¹ Now in Leicestershire.

² i.e. for half a plough (team).

THE HOLDERS OF LANDS

1 mill (rendering) 5 shillings and 4 pence, and 30 acres of meadow. Wood(land), for pannage in places, 4 leagues and 2 furlongs in length and 2 leagues in breadth.¹ In King Edward's time these three manors rendered 30 pounds, and 5½ sestiers of honey and 5 cart-loads of lead (*plaustratae plumbi*) of 50 slabs (*tabulae*). Now they render 10 pounds and 6 shillings. William Pevrel has charge of them (*custodit*).

M. In LANGE[DE²]NEDELE [Longdendale] and in TORNESETE [Thornsett] Ligulf had 4 bovates of land (assessed) to the geld. In LODEUORDE [Ludworth] Brun (had) 4 bovates of land. In CHEUENESWRDE [Charlesworth]³ and CHISEWRDE [Chisworth] Suin' (had) 1 carucate of land. In CEOLHAL [Chunal]³ Eilmer (had) 4 bovates of land. In HETFELT [Hadfield] (there are) 4 bovates. In PADEFELD [Padfield] Levinc⁴ (had) 1 carucate of land. In DENTINC [Dinting] Levenot (had) 2 bovates of land. In GLOSOP [Glossop] Levinc (had) 4 bovates of land. In WITFELD [Whitfield] (there are) 4 bovates of land. In HEDFELD [Hayfield] Eilmer (had) 4 bovates of land. In CHENDRE [Kinder] Godric (had) 2 bovates of land. Altogether (they had) 6 carucates of land (assessed) to the geld and 12 manors. The whole of Langedenedele is waste. Wood(land) is there, not for pannage (but) suitable for hunting. The whole is 8 leagues in length and 4 leagues in breadth. In King Edward's time (it was worth) 40 shillings.

M. In BEGELIE [Beeley] Godric had 6 bovates of land (assessed) to the geld. (There

¹ The neat assessment of the five manors on page 331 on a duodecimal system and the fact that Bakewell is here assessed at 18 carucates may suggest that traces of the same system should be found in the cases of Ashford and Hope. If the original assessment of Ashford be taken as 24 carucates (instead of 23) and that of Hope as 12 carucates (instead of 10) the total assessment of these three manors will stand at 54 carucates and thus exactly balance the assessment of the five western manors. Many possible causes would account for the loss of the 3 carucates here—the omission of carucates exempt from geld is perhaps the most probable.

² 'DE' interlined.

³ That Cheuneswrde and Ceolhal are identical with Charlesworth and Chunal is evident, but the roots and terminations of these names appear to have been interchanged, as Ceol- is equivalent to Charl- and Cheun- to Chun-.

⁴ 'Levinc' and 'Levenot' are added above the line.

is) land for 6 oxen.⁵ There 3 villeins and 5 bordars have 1 plough and 1 acre of meadow.

M. In LANGELEIE [] and CHETESUORDE [Chatsworth] Levenot and Chetel had 10 bovates of land (assessed) to the geld. (There is) land for 10 oxen.⁶ This belongs to (*jacet ad*) EDNESOURE [Edensor]. William Pevrel has charge of it (*custodit*) on behalf of the king. There 5 villeins and 2 bordars have 2 ploughs and 1 acre of meadow. Wood(land) for pannage 1 league in length and 1 in breadth and a little underwood. In King Edward's time it was worth 20 shillings; now (it is worth) 16 shillings.

M. In AIUNE [Eyam] Caschin had 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. There 12 villeins and 7 bordars have 5 ploughs. Wood(land) for pannage 1 league in length and 1 in breadth. In King Edward's time it was worth 20 shillings, and (it is worth the same) now.

M. In MIDDELTUNE [Stony Middleton] Goded had 4 bovates of land (assessed) to the geld. (There is) land for 4 oxen.⁷ There 8 villeins and 1 bordar have 2 ploughs and 4 acres of meadow and a little underwood. In King Edward's time it was worth 6 shillings and (it is worth the same) now.

M. In MAPERLIE [Mapperley] Stapleuine had 4 bovates of land (assessed) to the geld. (There is) land .⁸ William Pevrel has charge of it (*custodit*) on behalf of the king. It is waste. There (is) half an acre of meadow. Wood(land) for pannage 4 furlongs in length and 4 in breadth. In King Edward's time it was worth 16 shillings.

In the same place there is half a carucate of socland belonging to SPONDUNE [Spondon], a manor of Henry (de Ferrar's).

M. In TIBECEL [Tibshelf] Ligulf had 3 carucates of land (assessed) to the geld. (There is) land for 3 ploughs. William Pevrel has charge of it (*custodit*) on behalf of the king. There (is) now half a plough in demesne; and 9 villeins have 2 ploughs. There (is) 1 acre of meadow. Wood(land) for pannage 1 league in length and 1 in breadth. In King Edward's time it was

⁵ i.e. three-quarters of a plough (team).

⁶ i.e. a plough (team) and a quarter.

⁷ i.e. for half a plough (team).

⁸ The number of ploughlands is not given.

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worth 40 shillings; now (it is worth) 10 shillings. Robert holds it.

M. In WESTUNE [Weston-upon-Trent] with its berewicks¹ Earl Algar had 10 carucates of land and 2½ bovates (assessed) to the geld. (There is) land for as many ploughs. There (are) now 3 ploughs in demesne; and 24 villeins and 6 bordars who have 12 ploughs, and 4 rent-paying tenants (*cenarii*) who render 16 shillings. There (are) 2 churches and a priest, and 1 mill (rendering) 19 shillings and 4 pence, and a fishery (*piscina*) and a ferry (*passagium aquæ*) (rendering) 13 shillings and 4 pence, and 51 acres of meadow. Pasture (*pasua*) half a league in length and 3 furlongs in breadth. In King Edward's time it was worth 8 pounds; now (it is worth) 16 pounds.

Berewicks of this Manor

B. In ÆSTUN [Aston-upon-Trent] and SERDELAU [Shardlow] (there are) 6½ bovates of land (assessed) to the geld. There (is) 1 plough in demesne, and 4 villeins and 2 bordars with 1 plough and 4 acres of meadow. Uctebbrand holds it of the king. It is worth 5 shillings.

II. THE LAND OF THE BISHOP OF CHESTER

MORLESTAN [MORLESTON] WAPENTAKE
SALLE [SAWLEY] HUNDRED

M. & B. In SALLE [Sawley] and DRAICOT [Draycott] and OPEWELLE [Hopwell] the Bishop of Chester had 12 carucates of land (assessed) to the geld. (There is) land for as many ploughs. There the bishop has 3 ploughs; and 29 villeins and 13 bordars who have 13 ploughs. There (is) a priest and 2 churches, and 1 mill (rendering) 20 shillings, and 1 fishery (*piscaria*) and 30 acres of meadow. Wood(land) for pannage 3 furlongs in length and 1 furlong in breadth, and a little brushwood (*broces*). Ralf the son of Hubert holds OPEWELLE [Hopwell].

S. In AITONE [Long Eaton] (there are) 12 carucates of land (assessed) to the geld. (There is) land for 12 ploughs. There 22 sochmen and 10 bordars under them (*sub ipsis*) have 9 carucates of this land and 13 ploughs.² The other 3 carucates of land belong to the villeins. There (are) 2 sites of mills and 40 acres of meadow (and) a little underwood. In King Edward's time it was worth 8 pounds (and it is worth) the same now.

¹ 'cum berewitiis' is interlined.

² See Introduction, p. 315.

M. In BUBEDENE [Bupton³] and in (its) members (*appenditiis*) (there are) 5 carucates of land (assessed) to the geld and 2 bovates. (There is) land for 5 ploughs. There the Bishop of Chester has 1 plough; and 12 villeins and 3 bordars who have 7 ploughs. There (is) a priest and a church, and 1 mill (rendering) 10 shillings and 60 acres of meadow. In King Edward's time it was worth 7 pounds; now (it is worth) 4 pounds.

III. THE LAND OF THE ABBEY OF BURTON

M. In UFRE [Mickleover] King Edward had 10 carucates of land (assessed) to the geld. (There is) land for 15 ploughs. Three berewicks belong there: PARVA UFRE [Littleover], FINDRE [Findern], POTLAC [Potlock⁴]. There the abbey of Burton has now in demesne 5½ ploughs; and 20 villeins and 10 bordars who have 8 ploughs. There (are) 2 sites of mills, and 73 acres of meadow. Wood(land) for pannage half a league in length and half (a league) in breadth, and the same amount of underwood. In King Edward's time it was worth 25 pounds, now (it is worth) 10 pounds.

The Soc of the same Manor

(In) SNELLESTUNE [Snelston] 12 bovates, BERUERDESCOTE [Bearwardcote] 4 bovates, DELLINGEBERIE [Dalbury] 3 bovates, HOOGEN [Hoon] 3 (?)⁵ bovates, REDESLEIE [Rodsley] 12 bovates, SUDBERIE [Sudbury] 4 bovates, HILTUNE [Hilton] 4 bovates, SUDTUN [Sutton on the Hill] 1 carucate. Altogether (there are) 6 carucates and 2 bovates of land (assessed) to the geld.

M. In APLEBY [Appleby]⁶ the abbey of Burton had 5 carucates of land (assessed) to the geld. (There is) land for 5 ploughs. Of this land Abbot Levric gave (*prestitit*) 1 carucate of land to the Countess Gode,⁷ which the king has now. In the same vill (*villa*) (there are) now 2 ploughs in demesne; and (there are) 8 villeins and 1 bordar with 1 plough.

³ An outlying part of Longford village.

⁴ In Willington.

⁵ The Record Commission's edition here reads iii., and although the facsimile appears, at first sight, to give ii., the position of the dot after the figure implies that a minim has been obliterated. Moreover the total requires that we should read iii. (J. H. R.).

⁶ Now all in Leicestershire. Part of Appleby (not the church town) used to be in Derbyshire, but has recently been transferred to Leicestershire.

⁷ In the survey of Leicestershire the Countess Godeva is entered as holding 3 carucates in Appleby.

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In King Edward's time it was worth 20 shillings; now (it is worth) 60 shillings.

M. In WINESHALLE [Winhill¹] the abbey of Burton had 2 carucates of land (assessed) to the geld. (There is) land for 3 ploughs. There (are) now 2 ploughs in demesne; and (there are) 10 villeins who have 1½ ploughs. There King William placed 6 sochmen belonging to RAPENDUNE [Repton] who have 1 plough. There (is) 1 mill (rendering) 5 shillings and 4 pence, and 8 acres of meadow. Underwood (*silva minuta*) 1 league in length and 1 furlong in breadth. In King Edward's time it was worth 20 shillings; now (it is worth) 60 shillings.

M. In COTUNE² [Coton in the Elms] Algar had 2 carucates of land (assessed) to the geld. (There is) land for 3 ploughs. Now the abbey has it of the king. There (is) now 1 plough in demesne; and 6 villeins and 3 bordars who have 2 ploughs. In King Edward's time it was worth 40 shillings; now (it is worth) 30 (shillings).

M. In STAPENHILLE [Stapenhill¹] the abbey of Burton had 4 carucates of land and 2 bovates (assessed) to the geld. (There is) land for 4 ploughs. There (are) now 2 ploughs in demesne; and (there are) 12 villeins who have 2 ploughs. There (are) 4 acres of meadow. Wood(land) for pannage 1 league in length and 3 furlongs in breadth. In King Edward's time it was worth 60 shillings, and (it is worth the same) now.

M. In CALDEWELLE [Caldwell] Ælfric had 2 carucates of land (assessed) to the geld. There (is) land for 2 ploughs. There (is) now 1 plough in demesne; and (there are) 6 villeins with 1 plough. In King Edward's time it was worth 20 shillings, and (it is worth the same) now. King William gave this manor to the monks for their own advantage (*pro beneficio suo*).³

In TICHENHALLE [Ticknall] the abbey of Burton has 5 bovates of land and the third part of 1 bovate (assessed) to the geld. There it has 1 plough in demesne; and 4 villeins with 1 plough, and 8 acres of meadow, and the fifth part of the wood(land) for pannage of the same manor.⁴ It is worth 10 shillings.

¹ Now in Staffordshire.

² 'Cotes' is interlined above 'Cotune.'

³ See Introduction, p. 298.

⁴ The king's holding of 2 carucates 2⅔ bovates with Nigel de Statford's holding of 1 carucate and

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III. THE LAND OF EARL HUGH

M. In MARCHETONE [Markeaton] Earl Siward⁵ had 9½ carucates of land (assessed) to the geld. (There is) land for 9 ploughs. There Earl Hugh has 2 ploughs in demesne; and 15 villeins and 7 bordars who have 5 ploughs. There (is) a priest and a church, and 1 mill (rendering) 6 shillings and 8 pence, and 1 fishery and 24 acres of meadow. Wood(land) for pannage 1 league in length and half a league in breadth. In King Edward's time it was worth 4 pounds; now (it is worth) 3 pounds.

Berewicks

B. In CHENIVETUN [Kniveton] and MACHEVORDE [Mackworth] and ADELARDESTREU [Allestree] there are 4 carucates of land (assessed) to the geld. (There is) land for 4 ploughs. It is waste. There (are) 30 acres of meadow, and wood(land) for pannage 1 league in length and half a league in breadth. One carucate of these four belongs to (*jacet in*) EDNODESTUN [Ednaston], a manor of Henry (de Ferrers).⁶ Gozelin holds it of the earl and Colle renders⁷ for it to Gozelin 10 shillings and 8 pence.

V. THE LAND OF ROGER OF POITOU

In SUDTUNE [Sutton Scarsdale] Steinulf had 4 carucates of land (assessed) to the geld. (There is) land for 5 ploughs. The lord (*dominus*) has there 1 plough; and 6 villeins and 1 bordar with 1 plough. There (is) 1 mill (rendering) 2 shillings and 8 acres of meadow. Wood(land) for pannage half a league in length and 3 furlongs in breadth. In King Edward's time it was worth 40 shillings; now (it is worth) 20 (shillings).

Soc(land)

S. In BECTUNE [Beighton] (there are) 5½ bovates of land (assessed) to the geld. (There is) land for 6 oxen. There 2 villeins have 1 plough and 1 acre of meadow. Wood(land) for pannage 1 league in length and half a

the present holding of 5½ bovates together amount to 4 carucates. The 'woodland for pannage' appears to have been divided between each owner in proportion (roughly) to his assessment; thus Nigel had exactly a quarter, and the abbey one-fifth, which was rather more than its proportionate share. It may also be noted that the '*silva ipsius manerii*' of this passage is equated on page 352 by '*silva eiusdem ville*.' Vill and manor thus seem to be convertible terms.

⁵ Earl of Northumbria.

⁶ See Introduction, p. 299.

⁷ 'Inde' is interlined at this point.

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league in breadth. In King Edward's time it was worth 5 shillings; now (it is worth) 6 shillings and 4 pence.

M. In the two LUNTS [Lowne by Heath¹] Steinulf had 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. There 8 villeins have 3 ploughs and 10 acres of meadow. Wood(land) for pannage 4 furlongs in length and 4 in breadth. In King Edward's time it was worth 40 shillings; now (it is worth) 10 shillings.

M. In STEINESBI [Stainsby] and in TUNESTALLE [Tunstall²] Steinulf had 12 bovates of land (assessed) to the geld. (There is) land for 2 ploughs. There (are) now 2 ploughs in demesne; and (there are) 8 villeins and 5 bordars who have 4 ploughs. There (is) a priest with 3 bordars and 1 acre of meadow. Wood(land) for pannage 6 furlongs in length and 4 furlongs in breadth. In King Edward's time it was worth 40 shillings; now it is worth 30 (shillings).

M. In BLANGHESBI [Blingsby³] and HERTESTAF [Hardstoft] Steinulf had 1 carucate of land (assessed) to the geld. (There is) land for 2 ploughs. There (is) 1 sochman and 1 villein and 3 bordars who have 1 plough. There (are) 3 acres of meadow. Wood(land) not for pannage 2 furlongs in length and 2 in breadth. In King Edward's time it was worth 20 shillings; now (it is worth) 8 shillings.

Roger of Poitou had these lands; now they are in the king's hand.

M. In WINEFELD⁴ [South Wingfield] Elnod (had) 2 carucates of land (assessed) to the geld. (There is) land for 3 ploughs. Robert⁵ holds

¹ 'In duobus Lunt' in the MS., 'duobus' being interlined. Lowne and Heath together represent the 'two Lunts' of the Domesday text. The identity of 'Lunt' and Heath is proved by the grant by Queen Mary of the advowson of the church of 'Lowne alias dict Heath' to the burgesses of Derby. The church of Lowne stands a quarter of a mile east of the present village of Heath, for which it serves as a mortuary chapel.

² Tunstall occurs in Hardwick estate maps in Ault Hucknall parish. Hucknall itself is omitted in Domesday, but 'Blanghesbi' from its position must also represent part of Hucknall.

³ On the edge of Hardwick Park.

⁴ This entry seems intended to stand outside any rubrication.

⁵ Presumably Robert de Heriz, benefactor to Lenton Priory (Notts) at its foundation, in whose family South Wingfield remained until the early years of Edward III.

it of (*de*) Count Alan (of Richmond) under (*sub*) William Pevrel, and has 1 plough. There (is) a priest and 8 villeins and 2 bordars with 3 ploughs. There (are) 4 acres of meadow. It was and is worth 20 shillings.

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VI. THE LAND OF HENRY DE FERIERES

HAMELESTAN [Wirksworth] WAPENTAKE

In WINBROC [Ivonbrook⁶] Chetel had 5 bovates of land (assessed) to the geld. (There is) land for 1 plough. It is waste. In King Edward's time it was worth 20 shillings.

2 M. In WINSTERNE [Winster] Leving and Raven had 12 bovates of land (assessed) to the geld. (There is) land for 12 oxen.⁷ There Cola, Henry's man, has 7 villeins and 12 bordars who have 4 ploughs. Underwood (*silva minuta*) half a league in length and 4 furlongs in breadth. In King Edward's time it was worth 20 shillings and (it is worth the same) now.

2 M. In COLLEI [Cowley] Suain and Uctred⁸ had (each) 2 bovates of land (assessed) to the geld. (There is) land for 4 oxen.⁹ There 2 villeins and 1 bordar have 1 plough. There (are) 4 acres of meadow. Underwood half a league in length and 2 furlongs in breadth. In King Edward's time it was worth 10 shillings and (it is worth the same) now. Suain holds it.

2 M. In ELTUNE [Elton] Caschin and Uctred had 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. There is now 1 plough in demesne; and (there are) 9 villeins and 10 bordars who have 4 ploughs and 12 acres of meadow. Underwood 3 furlongs in length and 3 furlongs in breadth. In King Edward's time it was worth 40 shillings and (it is worth the same) now.

M. In BRANZINCTUN [Brassington] Siward (had) 4 carucates of land (assessed) to the geld. (There is) land for 4 ploughs. There (are) now 3 ploughs in demesne; and 16

⁶ As capital letters do not seem to have been employed in the spelling of names in the original returns, the initial 'iv' of Ivonbrook might easily in transcription be mistaken for 'w.'

⁷ i.e. 1½ plough teams.

⁸ In the MS. Uctred's holding of 2 bovates is interlined above Suain's holding of the same amount.

⁹ i.e. half a plough-team.

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villeins and 2 bordars have 6 ploughs and 30 acres of meadow. Underwood 3 furlongs in length and 1 in breadth. In King Edward's time it was worth 6 pounds; now (it is worth) 3 pounds.

M. In BRADEBURNE [Bradbourne] Elvric had 4 carucates of land (assessed) to the geld. (There is) land for 4 ploughs. Now (there are) 2 ploughs in demesne; and 12 villeins and 4 bordars have 4 ploughs. There (is) a priest and a church and 12 acres of meadow. Underwood 3 furlongs in length and 2 in breadth. In King Edward's time it was worth 4 pounds; now (it is worth) 30 shillings.

7 M. In TIZINCTUN [Tissington] Ulchel, Edric, Gamel, Ulviet, Wictric, Levric, Godwin had 4 carucates of land (assessed) to the geld. (There is) land for 4 ploughs. There (are) now 3 ploughs in demesne; and (there are) 12 villeins and 8 bordars who have 4 ploughs and 1 mill (rendering) 3 shillings and 30 acres of meadow. Underwood 1 league in length and 4 furlongs in breadth. In King Edward's time it was worth 4 pounds; now (it is worth) 40 shillings.

M. In NEUTUNE [Newton Grange] Osmer had 4 carucates of land (assessed) to the geld. (There is) land for 4 ploughs. It is waste. There (are) 8 acres of meadow. In King Edward's time it was worth 20 shillings.

2 M. In HORTEDUN [Hartington] Godwin and Ligulf had 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. It is waste. There (are) 16 acres of meadow. Underwood 3 furlongs in length and 2 in breadth. In King Edward's time it was worth 40 shillings.

M. In SALHAM []¹ Cole had 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. It is waste. There (are) 16 acres of meadow. Underwood half a league in length and half (a league) in breadth. In King Edward's time it was worth 40 shillings.

M. In PILESBERIE [Pilsbury] and LODOWELLE [Ludwell] Elsi had 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. It is waste. There (are) 12 acres

¹ Messrs. Lysons in their history of Derbyshire suggest that a piece of pasture in Hartington parish called Salum may represent Salham. I know no other suggestion.

of meadow. In King Edward's time it was worth 10 shillings.

M & B. In SOTHELLE [Shottle] and WALESTONE [Wallstone²] Gamel had 6 carucates of land (assessed) to the geld. (There is) land for as many ploughs. There (is) now 1 plough in demesne; and 3 villeins and 3 bordars have 1 plough and 5 acres of meadow. Wood(land) for pannage 3½ leagues in length and 2½ leagues in breadth. In King Edward's time it was worth 60 shillings; now it is worth 10 shillings. Godric holds it.

M. In ETELAWE [Atlow] Elvric had 3 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. There (are) 4 acres of meadow. Wood(land) for pannage half a league in length and 3 furlongs in breadth. Underwood of the same extent. In King Edward's time it was worth 20 shillings; now (it is worth) 2 shillings.

WALECROS [Repton and Gresley] WAPEN-TAKE

M. In CROCHESHALLE [Croxall³] Siward had 3 carucates of land (assessed) to the geld. (There is) land for 8 ploughs.⁴ There (are) now 2 ploughs in demesne; and (there are) 35 villeins and 11 bordars who have 8 ploughs. There (are) 2 mills (rendering) 18 shillings and 22 acres of meadow. Underwood 2 furlongs in length and 1 furlong in breadth. In King Edward's time it was worth 3 pounds; now (it is worth) 4 pounds. Roger holds it.

In EDNUNGHALLE [Edingale⁵] (there is) 1 carucate of land (assessed) to the geld. (There is) land for 1 plough.⁶ There 4 villeins have 1 plough. Underwood 3 furlongs in length and 1 furlong in breadth.

M. In STREITUN [Stretton-en-le-Field⁷] Ælvric had 1 carucate of land (assessed) to the geld. (There is) land for 1 plough. There 4 villeins have 2 ploughs and 1 mill (rendering) 5 shillings and 10 acres of meadow. In King Edward's time it was worth 20 shillings; now (it is worth) 15 shillings. Roger holds it.⁸

² A farm in Idridgehay parish.

³ Now in Staffordshire.

⁴ The number of ploughs is interlined.

⁵ A small part of Edingale (not the church town) was in Coxall parish, Derbyshire, the rest in Staffordshire.

⁶ The number of ploughs is interlined.

⁷ Now in Leicestershire.

⁸ Roger is also entered in the Leicester Domesday as holding 1 carucate in Stretton under Henry de Ferrers.

A HISTORY OF DERBYSHIRE

M. In CHETUN [Catton¹] Siward had 3 carucates of land (assessed) to the geld. (There is) land for 3 ploughs. There (are) now 3 ploughs in demesne; and 14 villeins and 2 bordars have 4 ploughs and 24 acres of meadow. Underwood 1 furlong in length and 1 furlong in breadth. In King Edward's time it was worth 60 shillings and (it is worth the same) now. Nigel holds it.

M. In BOLUN [] Elvric had 4 carucates of land (assessed) to the geld. (There is) land for 4 ploughs. There (are) now 4 ploughs in demesne; and (there are) 8 villeins and 8 bordars who have 3 ploughs and 18 acres of meadow. Wood(land) for pannage 1 furlong in length and 1 in breadth. In King Edward's time it was worth 100 shillings; now (it is worth) 4 pounds.

M. In LINCTUNE² [Linton] Levric had 2 carucates of land (assessed) to the geld. (There is) land for 12 oxen.³ It is waste. Underwood 1 furlong in length and half (a furlong) in breadth. In King Edward's time it was worth 20 shillings.

M. In WIVLESLEI [Willesley⁴] Alvric had 1 carucate of land (assessed) to the geld. (There is) land for 1 plough. It is waste. There 3 villeins have 5 plough oxen (*boves arantes*). In King Edward's time it was worth 20 shillings; now (it is worth) 16 shillings.

M. In STANTUN [Stanton by Newhall] Alwin had half a carucate of land (assessed) to the geld. (There is) land for 4 oxen. There 1 sochman and 1 bordar have 1 plough and 10 acres of meadow. In King Edward's time it was worth 20 shillings; now it is worth 10 shillings.

M. In HEORTESHORNE [Hartshorn] Alvric had 4 carucates of land (assessed) to the geld. It is waste.⁵ (There is) land for 4 ploughs. Wood(land) for pannage half a league in length and half (a league) in breadth. Arable land (*terra arabilis*) of the same extent. In King Edward's time it was worth 4 pounds; now (it is worth) 10 shillings.

¹ Now in Staffordshire.

² In the Leicester Domesday Nigel held 1 carucate in Linton of Henry de Ferrers. This was Nigel de Stafford who held a considerable estate as tenant-in-chief on the debateable southwestern boundary of Derbyshire.

³ i.e. for 1½ plough-teams.

⁴ Now in Leicestershire.

⁵ The words '*wasta est*' are interlined.

M. In another HEORTESHORNE [Hartshorn] Alvric had 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. It is waste. Wood(land) for pannage half a league in length and half a league in breadth. Arable land (*terra arabilis*) of the same extent. In King Edward's time it was worth 40 shillings; now (it is worth) 10 shillings.

2 M. In MERSTUN [Marston upon Dove] Brun and Elric had 2 carucates of land (assessed) to the geld. (There is) land for 3 ploughs. There (are) now 2 ploughs in demesne; and (there are) 18 villeins and 5 bordars who have 5 ploughs. There (is) a priest and a church and 1 mill (rendering) 6 shillings and 5 pence. There (are) 50 acres of meadow and 1 acre of underwood. It is worth 100 shillings. The monks⁶ hold it of Henry.

M. In DUBRIGE [Doveridge] Earl Edwin had 4 carucates of land (assessed) to the geld. (There is) land for 6 ploughs. There (are) now 3 ploughs in demesne; and (there are) 30 villeins and 10 bordars who have 7 ploughs. There (is) a church and a priest and 1 mill (rendering) 10 shillings and 48 acres of meadow. Wood(land) for pannage 1 league in length and half a league in breadth. In King Edward's time it was worth 8 pounds; now (it is worth) 100 shillings. The monks⁶ hold it of Henry.

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M. In FARULVESTUN [Foston] Levenot, Ulmer, Baldric and Ulvric had 2½ carucates of land (assessed) to the geld. (There is) land for 20 oxen.⁷ There now 12 villeins and 8 bordars have 3 ploughs and 10 acres of meadow. It is worth 40 shillings.

M. In SCROTUN⁸ [Scropton] with (its) 3 berewicks Tochi had 6 carucates of land (assessed) to the geld. (There is) land for 7 ploughs. There now 32 villeins and 26 bordars have 12 ploughs. There (is) a priest and a church and 1 mill and the site of another mill. In demesne (there are) now 4 ploughs and a certain knight (*miles*) (has) 3 ploughs and 120 acres of meadow. Wood(land) for pannage 4 furlongs in length and 2 furlongs in breadth. In King Edward's time it was worth 8 pounds; now (it is worth) 10 pounds. G(eoffrey) Alselin claims it.⁹

⁶ Of Tutbury.

⁷ i.e. for 2½ plough-teams.

⁸ A mark in the margin indicates that to this manor belong two pieces of socland entered below under Sudbury (p. 339) and Hatton (p. 341).

⁹ With one slight exception in all his other manors in Notts and Derby Tochi was succeeded

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M. In ESTUNE [Aston¹] Levenot (had) 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. There (are) now 3 ploughs in demesne; and (there are) 8 villeins and 4 bordars who have 2 ploughs and 24 acres of meadow. Wood(land) for pannage half a league in length and half (a league) in breadth. In King Edward's time it was worth 60 shillings; now (it is worth) 40 (shillings). Alcher holds it.

2 M. In SAPERTUNE [Sapperton] Godric and Lewin Cilt had 1 carucate of land (assessed) to the geld. (There is) land for 12 oxen.² There now 5 villeins have 1 plough. Wood(land) for pannage 3 furlongs in length and 2 in breadth. In King Edward's time it was worth 20 shillings and (it is worth the same) now. Roger holds it.

M. In SUDBERIE [Sudbury] Godric and Ulvric and Elmer had 2 carucates less half a bovate (assessed) to the geld. (There is) land for 2 ploughs. There now 14 villeins and 4 bordars have 3 ploughs. There (is) a priest and a church, and 1 mill (rendering) 6 shillings and 100 eels, and 22 acres of meadow and a little underwood. In King Edward's time it was worth 60 shillings; now (it is worth) 20 (shillings). Alcher holds it.

S. In the same place (there is) half a bovate of land and the sixth part of 1 bovate (assessed) to the geld. The soc belongs to (*in*) SCROFTUN [Scropton]. A certain old woman (*vetula*) held it. Now Alcher holds it.³

M. In BROCTUNE [Church Broughton] Ulvric had 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. There (is) now 1 plough in demesne; and 10 villeins and 2 bordars have 3 ploughs and 18 acres of meadow and 4 acres of pasture (*pasua*).

2 M. In SUMMERSALE [Potter Somersall] Ormer and Erniet had 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. There (is) now 1 plough in demesne; and 5 villeins and 1 bordar have 2 ploughs and 14 acres of meadow and 4 acres of pasture (*pasua*). Wood(land) for pannage

by Geoffrey Alselin. A 'K' in the margin (for '*Kalumniatur*') indicates that there is a claim against the tenant of this manor (cp. Risley, p. 353).

¹ Near Sudbury.

² i.e. for 1½ plough(teams).

³ There is a mark against this entry indicating its proper position under 'Scroton,' see above, p. 338.

half a league in length and half (a league) in breadth. In King Edward's time it was worth 60 shillings and (it is worth the same) now. Alcher holds it.

M. In another SUMMERSALE [Somersall Herbert⁴] Elric had 1 carucate of land (assessed) to the geld. (There is) land for 1 plough. There 6 bordars have 1 plough and 24 acres of meadow. Wood(land) for pannage 1 league in length and 1 in breadth. In King Edward's time it was worth 20 shillings; now (it is worth) 1 mark of silver. Alric holds it.

8 M. In BARCTUNE [Barton Blount] Godric and another Godric, Edric, Levenot, Elfeg, Ledmer, Dunninc and Edward had 4 carucates of land (assessed) to the geld. (There is) land for 4 ploughs. There (are) now 3 ploughs in demesne; and (there are) 19 villeins and 11 bordars who have 7 ploughs. There (is) a priest and a church and 2 mills (rendering) 20 shillings and 64 acres of meadow. In King Edward's time it was worth 4 pounds and (it is worth the same) now. Ralf holds it.

M. In ALCHEMENTUNE [Alkmonton] Ulviet had 1½ carucates of land (assessed) to the geld. (There is) land for 2 ploughs. There (are) now 2 ploughs in demesne; and (there are) 8 villeins and 7 bordars who have 2 ploughs and 12 acres of meadow. Wood(land) for pannage 1 league in length and half a league in breadth. In King Edward's time it was worth 60 shillings; now (it is worth) 40 shillings. Ralf holds it.

M. In BENELEIE [Hungry Bentley] Ulviet and Ulchel had 1 carucate of land (assessed) to the geld. (There is) land for 1 plough. It is waste. In King Edward's time it was worth 20 shillings; now it is worth 11 shillings. Ralf holds it.

⁴ In the thirteenth century the modern parish of Somersall Herbert was divided into two portions, one, now called Church Somersall, held by the Fitzherberts, the other, now called Potter Somersall, held by the Montgomeries, to whom belonged the adjoining manor of Sudbury with its hamlet of Hill Somersall. Somersall church is supposed (Cox, *Churches of Derbyshire*, iii. 288) to have been originally a chapelry of Sudbury. When it became a rectory its patronage, like that of Sudbury, belonged to the Montgomeries. If a connection could be established between this family and the 'Alcher,' who held both Somersall and Sudbury under Henry de Ferrers, it would carry the above division of Somersall parish back to Domesday.

A HISTORY OF DERBYSHIRE

2 M. In EISSE [Ash] Ulchel and Avic and Hacon had 16 bovates of land (assessed) to the geld. (There is) land for 2 ploughs. There (are) now 2 ploughs in demesne; and (there are) 7 villeins who have 1 plough. There (are) 18 acres of meadow. In King Edward's time it was worth 40 shillings; now (it is worth) 30 (shillings). Rotbert holds it.

2 M. In TOXENAI [Trusley¹] Ulchetel and Avic had 12 bovates of land (assessed) to the geld. (There is) land for 2 ploughs. There (is) now 1 plough in demesne; and (there are) 4 villeins and 5 bordars who have 2½ ploughs. There 5 rent-paying tenants (*censarii*) render 5 shillings, and 2 sochmen (render) 5 shillings. There (are) 33 acres of meadow. Wood(land) for pannage 1 league in length and 4 furlongs in breadth. In King Edward's time it was worth 40 shillings; now (it is worth) 30 shillings. Hugh holds it.

5 M. In SUDTUNE [Sutton on the Hill] Tori, Elwold, Unban, Lewin and Edric had 2 carucates of land (assessed) to the geld. (There is) land for 3 ploughs. There (are) now 3 ploughs in demesne, and (there are) 9 villeins who have 7 ploughs. There (is) a church and a priest and 1 mill (rendering) 10 shillings and 24 acres of meadow. In King Edward's time it was worth 60 shillings and (it is worth the same) now. Wazelin holds it.

M. In BRAILESFORD [Brailsford] Earl Waltheof (*Wallef*) had 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. There (are) now 2 ploughs in demesne; and 24 villeins and 3 bordars have 5 ploughs. There (is) a priest and half a church and 1 mill (rendering) 10 shillings and 8 pence and 11 acres of meadow. Wood(land) for pannage 1 league in length and 1 league in breadth. In King Edward's time it was worth 60 shillings; now it is worth 40 shillings. Elfin holds it.

S. In HOLINTUNE [Hollington] and SIRELEIE [Shirley] (there are) 3 bovates of land (assessed) to the geld. (There is) land for half a plough.

M. In HOLINTUNE [Hollington] Lepsi and Elfag, Avic and 3 other thegns had 1½ carucates of land (assessed) to the geld. (There is) land for 12 oxen.² There 11 villeins and 7 bordars have 7 ploughs and 8 acres of mea-

dow, and a little underwood. In King Edward's time it was worth 40 shillings and (it is worth the same) now.

5 M. In SIRELEI [Shirley] Chetel and Ulmer, Turgis, Elric, Algar, Ulviet and Lepsi had 2 carucates of land less half a bovat³ (assessed) to the geld. (There is) land for 2 ploughs. There (are) now 2 ploughs in demesne; and (there are) 6 villeins and 7 bordars who have 3 ploughs. There (is) a priest and a church and 1 mill (rendering) 2 shillings. Wood(land) for pannage 1 league in length and 1 in breadth. In King Edward's time it was worth 60 shillings; now (it is worth) 40 (shillings).

2 M. In BRAIDELEI [Bradley] Alvric and Lewin had 1 carucate of land (assessed) to the geld. (There is) land for 2 ploughs. There 11 villeins and 6 bordars have 4 ploughs and 1 acre of meadow. Wood(land) for pannage 1 league in length and 1 in breadth. In King Edward's time it was worth 40 shillings; now (it is worth) 20 (shillings).

2 M. In GELDESLEI [Yeldersley] Ulchetel and Godwin had 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. There (are) now 2½ ploughs in demesne; and (there is) 1 villein who has half a plough. Wood(land) for pannage 1 league in length and 1 in breadth. In King Edward's time it was worth 60 shillings; now (it is worth) 20 shillings. Cola holds it.

4 M. In HILTUNE [Hilton] Ulvric and Ulf and Ube and Elric had 3 carucates of land (assessed) to the geld. (There is) land for 4 ploughs. There (are) now 2 ploughs in demesne; and 12 villeins and 7 bordars who have 4 ploughs. There (are) 2 mills (rendering) 10 shillings, and 60 acres of meadow. In King Edward's time it was worth 6 pounds; now (it is worth) 3 pounds. Robert holds it.

3 M. In HOGE⁴ [Hoon] Ulsi and Godwin and Ulsi had 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs and 2 oxen. There (are) now 2 ploughs in demesne; and (there are) 11 villeins and 5 bordars who have 2 ploughs and 1 mill rendering 9 shillings, and 40 acres of meadow. In King Edward's time it was worth 60 shillings; now (it is worth) 40 (shillings). Saswalo holds it.

³ 'Dimid' bov' minus' interlined.

⁴ Apparently a final 'n' has dropped off. On page 334 Hoon appears as 'Hoogen.' The context here fortunately makes the identification certain.

¹ Trusley was afterwards held of Earl Ferrers by Ralph de Buscy (*Testa de Nevill*, p. 5).

² i.e. for 1½ plough-teams.

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In HATUNE [Hatton] (there are) $6\frac{1}{2}$ bovates of socland (*terra de soca*) and $1\frac{1}{2}$ bovates of thegnland (*tainlande*). This belongs (*pertinet*) to SCROTUNE [Scropton].¹

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2 M. In HATUN [Hatton] Edric and Collinc and Baldric had 1 carucate of land (assessed) to the geld. (There is) land for 1 plough. There 5 villeins and 5 bordars have 2 ploughs and 20 acres of meadow. In King Edward's time it was worth 40 shillings; now (it is worth) 20 (shillings). Saswalo holds it.

M. In AITUN [Eaton-on-Dove] and SEGESALE [Sedsall] Ulvic had 1 carucate of land (assessed) to the geld. (There is) land for 2 ploughs. There 5 villeins and 5 bordars have 3 ploughs and 1 mill (rendering) 4 shillings and 16 acres of meadow. Wood(land) for pannage 1 league in length and half (a league) in breadth. In King Edward's time it was worth 40 shillings; now (it is worth) 30 shillings. Alcher holds it.

M. In MERCHETUNE [Markeaton] Alded had 4 carucates of land (assessed) to the geld. (There is) land for 4 ploughs. There (are) now 2 ploughs in demesne; and 18 villeins and 5 bordars have 3 ploughs and 12 acres of meadow. Wood(land) for pannage 1 league in length and 1 in breadth. In King Edward's time (it was worth) 60 shillings, and (it is worth the same) now.

M. In BUBEDENE [Bupton²] Ulchil had 6 bovates of land (assessed) to the geld. (There is) land for 1 plough. There 3 bordars and 1 serf have $1\frac{1}{2}$ ploughs and 20 acres of meadow. Wood(land) for pannage half a league in length and half a league in breadth and the same extent of underwood. In King Edward's time it was worth 40 shillings; now (it is worth) 20 shillings. Elfin holds it.

3 M. In SNELLESTUNE [Snelston] Levenot, Elfric and Saulf had 2 carucates of land and 2 bovates and the third part of 2 bovates (assessed) to the geld.

In the same place (there is) half a carucate of land (of which) the soc belongs to (*in*) OVERE [Mickleover] and 3 bovates of land (of which) the soc belongs to (*in*) ROUECESTRE [Rocester, Stafford] and 5 bovates of land and 2 parts of 2 bovates which belong (*pertinent*)

¹ There is a mark against this entry indicating its proper position under 'Scrotun,' see p. 338.

² In Longford.

to NORDBERIE [Norbury³]. (There is) land for 4 ploughs in all. There now 9 villeins and 9 bordars and 1 serf have 6 ploughs and 50 acres of meadow. Wood(land) for pannage 1 league in length and half (a league) in breadth. In King Edward's time it was worth 8 pounds; now (it is worth) 40 shillings. Ralf holds it.

In COBELEI [Cubley] Siward had 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. There (are) now 2 ploughs in demesne; and 4 villeins and 4 bordars and 1 serf have 1 plough. There (is) a priest and a church and 1 mill (rendering) 12 pence and 8 acres of meadow. Wood(land) for pannage 1 league in length and 1 league in breadth. In King Edward's time it was worth 100 shillings; now (it is worth) 40 shillings. Ralf holds it.

2 M. In BOILESTUN [Boyleston] Godric and Levenot had 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. There (are) now 2 ploughs in demesne; and (there are) 8 villeins and 8 bordars who have 3 ploughs and 1 mill (rendering) 12 pence and 6 acres of meadow. Wood(land) for pannage 1 league in length and half a league in breadth. In King Edward's time it was worth 40 shillings; now (it is worth) 30 shillings. Roger holds it.

2 M. In FAITUNE [Fenton⁴] and STERTUNE [Sturston] Ulchil and Wodi had 2 parts of 1 carucate of land (assessed) to the geld. (There is) land for 6 oxen.⁵ There now 11 villeins and 10 bordars have 6 ploughs and 1 mill (rendering) 8 shillings and 8 acres of meadow. Wood(land) for pannage 4 furlongs in length and 4 in breadth. In King Edward's time it was worth 40 shillings; now (it is worth) 20 shillings.

M. In NORTBERIE [Norbury] and ROSCHINTONE [Roston] Siward had 3 carucates of land (assessed) to the geld. (There is) land for 3 ploughs. There (are) now 2 ploughs in demesne; and (there are) 17 villeins and 7 bordars who have 4 ploughs. There (is) a priest and a church and 1 mill (rendering) 10 shillings and 24 acres of meadow. Wood(land) for pannage 1 league in length and 1 in

³ All the items in this entry add up to 4 carucates.

⁴ Formerly a hamlet about 1 mile east of Ashbourne. Now depopulated and not given in Ordnance map.

⁵ i.e. for three-quarters of a plough-team.

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breadth. In King Edward's time it was worth 100 shillings; now (it is worth) 60 (shillings). Henry holds it.

In this ROSCHINTUN [Roston] (there is) 1 carucate of land (assessed) to the geld belonging to ROUECESTRE [Rocester]. There (are) now 2 villeins.

2 M. In OSMUNDESTUNE [Osmaston] Wallef and Aillet had 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. There 8 villeins and 4 bordars have 5 ploughs and 2 acres of meadow. Wood(land) for pannage 1 league in length and 1 league in breadth. In King Edward's time it was worth 4 pounds; now (it is worth) 40 shillings. Elfin holds it.

M. In WIDERDESTUNE [Wyaston] and DULVESTUNE¹ [Edlaston] Earl Edwin had 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. There 9 villeins and 4 bordars have 2 ploughs and 2 acres of meadow. Wood(land) for pannage 2 leagues in length and 1 league in breadth. In King Edward's time it was worth 60 shillings; now (it is worth) 20 shillings. Orm holds it. These two villis belong to the king's firm (*firma*) in Rocester except 1 bovate which belongs (*iacet*) to OSMUNDESTUNE [Osmaston].

M. In TORVERDESTUNE [Lower Thurvaston] and in BUBEDUNE [Bupton] Ulchel had 5 bovates of land (assessed) to the geld. (There is) land for 1 plough. There 3 villeins and 3 bordars have 1½ ploughs and 20 acres of meadow and a little underwood. In King Edward's time it was worth 40 shillings; now (it is worth) 20 shillings. Elfin holds it.

2 M. In GHEVELI [Yeaveley] the two Ligulfs had 12 bovates of land (assessed) to the geld. (There is) land for 12 oxen.² There 7 villeins and 3 bordars have 3 ploughs. Wood(land) for pannage 1 league in length and 1 in breadth. In King Edward's time it was worth 4 pounds; now (it is worth) 40 shillings. Alsi holds it.

M. In REDESLEY [Rodsley] Brune had 12 bovates of land (assessed) to the geld. (There is) land for 12 oxen.² There (is) now 1 plough in demesne; and 6 villeins and 2 bordars have 2 ploughs and 2 acres of meadow. Wood-

¹ 'Dulvestune' equals 'Edulvestune' by omission of the initial E. Edlaston and Wyaston are contiguous hamlets and form one parish.

² i.e. for 1½ plough-teams.

(land) for pannage 2 leagues in length and half a league in breadth. In King Edward's time it was worth 4 pounds; now (it is worth) 20 shillings. John holds it. The abbey (of Burton) claims the soc of this vill.³

2 M. In OSWARDESTUNE⁴ [Osleston] Ernui and Lewin had 12 bovates of land (assessed) to the geld. (There is) land for 3 ploughs. There (are) now 2 ploughs in demesne; and (there are) 12 villeins and 4 bordars who have 3 ploughs. Wood(land) for pannage half a league in length and 4 furlongs in breadth. In King Edward's time it was worth 60 shillings; now (it is worth) 40 shillings. John holds it.

M. In TURVERDESTUNE [Thurvaston] Hedul had 12 bovates of land (assessed) to the geld. (There is) land for 3 ploughs. There (are) now 2 ploughs in demesne; and 6 villeins and 3 bordars have 2 ploughs and 12 acres of meadow. Wood(land) for pannage half a league in length and 4 furlongs in breadth. In King Edward's time it was worth 4 pounds; now (it is worth) 40 shillings. Robert holds it.⁵

M. In BRADESTUNE [Breaston] Levenot Sterre had 3 bovates of land (assessed) to the geld. (There is) land for 1 plough. There (is) now 1 plough in demesne; and 2 villeins have 5 ploughing oxen (*boves in car'*) and 3 acres of meadow. In King Edward's time it was worth 10 shillings; now (it is worth) 4 shillings. Herbert holds it.

M. In DUVELLE [Duffield] and BRADELEI [Bradley] and HOLEBROC [Holbrook] (waste⁶) and MULEFORDE [Milford] (waste⁶) and MACHENIE [Mackeney] (waste⁶) and in HERDEBI⁷ [] Siward had 7 carucates of land (assessed) to the geld and the sixth part of 1 carucate. (There is) land for 7 ploughs and the sixth part of 1 plough. There (are) now 3 ploughs in demesne; and (there are) 32 villeins and 8 bordars and

³ The abbey is entered as holding 12 bovates of 'socland' in Rodsley belonging to the manor of Mickleover, p. 334.

⁴ 'LAVES' is interlined over this name, which clearly should be 'Oslauestune.'

⁵ A small break follows this entry in the MS. probably marking the end of Henry de Ferrers' estates in Appletree Wapentake.

⁶ The word 'wasta' is interlined above each of these places.

⁷ Usually identified with Coxbench, a hamlet in Holbrook. The position is suitable, but it lacks confirmation from manorial history.

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10 serfs who have 8 ploughs and 20 acres of meadow. Wood(land) for pannage 4 leagues in length and 2 in breadth. There (is) a priest and a church and 2 mills (rendering) 8 shillings. In King Edward's time it was worth 9 pounds; now (it is worth) 7 pounds. In HERDEBI [] Henry has the sixth part of 1 carucate.¹

M. In SPONDUNE [Spondon] Stori had 5 carucates of land (assessed) to the geld. (There is) land for 5 ploughs. There (are) now 3 ploughs in demesne; and 14 villeins and 2 bordars have 4 ploughs. There (is) a priest and a church and 1 mill (rendering) 5 shillings and 4 pence.

S. In CEDESdene [Chaddesden] (there are) $4\frac{1}{2}$ carucates of land (assessed) to the geld and 2 thirds (*partes*) of 1 bovate. (There is) land for as many ploughs. There now 11 sochmen and 10 villeins and 5 bordars have 6 ploughs and 28 acres of meadow. Wood(land) for pannage half a league in length and 5 furlongs in breadth. Underwood of the same extent. In King Edward's time it was worth 4 pounds; now (it is worth) 3 pounds.

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M. In BRAIDESHale [Breadsall] Siward had 5 carucates of land (assessed) to the geld. (There is) land for 5 ploughs. There (are) now 2 ploughs in demesne; and (there are) 21 villeins and 7 bordars who have 8 ploughs. There 1 knight (*miles*) has 1 plough. There (is) a priest and a church and 1 mill (rendering) 13 shillings and 4 pence and 12 acres of meadow. Wood(land) for pannage 8 furlongs in length and 8 in breadth. In King Edward's time it was worth 4 pounds and (it is worth the same) now. Robert holds it.

In the same place, in MORLEIA² [Morley] Siward had the third part of 2 carucates (assessed) to the geld. There Henry has 4 villeins with 1 plough. Wood(land) for pannage 4 furlongs in length and 3 in breadth.

M. In PIRELAIE [Pilsley³] Dunning had 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. It is waste. There (are) 2 acres of meadow and underwood 3 furlongs in length and 2 in breadth.

¹ This fits in exactly with the 'five parts of 1 carucate' held by Ralf de Burun in 'Herdebi,' p. 351.

² This entry is duplicated below, p. 346 'In Morleia' is here interlined in large letters above 'Ibidem.'

³ In Edensor.

In King Edward's time it was worth 20 shillings.

M. In LONGESDUNE [Longstone] Colne had 3 carucates of land (assessed) to the geld. (There is) land for 3 ploughs. It is waste. There (are) 6 acres of meadow. Underwood 2 leagues in length and 1 league in breadth. In King Edward's time it was worth 30 shillings.

M. In STANTUNE [Stanton in the Peak] Godric and Raven had 1 carucate of land (assessed) to the geld. (There is) land for 1 plough. There 4 villeins and 6 bordars have 3 ploughs. There (are) 24 acres of meadow. Wood(land) for pannage 1 league in length and 1 league in breadth. In King Edward's time it was worth 10 shillings and (it is worth) the same now.

Berewick

B. In BARCOVERE [Birchover] (there is) 1 carucate of land (assessed) to the geld. (There is) land for 1 plough. It is waste. There (are) 8 acres of meadow. Underwood half a league in length and 3 furlongs in breadth; the third part (suitable) for pannage (*pastilis*). In King Edward's time (it was worth) 8 shillings.

M. In HORTEL [Harthill] Chetel had 4 bovates of land (assessed) to the geld. It is waste. There (are) 3 acres of meadow. In King Edward's time it was worth 5 shillings and 4 pence.

M. In GIOLGRAVE [Youlgreave] Colle and Chetel had 12 bovates of land (assessed) to the geld. (There is) land for 3 ploughs. There (are) now 3 ploughs in demesne; and (there is) 1 villein with 1 plough and 1 mill (rendering) 5 shillings and 4 pence and 4 acres of meadow. In King Edward's time it was worth 32 shillings; now (it is worth) 16 shillings.

M. In MIDDELTUNE [Middleton by Youlgreave] Dunning and Elvinc⁴ had 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. It is waste. There (are) 2 acres of meadow. In King Edward's time it was worth 20 shillings.

M. In GRATUNE [Gratton] Chetel had 1 carucate of land (assessed) to the geld. (There is) land for 2 ploughs. There (is) now 1 plough in demesne; and 4 villeins and 2 bordars have 2 ploughs. There (are) 3

⁴ 'et Elvinc' is interlined.

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acres of meadow. In King Edward's time it was worth 10 shillings.

M. In WRUENELE [Wormhill¹] and MUCHEDSWELLE² [] Siward had 4 carucates of land (assessed) to the geld. (There is) land for 4 ploughs. It is waste. There (are) 20 acres of meadow. Underwood 1 league in length and 3 furlongs in breadth.

M. In CHETELESTUNE [Kedleston] Ulsi and Godwin³ had 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. There (are) now 2 ploughs in demesne; and (there are) 5 villeins and 5 bordars with 1 plough and 1 mill (rendering) 5 shillings and a little underwood. In King Edward's time it was worth 40 shillings; now (it is worth) 20 (shillings). Gulbert holds it.

In TURULVESTUN [Thurlaston] Geoffrey Alselin holds 1 carucate of land of (*de*) Henry. It is waste; nevertheless it is worth 3 shillings.

M. In BARWE [Barrow upon Trent] Godwin and Colegrim⁴ had 3½ bovates of land (assessed) to the geld. It is waste. There 1 villein has 4 oxen and 8 acres of meadow. In King Edward's time it was worth 13 shillings and 4 pence; now (it is worth) 2 shillings.

4 M. In SORCHESTUN [Swarkeston] Gamel and Ulestan and Ulf and Ulviet had 1 carucate of land (assessed) to the geld. (There is) land for 1 plough. There (is) now 1 plough in demesne; and (there are) 6 villeins who have 1 plough. There (are) 68 acres of meadow and 1 site of a mill. In King Edward's time it was worth 20 shillings; and (it is worth the same) now.

M. In CELARDESTUNE [Chellaston] Ulsi had 4 bovates of land (assessed) to the geld. (There is) land for half a plough. It is waste. There (are) 4 acres of meadow. In

¹ In Tideswell. This is the accepted identification, and I have not found anything to suggest doubts. The juxtaposition of 'Mucedeswelle' seems to carry 'Wruenele' into the neighbourhood of the great manor of Hope, on the edge of which lies Wormhill. No other identification has, I believe, been suggested.

² 'et Mucedeswelle' is interlined here, but neither it nor 'Wruenele' are given in large letters.

³ 'et Goduin' is interlined.

⁴ 'et Colegrim' is interlined.

King Edward's time it was worth 12 shillings; now (it is worth) 3 shillings. Amalric holds it.

2 M. In ERLESTUNE [Arleston] Colegrim and Ravenchel had 1 carucate of land (assessed) to the geld. (There is) land for 1 plough. There (are) now 2 ploughs in demesne; and (there are) 7 villeins with 1 plough. There (are) 20 acres of meadow. In King Edward's time it was worth 20 shillings; now (it is worth) 40 shillings.

M. & B. In TUIFORDE [Twyford] and STEINTUNE [Stenson] Levric had 4 carucates of land (assessed) to the geld. (There is) land for 3 ploughs. There (are) now 2 ploughs in demesne; and (there are) 4 villeins and 5 bordars with 1 plough and 1 mill (rendering) 5 shillings and 24 acres of meadow. Wood(land) for pannage 1 furlong in length and 1 in breadth. In King Edward's time it was worth 8 pounds; now (it is worth) 4 pounds.

2 M. In the same place Godwin and Ulfstan had 1 carucate of land (assessed) to the geld. (There is) land for 1 plough. It is waste.⁵

M. In OSMUNDESTUNE [Osmaston by Derby] Osmund had 3 bovates of land (assessed) to the geld. (There is) land for 1 plough. There (is) now 1 plough in demesne; and (there is) 1 villein rendering 2 shillings and 8 pence. There (are) 20 acres of meadow. In King Edward's time it was worth 40 shillings; now it is worth 20 (shillings). Of this money (*horum denariorum*) two parts are the king's, the third part (is) Henry's.

M. In CODETUNE [Cottons] Osmund had 4 bovates of land (assessed) to the geld. (There is) land for 1 plough. There 2 villeins have 1 plough and 3 acres of meadow. In King Edward's time it was worth 5 shillings; now (it is worth) 2 shillings and 6 pence.

B. In OSMUNDESTONE [Osmaston] (there are) 3 bovates of land (assessed) to the geld belonging to Codetune [Cottons].⁶

M. In SEDENEFELD [? Sinfin] Ulchel had 2 carucates of land (assessed) to the geld. (There is) land for 1 plough. There is now

⁵ 'wasta est' is interlined.

⁶ This completes the assessment of Osmaston; making with the 3 bovates held above by Osmund and the 2 carucates 2 bovates belonging to the soke of Melbourne a total of 3 carucates.

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1 plough in demesne; and 2 villeins have 1 plough and 6 acres of meadow. In King Edward's time it was worth 10 shillings; now (it is worth) 10 shillings. William holds it.

3 M. In **NORMANTUNE** [Normanton by Derby] Levric, Gamel and Teodric had 6 bovates of land (assessed) to the geld. (There is) land for 1 plough. There is now 1 plough in demesne; and (there is) 1 villein who renders 12 pence. There (are) 12 acres of meadow and a little underwood. In King Edward's time it was worth 20 shillings; now (it is worth) 10 shillings. Amalric holds it.

In the same place (there are) 2 bovates of land (assessed) to the geld belonging to Tui-forde [Twyford].

M. In **IRETUNE** [Little Ireton] Godwin had 1 carucate of land (assessed) to the geld. (There is) land for 2 ploughs. There (is) now 1 plough in demesne; and 6 villeins and 6 bordars have 2 ploughs. There (are) 6 acres of meadow and 1 mill (rendering) 16 pence. Wood(land) for pannage half a league in length and half (a league) in breadth. In King Edward's time it was worth 40 shillings; now (it is worth) 20 shillings. Orme holds it.

M. In **ESTUNE** [Aston on Trent] Ucteband had 1 carucate of land (assessed) to the geld¹ and 5 acres of meadow. In King Edward's time it was worth 6 shillings; now (it is worth) 8 shillings.

5 M. In **BURNULFESTUNE** [Burnaston] and **BEREWARDESCOTE** [Bearwardcote or Barrowcote] Gamel (10 bovates), Alvric (2 bovates), Elric (2 bovates), Ledmer (1 bovat^e), Leving (1 bovat^e²) had altogether 2 carucates of land (assessed) to the geld. (There is) land for 3 ploughs. There (are) now 3 ploughs in demesne; and 8 villeins and 1 bordar have 4 ploughs. There (are) 36 acres of meadow and a little underwood. In King Edward's time it was worth 40 shillings; now (it is worth) 30 shillings. Henry holds it.

M. In **MOCINTUN** [Muggington] Gamel had 2 carucates of land (assessed) to the geld. (There is) land for 3 ploughs. There (is) now 1 plough in demesne; and 8 villeins and

¹ In the MS. 'et ii bov' et dim' follows here, but it is underlined for deletion and 'soca' is written above it.

² The detailed assessment of each holding which is here given in brackets is interlined in the MS.

8 bordars have 2 ploughs. There (is) a church and a priest and 1 mill (rendering) 3 shillings and 3 acres of meadow. Wood(land) for pannage 1½ leagues in length and 1 (league) in breadth. In King Edward's time it was worth 40 shillings; now (it is worth) 20 shillings. Chetel holds it.

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M. In **MERCHENESTUNE** [Mercaston] Gamel had 4 carucates of land (assessed) to the geld. (There is) land for 6 ploughs. There (is) now 1 plough in demesne; and 6 villeins and 4 bordars have 1 plough. There (are) 14 acres of meadow and the site of 1 mill. Wood(land) for pannage half a league in length and 4 furlongs in breadth. In King Edward's time it was worth 40 shillings; now (it is worth) 30 shillings. Robert and Roger hold it.

M. In **DELBEBI** [Dalbury] Godric had 2 carucates of land (assessed) to the geld. (There is) land for 4 ploughs. There (are) now 2 ploughs in demesne; and (there are) 6 villeins and 1 bordar with 2 ploughs. There (is) a priest and a church and 20 acres of meadow. Wood(land) for pannage 1 league in length and half a league in breadth. In King Edward's time it was worth 40 shillings; now (it is worth) 60 shillings. Robert holds it.

5 M. In **ETEWELLE** [Etwall] Gamel, Edric, Ulviet, Elvric (and) Elwine had 5 carucates of land (assessed) to the geld. (There is) land for 5 ploughs. There (are) now 3 ploughs in demesne; and (there are) 14 villeins and 8 bordars who have 8 ploughs. There (is) a priest and a church and 30 acres of meadow. In King Edward's time it was worth 100 shillings and (it is worth the same) now. Saswalo holds it.

M. In **RADBURNE** [Radbourne] Ulsi had 3 carucates of land (assessed) to the geld. (There is) land for 4 ploughs. There (are) now 3 ploughs in demesne; and (there are) 6 villeins and 5 bordars who have 3 ploughs. There (are) 12 acres of meadow. Wood(land) for pannage half a league in length and 4 furlongs in breadth. In King Edward's time it was worth 40 shillings; now (it is worth) 30 shillings. Ralf the son of Hubert claims the third part of Rabburne [Radbourne] and the wapentake bears witness in his favour (ei).³

³ At the end of the last line of this entry, but separated by a short space from it, is written 'Hennesoure' [Edensor].

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In MORELEI [Morley] (there is) the third part of 2 carucates of land (assessed) to the geld. Seward had it. Now Henry has it.

In EDNESOURE [Edensor] Levenot and Chetel had 2 carucates of land for 2 manors. Henry now has 4 carucates (assessed) to the geld (*ad geldum*) and the same number of carucates for ploughing (*ad arandum*).¹ There (are) 10 villeins and 7 bordars with 6 ploughs and 1 acre of meadow. Formerly (it was worth) 40 shillings; now (it is worth) 20 shillings.

VII. THE LAND OF WILLIAM PEVREL

M. In BELESOVRE [Bolsover] Levric had 3 carucates of land (assessed) to the geld. (There is) land for 4 ploughs. There (are) now 2 ploughs in demesne; and (there are) 14 villeins and 3 bordars who have 4 ploughs and 8 acres of meadow. Wood(land) for pannage 2 leagues in length and 1 in breadth. In King Edward's time it was worth 40 shillings; now (it is worth) 60 (shillings). Robert holds it.

M. In GLAPEWELLE [Glapwell] Levric had 1 carucate of land (assessed) to the geld. (There is) land for 1 plough. There 8 villeins have 2 ploughs. In King Edward's time it was worth 20 shillings; now (it is worth) 10 shillings. Serlo holds it.

M. In ESNOTREWIC² [] Aldene had half a carucate of land (assessed) to the geld. (There is) land for 1 plough. There (is) now 1 plough in demesne; and 6 villeins and 1 bordar have 3 ploughs. There is the site of 1 mill and wood(land) for pannage 1 league in length and 4 furlongs in breadth. In King Edward's time it was worth 40 shillings; now (it is worth) 20 shillings. Drogo holds it.

M. In NORMENTUNE [South Normanton] Elfag had 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. There (is) now 1 plough in demesne; and (there are) 6 villeins and 1 bordar with 1 plough. There (are) 5 acres of meadow. Wood(land) for pannage 1 league and 4 furlongs in length and 2 furlongs in breadth. In King Edward's time it was worth 20 shillings; now (it is worth) 10 (shillings). Edwin holds it.

M. & B. In SIRELUNT [Shirland] and in

¹ See Introduction p. 318.

² Clearly the 'Snodswic' of Wulfric Spot's will (Kemble, *Cod. Dipl.* 1298). Identified with Pinxton, which was long considered as part of the neighbouring manor of South Normanton.

UFTUNE³ [Ufton] Levric had 2½ carucates of land (assessed) to the geld. (There is) land for as many ploughs. There now 5 villeins and 1 bordar have 2 ploughs. Wood(land) for pannage 9 furlongs in length and 4 in breadth. In King Edward's time it was worth 16 shillings; now (it is worth) 10 shillings and 8 pence. Warner⁴ holds it.

6 M. In COTENOURE [Codnor] and HAINOURE [Heanor] and LANGELEIE [Langley] and SMITECOTE [] 8 thegns had 7 carucates of land (assessed) to the geld. (There is) land for so many ploughs. There (are) now 3 ploughs in demesne; and (there are) 11 villeins, and 2 bordars and 3 sochmen who have 5½ ploughs. There (is) a church and 1 mill (rendering) 12 pence and 35 acres of meadow. Wood(land) for pannage 2 leagues in length and 3 furlongs in breadth. In King Edward's time it was worth 4 pounds; now (it is worth) 41 shillings and 4 pence. Warner⁴ holds it.⁵

2 M. Gernebern and Hundinc held the land of William Pevrel's castle in PECHEFERS⁶ [Peak Forest]. These had there 2 carucates of land (assessed) to the geld. There is land for 2 ploughs. There (are) now 4 ploughs in demesne; and (there are) 3 villeins with 1 plough and 8 acres of meadow. In King Edward's time it was worth 40 shillings; now (it is worth) 50 shillings.

3 M. In BRADEWELLE [Bradwell] Leving and Sprot and Owine had 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. There (are) now 2 ploughs in demesne; and 8 villeins have 2 ploughs. In King Edward's time it was worth 20 shillings; now (it is worth) 30 shillings.

M. In HEGELEBEC [Hazelbadge] and LITUN [Litton] Lewine had 3½ carucates of land (assessed) to the geld. (There is) land for as many ploughs. There (is) now 1 plough in demesne; and (there are) 3 villeins with half a plough. There (are) 2 acres of meadow and a little underwood. In King Edward's time it was worth 20 shillings; now (it is worth) 4 shillings.

3 M. In HOHELAI [Hucklow] Ernui,

³ Occurs as 'Uffentune' below, page 349, now represented by Uftonfields farm, in the north-eastern corner of Wingfield parish.

⁴ This is part of the fief in Derby and Notts afterwards held by the Greys of Codnor.

⁵ A small break in the manuscript occurs here.

⁶ 'In Pechefers' is interlined.

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Hundulf, Ulvic had 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. It is waste.

M. In HABENAI [Abney] Suain had 1 carucate of land (assessed) to the geld. (There is) land for 1 plough. It is waste.

M. In WATREFELD [Waterfield¹] Lewin had 1 carucate of land (assessed) to the geld. (There is) land for 1 plough. It is waste.

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VIII. THE LAND OF WALTER DE AINCURT

M. In MORTUNE [Morton] and OUGHEDESTUNE [Ogston] and WISTANESTUNE [Wessington] Suain cilt² had 11½ bovates of land and 8 acres of land (assessed) to the geld. (There is) land for 3 ploughs. There (are) now 2 ploughs in demesne; and 14 villeins who have 5½ ploughs, and 4 serfs. There (is) a priest and a church and 1 mill (rendering) 6 shillings and 8 pence with a keeper (*custos*) of the mill, and 8 acres of meadow. Wood(land) for pannage 1½ leagues in length and the same in breadth. In King Edward's time it was worth 4 pounds and (it is worth the same) now. Walter de Aincurt holds it.

M. In BRANDUNE [Brampton] and WADESCEL [Wadshelf] Wade had 3½ bovates of land and 4 acres (assessed) to the geld. (There is) land for half a plough. There Walter has now 1 plough in demesne; and (there is) 1 villein and 3 bordars who have half a plough and 2 acres and 1 perch of meadow. Wood(land) for pannage 1½ leagues in length and 1½ furlongs in breadth. In King Edward's time it was worth 5 shillings and 4 pence and (it is worth the same) now. Of this land Walter vouches (*advocat*) the king as warrantor (*protectorem*) and Henry de Ferrariis as having given him seisin (*liberatore*).

M. In PINNESLEI [Pilsley] and CALDECOTES [Oldcotes]³ and WILELMESTORP [Williamsthorpe] Suain cilt had 2 carucates of land, less half a bovat, (assessed) to the geld. (There is) land for 4 ploughs. There Walter has now 2 ploughs in demesne; and (there are) 12 villeins and 3 bordars who have 6 ploughs. To this manor belong (*adiacent*) 2 bovates of land

¹ This is a farm in an almost waste part near Abury.

² 'Cilt' is interlined wherever it occurs.

³ As the Domesday manor of 'Caldecote' in Notts is now represented by 'Old Coates,' Lyson's suggestion of Oldcotes, on the borders of North Wingfield parish, being in the right quarter, seems probable.

(assessed) to the geld; the soc belongs to (*in*) WINNEFELT [North Wingfield], and there are 5 sochmen and a priest and a church; and in TOPETUNE [Tupton] 1 bovat of land and the third part of 1 bovat (assessed) to the geld, and there is 1 sochman and 8 villeins and 1 bordar with 3½ ploughs. There (are) 3 acres of meadow. Wood(land) for pannage 1 league in length and 1 in breadth. In King Edward's time it was worth 4 pounds and (it is worth the same) now.

M. In HOLMESFELT [Holmesfield] Suain had 1 carucate of land (assessed) to the geld. (There is) land for 2 ploughs. There now 10 villeins have 3 ploughs and 1 acre of meadow. Wood(land) for pannage 2 leagues in length and 1 in breadth. In King Edward's time it was worth 40 shillings; now (it is worth) 20 shillings.

M. In HELMETUNE [Elmton] Suain cilt had 1 carucate of land (assessed) to the geld. (There is) land for 3 ploughs. There Walter has now 1 plough in demesne; and (there are) 36 villeins and 2 bordars who have 9 ploughs. There (is) a priest and a church. Underwood 1 league in length and half (a league) in breadth. In King Edward's time it was worth 40 shillings; now (it is worth) 7 pounds.

M. In HOLTUNE [Stoney Houghton] Suain cilt had 3 bovates of land (assessed) to the geld. (There is) land for 2 ploughs. There 18 villeins and 6 bordars have 8 ploughs. In King Edward's time it was worth 10 shillings; now (it is worth) 60 (shillings).

IX. THE LAND OF GEOFFREY ELSELIN

M. In ÆLWOLDESTUN [Alvaston] and EMBOLDESTUNE [Ambaston] (and) TORULFESTUNE [Thurlaston] and ALEWOLDESTUNE [Elvaston] Tochi had 10 carucates of land (assessed) to the geld. (There is) land for 14 ploughs. There Geoffrey Alselin has now 2 ploughs in demesne and a certain knight (*miles*) of his (has) 1 plough. There 32 villeins have 15 ploughs. There (is) a priest and a church and 1 mill (rendering) 12 shillings and 1 smith (*faber*) and 52 acres of meadow and a little underwood. In King Edward's time it was worth 12 pounds; now (it is worth) 10 pounds.

M. In ETEWELLE [Etwall] Dunstan had 1 carucate of land (assessed) to the geld. (There is) land for 1 plough. There now 1 villein

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has 2 ploughing oxen (*boves in car*). There (are) 6 acres of meadow. In King Edward's time it was worth 20 shillings; now (it is worth) 4 shillings and 4 pence. Azelin holds it.

M. In EDNODESTONE [Ednaston] and HOILANT [Hulland] Tochi had 3 carucates of land (assessed) to the geld. (There is) land for 3 ploughs. There (is) now 1 plough in demesne; and (there are) 2 villeins and 2 bordars and half a church and 2 acres of meadow. Wood(land) for pannage 1 league in length and 1 in breadth and other wood(land) half a league in length and half (a league) in breadth. In King Edward's time it was worth 4 pounds; now (it is worth) 35 shillings.

To this manor belong (*adiacent*) 2½ bovates of land (assessed) to the geld. The soc belongs to (*in*) HOLINTUNE [Hollington]. (There is) land for 2½ oxen.¹

M. In EGHINTUNE [Egginton] Tochi had 4 carucates of land (assessed) to the geld. (There is) land for 6 ploughs. There (is) now 1 plough in demesne; and (there are) 2 villeins and 5 bordars who have 1 plough. There (is) a priest and a church and 1 mill (rendering) 5 shillings and 6 rent-paying tenants (*censarii*) who render 14 shillings and 4 pence. There (are) 200 acres of meadow and a little underwood. In King Edward's time it was worth 8 pounds; now (it is worth) 60 shillings. Azelin holds it.

S. In BRAIDESTUNE [Breaston] (there is) 1 bovat of land (assessed) to the geld. (There is) land for 1 ox. (It is) soc(land) and it is waste and renders 2 spurs (*calcaria*). There (is) 1 acre of meadow. There Gilbert de Gand has 2 carucates of land 1 league in length and 3 furlongs in breadth.

M. In OCHEBROC [Ockbrook] Tochi had 4 carucates of land (assessed) to the geld. (There is) land for 4 ploughs. There now 10 villeins and 2 bordars have 3 ploughs and 4 rent-paying tenants (*censarii*) render 14 shillings. There (are) 5 acres of meadow. Wood(land) for pannage 1 league in length and half (a league) in breadth. In King Edward's time it was worth 4 pounds; now (it is worth) 40 shillings. Geoffrey holds it.

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X. THE LAND OF RALF THE SON OF HUBERT

M. In ECHINTUNE [Eckington] Levenot had 4 carucates of land (assessed) to the geld.

¹ i.e. $\frac{5}{8}$ of a plough-team.

(There is) land for 5 ploughs. There Ralf the son of Hubert has now 1 plough in demesne; and 14 villeins who have 5 ploughs. There (is) a priest and 1 serf and 1 mill (rendering) 3 shillings and 8 acres of meadow. Wood(land) for pannage 2 leagues and 1 furlong in length and 1 league and half a furlong in breadth. In King Edward's time it was worth 7 pounds; now (it is worth) 60 shillings.

Soc(land)

S. In MORESBURG [Mosborough] (there are) 2 carucates of land (assessed) to the geld. (There is) land for 3 ploughs. There now 13 sochmen have 5 ploughs and 3 acres of meadow. Wood(land) for pannage 1½ leagues in length and 1 league in breadth.

Soc(land)

S. In BECTUNE [Beighton] (there are) 4 bovates of land (assessed) to the geld. (There is) land for as many oxen.² It is waste.

M. & B. In BARLEBURG [Barlborough] and WITWELLE [Whitwell] Levenot had 6 carucates of land (assessed) to the geld. (There is) land for 8 ploughs. There are now 3 ploughs in demesne; and (there are) 10 sochmen and 10 villeins and 36 bordars who have 8 ploughs. There (is) a priest and a church and 1 serf and 2 mills (rendering) 3 shillings. There (are) 3 acres of meadow. Wood(land) for pannage 2 leagues in length and 1 in breadth. Underwood 1 league in length and 1 in breadth. In King Edward's time it was worth 6 pounds, and (it is worth the same) now. Robert holds it.

In CLUNE [Clowne] (there are) 2 bovates of land (assessed) to the geld belonging to this manor.³

M & B. In PALTRETUNE [Palterton] and SCARDECLIF [Scarcliffe] and TUNESTAL [Tunstall] Levenot had 6 carucates of land and 2 bovates (assessed) to the geld. (There is) land for 8 ploughs. There (are) now 2 ploughs in demesne; and (there are) 10 villeins and 1 sochman and 2 bordars who have 3 ploughs and (there is) 1 rent-paying tenant (*censarius*) with 1 plough. There (is) 1 mill (rendering) 4 shillings and 8 acres of meadow. Wood(land) for pannage 1 league in length and half a league in breadth. In King Edward's time it was worth 6 pounds; now (it is worth) 50 shillings. Raynoward holds it.

² i.e. for half a plough-team.

³ In the MS. this entry has the appearance of a later insertion into the text.

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M. In DOCHEMANESTUN [Duckmanton] Levenot had 4 carucates of land and 2 bovates (assessed) to the geld. (There is) land for 5 ploughs. There now 18 rent-paying tenants have 5 ploughs. There (are) 8 acres of meadow. Wood(land) for pannage 1 league in length and 1 league in breadth. In King Edward's time it was worth 4 pounds; now (it is worth) 19 shillings. Geoffrey holds it.

M. In STRATUNE [Stretton] and TEGESTOU [Egstow] and HENLEGE [Hanley] Levenot had 1 carucate of land (assessed) to the geld. (There is) land for 2 ploughs. There (are) now 1½ ploughs in demesne; and (there are) 6 villeins and 4 bordars who have 3 ploughs, and 8 acres of meadow. Wood(land) for pannage 2 leagues in length and 1 in breadth. In King Edward's time it was worth 60 shillings; now (it is worth) 20 shillings. Robert holds it.

M. In another STRATUNE [Stretton] Levric had 2½ bovates of land (assessed) to the geld. (There is) land for 4 oxen. There now 2 villeins and 4 bordars have 2 ploughs and 2 acres of meadow. Wood(land) for pannage 3 furlongs in length and 1 in breadth. In King Edward's time it was worth 3 shillings and (it is worth the same) now. Robert holds it.

2 M. In ESSOVRE [Ashover] Levric and Levenot had 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. There now 3 rent-paying tenants (*censarii*) and 14 bordars have 3 ploughs. There (is) now 1 plough in demesne and a priest and a church and 1 mill (rendering) 16 pence. Wood(land) for pannage 2 leagues in length and 2 in breadth. In King Edward's time it was worth 4 pounds; now (it is worth) 30 shillings. Serlo holds it.

M. In NEUTONE [Newton] Levric and Levenot had 3 carucates of land (assessed) to the geld. (There is) land for 5 ploughs. There (is) now 1 plough in demesne; and (there are) 13 villeins and 4 bordars who have 5 ploughs. There (is) a priest who has 1 bordar and 7 acres of meadow. Wood(land) for pannage 1 league in length and half (a league) in breadth. In King Edward's time it was worth 4 pounds; now (it is worth) 30 shillings. Ralf holds it.

2 M. In CRICE [Crich] and SCOCHETORP [?Oakerthorpe] Levric and Levenot had 4 bovates of land (assessed) to the geld. (There is) land for 1 plough. There (is) now 1 plough in demesne; and (there are) 10 villeins and 2 bordars who have 3 ploughs. There (are)

3 acres of meadow. Wood(land) for pannage 3 leagues in length and 1 league in breadth and 1 lead mine (*plumbaria*). In King Edward's time it was worth 40 shillings; now (it is worth) 30 shillings. Ralf holds it.

In WERCHESWORDE [Wirksworth] and LEDE [Lea] and TANESLEGE [Tansley] (there are) 4 bovates of land (assessed) to the geld. (There is) land for 1 plough. There now 3 villeins and 7 bordars have 1 plough and 2½ acres of meadow. Wood(land) for pannage half a league in length and the same in breadth. In King Edward's time it was worth 10 shillings; now (it is worth) 7 shillings. This land belongs to (*jacet in*) Crich, but it pays (its) geld in HAMELESTAN [Wirksworth] Wapentake.¹

S. In WISTANESTUNE [Wessington] (there are) 3½ bovates of land (assessed) to the geld. (There is) land for 1 plough. The soc belongs to (*in*) Crice [Crich]. There now 1 villein and 6 bordars have 2 ploughs. Wood(land) for pannage 1 league in length and half (a league) in breadth. In King Edward's time it was worth 10 shillings; now (it is worth) 5 shillings. Levinc holds it.

S. In OUGEDESTUN [Ogston] (there are) 2 bovates of land (assessed) to the geld. (There is) land for 4 oxen.² Wood(land) for pannage half a league in length and 4 furlongs in breadth. The soc belongs to (*in*) Crice³ and it is waste.

B. In UFFENTUNE [Ufton] (there are) 4 bovates of land (assessed) to the geld. (There is) land for half a plough. (It is a) berewick belonging to (*in*) PENTRIC [Pentrich]. It is waste. There (are) 2 acres of meadow. Wood(land) for pannage half a league in length and 4 furlongs in breadth. Nigel holds it.

M. In MIDDLESTONE [Stony Middleton] Levenot and his brother had 1 carucate of land (assessed) to the geld. (There is) land for 1 plough. It is waste. This manor has 1 league in length and 4 furlongs in breadth.

2 M. In HERESEIGE [Hathersage] Levenot and Levric had 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. To this manor belong (*adjacent*) 4 berewicks: BANFORD [Bamford], HERCT [Upper Hurst], half⁴ OFFRETUNE [Offerton] (and) two parts⁴

¹ This entry is added at the foot of the page, with a mark to indicate its proper position.

² i.e. for half a plough-team.

³ 'in Crice' is interlined.

⁴ The words '*dimidia*' and '*due partes*' respectively are interlined at these two points.

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of MIDDLETUNE [Stony Middleton]. In these (there are) 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. There now 8 villeins and 2 bordars have 5 ploughs. Wood(land fit) for pannage in places (*per loca pastilis*), 2 leagues in length and 2 leagues in breadth. In King Edward's time it was worth 60 shillings; now (it is worth) 30 shillings.

M. In HORTIL [Harthill] Levenot had 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. There now 5 villeins and 3 bordars have 3 ploughs. There (are) 8 acres of meadow and a little underwood. In King Edward's time it was worth 20 shillings; now (it is worth) 12 shillings. Colle holds it.

M. In BOLETUNE [Boulton] Levenot had 1 carucate of land (assessed) to the geld. (There is) land for 2 ploughs. There (is) now 1 plough in demesne; and 2 sochmen and 3 villeins have 1 plough. There (are) 10 acres of meadow. Pasture (*pascua*) 4 furlongs in length and 3 furlongs in breadth. In King Edward's time it was worth 40 shillings; now (it is worth) 20 shillings.

M. In WILLETUNE [Willington] Levric had 3 carucates of land (assessed) to the geld. (There is) land for 4 ploughs. There now 4 villeins and 2 bordars have 4 ploughs and 30 acres of meadow. In King Edward's time it was worth 40 shillings; now (it is worth) 20 shillings.

M. In LANGELEI [Kirk Langley] Levenot had 4 carucates of land (assessed) to the geld. (There is) land for 6 ploughs. There (is) now 1 plough in demesne; and 2 villeins and 4 bordars have 2 ploughs. Wood(land) for pannage 1 league in length and 3 furlongs in breadth and a little underwood. In King Edward's time it was worth 100 shillings; now (it is worth) 40 shillings.

2 M. In BELIDENE [Ballidon] Levric and Levenot had 3 carucates of land (assessed) to the geld. (There is) land for 4 ploughs. There (is) now 1 plough in demesne; and 6 villeins have 1 plough. There (are) 16 acres of meadow. Underwood half a league in length and 1 furlong in breadth. In King Edward's time it was worth 60 shillings; now (it is worth) 12 shillings and 6 pence.

M. In ENGLEBI [Ingleby] ¹ had 1

¹ No name is given.

carucate of land and the sixth part of 1 carucate (assessed) to the geld. (There is) land for 1½ ploughs. There (is) now 1 plough in demesne; and 3 villeins and 2 bordars have 1 plough. There (are) 7 acres of meadow and the site of 1 mill. It is worth 10 shillings.

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2 M. In CLIPTUNE [Clifton] Levric and Levenot had 3 carucates of land (assessed) to the geld. (There is) land for 3 ploughs. There now 8 villeins and 5 bordars have 4 ploughs and 4 acres of meadow. In King Edward's time it was worth 40 shillings; now (it is worth) 10 shillings.

2 M. In RIPELIE [Ripley] and PENTRIC² [Pentrich] Levenot had 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. There (are) now 3 ploughs in demesne; and 13 villeins and 3 bordars have 3 ploughs. There (are) 3 acres of meadow. Wood(land) for pannage 2 leagues in length and 1 in breadth. In King Edward's time it was worth 4 pounds; now (it is worth) 50 shillings.

S. In BAREWE [Barrow upon Trent] (there are) 12 bovates of land (assessed) to the geld. The soc (belongs) to (*ad*) MILEBURNE [Melbourne]. There (is) a priest and a church and 1 sochman with half a plough and 18 acres of meadow.

In WERREDUNE [] Levenot³ (had) 2 bovates of land (assessed) to the geld. (There is) land for 4 oxen.⁴ There now 6 villeins have 1 plough and (there is) 1 acre of meadow, and underwood. In King Edward's time it was worth 5 shillings and (it is worth the same) now.

XI. THE LAND OF RALF DE BURUN

M. In WESTUNE [Weston Underwood] Ulsi had 1 carucate of land (assessed) to the geld. (There is) land for 1 plough. There (is) now 1 plough in demesne; and 6 villeins and 6 bordars have 2 ploughs. There (are) 8 acres of meadow. Wood(land) for pannage 1 league in length and half (a league) in breadth. In King Edward's time it was worth 40 shillings; now (it is worth) 20 shillings. Gilbert holds it of (*de*) Ralf de Burun.

² 'et Pentric' is interlined.

³ 'Levenot' is interlined.

⁴ i.e. half a plough-team.

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M. In HORSELEI [Horsley] Turgar had 3 carucates of land (assessed) to the geld. (There is) land for 4 ploughs. There (are) now 2 ploughs in demesne; and (there are) 19 villeins and 4 bordars who have 6 ploughs. There (are) 60 acres of meadow. Wood(land) for pannage 1 league in length and 1 in breadth. In King Edward's time it was worth 100 shillings, now (it is worth) 60 shillings. Ralf holds it.

M. In DENEBI [Denby] Osmund had 2 carucates of land (assessed) to the geld. (There is) land for 4 ploughs. There now 7 villeins and 1 bordar have 3 ploughs. There (are) 12 acres of meadow and the site of 1 mill. Wood(land) for pannage 1 league in length and 1 in breadth. In King Edward's time it was worth 100 shillings; now (it is worth) 20 shillings. A knight (*miles*) of Ralf's holds it.

M. In HALUN [Kirk Hallam] Dunstan had 1 carucate of land (assessed) to the geld. (There is) land for 2 ploughs. There (is) now 1 plough in demesne, and 5 villeins and 4 bordars have 2 ploughs. There (are) 16 acres of meadow. Wood(land) for pannage 7 furlongs in length and 6 furlongs in breadth. In King Edward's time it was worth 20 shillings and (it is worth the same) now.

M. In HERDEBI [] Turgar had 5 parts of 1 carucate of land (assessed) to the geld. (There is) land for 1 plough. It is waste. There (are) 6 acres of meadow. Wood(land) for pannage 1 league in length and half (a league) in breadth. In King Edward's time it was worth 30 shillings; now (it is worth) 8 shillings.

XII. THE LAND OF ASCUIT MUSARD

M. In BARLEIE [Barlow] Hacon had 2 parts of 1 carucate of land (assessed) to the geld. (There is) land for half a plough. There now 6 villeins and 1 bordar have 1 plough. There (are) 2 acres of meadow. Wood(land) for pannage 1½ leagues in length and 8 furlongs in breadth. In King Edward's time it was worth 10 shillings and (it is worth the same) now. Ascuit Musard holds it.

M. In STAVELIE [Staveley] Hacon had 4 carucates of land (assessed) to the geld. (There is) land for 4 ploughs. There Ascuit has now 3 ploughs in demesne; and 21 villeins and 7 bordars have 4 ploughs. There (is) a priest and a church and 1 mill (render-

ing) 5 shillings and 4 pence. There (are) 60 acres of meadow. Wood(land) for pannage 1½ leagues in length and the same in breadth. In King Edward's time it was worth 6 pounds and (it is worth the same) now.

M. In HOLUN [Holm in Brampton] and WADESCEL [Wadshelf] and BRANTUNE [Brampton] Dunnine had 10½ bovates of land (assessed) to the geld. (There is) land for 12 oxen.¹ There now 8 villeins and 5 bordars have 3 ploughs. There (are) 3 acres of meadow. Wood(land) for pannage 1½ leagues and 1 furlong in length and 2½ furlongs in breadth. In King Edward's time it was worth 20 shillings; now (it is worth) 10 shillings. Ascuit holds it.

M. In BRANTUNE [Brampton] and WADESCEL [Wadshelf] Branwine had 7 bovates of land and 4 acres (assessed) to the geld. (There is) land for 1 plough. There (is) now 1 plough in demesne; and 3 villeins and 1 bordar have 1 plough. There (are) 5 acres of meadow. Wood(land) for pannage 1½ leagues in length and 3 furlongs in breadth. In King Edward's time it was worth 10 shillings and (it is worth the same) now. Ascuit holds it.²

M. In CHINEWOLDE maresc [Killamarsh] Ælwald had half a bovat of land (assessed) to the geld. It is waste. There (is) half an acre of meadow. Wood(land) for pannage 1 league in length and 30 perches in breadth. In King Edward's time it was worth 16 pence; now (it is worth) 12 (pence).

XIII. THE LAND OF GILBERT DE GAND

M. In TILCHESTUNE [Ilkeston] and HALEN [West Hallam] and STANTONE [Stanton by Dale] Ulf fenisc had 6 carucates of land and 6 bovates (assessed) to the geld, and in BRAIDESTONE [Breaston], soc(land), 2 carucates of land (assessed) to the geld.³ (There is) land for 8 ploughs and 6 oxen.⁴ There (are) now 3 ploughs in demesne; and (there are) 10 sochmen on (*de*) 2 carucates of this land, and 18 villeins and 7 bordars who have 12 ploughs. There (is) the site of 1 mill and 70 acres of meadow. Wood(land) for pannage 1 league in length and 3 furlongs in breadth and underwood 5 furlongs in length and 2 in breadth.

¹ i.e. for 1½ plough-teams.

² The words '*nescio cujus*' are added in the margin at the side of this entry.

³ These 2 carucates have already been entered under the fief of Geoffrey Alsclin. See also the Breaston entry under the fief of Roger de Busli.

⁴ i.e. 8¾ plough-teams.

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In King Edward's time it was worth 8 pounds; now (it is worth) 100 shillings. Malger holds it.

2 M. In SCIPELIE [Shipley] Brun and Odincar had 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. There now 7 villeins and 1 sochman and 1 bordar have 5 ploughs. There (are) 3 acres of meadow. Wood(land) for pannage 7 furlongs in length and 3 in breadth. In King Edward's time it was worth 40 shillings; now (it is worth) 30 shillings. Malger holds it. The jurors (*homines qui juraverunt*) say that this land did not belong to Ulf fenisc in King Edward's time, but that those 2 thegns (sc. Brun and Odincar) so held (it) that they could give or (*et*) sell it to whom they wished.

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XIII. THE LAND OF NIGEL DE STATFORD

M. In DRACHELAWÉ [Drakelowe]¹ and HEDCOTE [Heathcote]² Elric had 4 carucates of land (assessed) to the geld. (There is) land for 4 ploughs. There now Nigel de Stadford has 4 ploughs in demesne; and 6 villeins who have 3 ploughs. There is the site of 1 mill and 12 acres of meadow. Wood(land) for pannage 2½ leagues in length and 2 leagues in breadth. In King Edward's time it was worth 60 shillings; now (it is worth) 40 (shillings).

M. In STAPENHILLE [Stapenhill]³ Godric had 6 bovates of land (assessed) to the geld. (There is) land for 1 plough. There (is) now 1 plough in demesne; and 4 villeins and 3 bordars have 1 plough. There (are) 3 acres of meadow. Underwood 1 furlong in length and 1 in breadth. In King Edward's time it was worth 10 shillings and (it is worth the same) now.

M. In SIVARDINGESCOTES [Swadlincote] Godric had 1 carucate of land (assessed) to the geld. (There is) land for 1 plough. There (is) now 1 plough in demesne; and 4 villeins and 2 bordars have 1 plough, and 1 rent-paying tenant (*censarius*) has 1 plough. There (is) 1 acre of meadow. Wood(land) for pannage 4 furlongs in length and 4 in breadth. In King Edward's time it was worth 20 shillings; now (it is worth) 30 (shillings).

¹ Still the seat of his lineal descendants, in the male line, the Gresleys.

² In Gresley.

³ Now in Staffordshire.

M. In FORNEWERCHE [Foremark] Ulchel had 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. There (is) now 1 plough in demesne; and 5 villeins and 3 bordars have 1 plough. There (is) 1 mill (rendering) 2 shillings and 24 acres of meadow. Wood(land) for pannage half a league in length and the same in breadth. In King Edward's time it was worth 40 shillings; now (it is worth) 15 shillings.

The Soc of the same Manor

S. In ENGLEBI [Ingleby] (there are) 3 bovates of land (assessed) to the geld. (There is) land for 4 oxen.⁴ There (is) 1 villein and 2 bordars with half a plough and 4 acres of meadow.

S. In TICHENHALLE [Ticknall] (there is) 1 carucate of land (assessed) to the geld. (There is) land for 1 plough. The soc belongs to the king's manor of RAPENDUN [Repton]. There Nigel has 1 plough in demesne; and 1 villein and 1 bordar with 1 plough. There (are) 10 acres of meadow. It is worth 3 shillings. The fourth part of the wood(land) for pannage of the same vill, whose length is 1 league and breadth half a league, belongs to Nigel.

M. In SMIDESBI [Smisby] Edwin had 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. There (is) now 1 plough in demesne; and (there are) 5 villeins with 1 plough. Wood(land) for pannage half a league in length and 6 furlongs in breadth. In King Edward's time it was worth 40 shillings; now (it is worth) 20 shillings.

M. In RAVENESTUN [Ravenstone⁵] Godric had 1 carucate of land (assessed) to the geld. (There is) land for 1 plough. It is waste. There (are) 8 acres of meadow. In King Edward's time it was worth 15 shillings; now (it is worth) 12 pence.

M. In DURANDESTORP [Donisthorpe⁶] Carle had 1 carucate of land (assessed) to the geld. (There is) land for half a plough. It is waste. In King Edward's time it was worth 5 shillings; now (it is worth) 12 pence.

M. In ACHETORP [Oakthorpe⁶] Ernuin had 6 bovates of land (assessed) to the geld. (There is) land for half a plough. It is waste. In King Edward's time it was worth 5 shillings; now (it is worth) 4 pence.

⁴ i.e. for half a plough team.

⁵ Now in Leicestershire.

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M. In TRANGESBY [] Elnod had half a carucate of land (assessed) to the geld. It is waste. In King Edward's time it was worth 5 shillings; now (it is worth) 2 pence.

XV. THE LAND OF ROTBERT [ROBERT] THE SON OF WILLIAM

M. In STANLEI [Stanley] Ulfar had 2 carucates of land (assessed) to the geld. (There is) land for 2 ploughs. There Robert the son of William has 2 villeins and 2 bordars with 1 plough. There (are) 6 acres of meadow. Wood(land) for pannage 1 league in length and half (a league) in breadth. In King Edward's time it was worth 20 shillings; now (it is worth) 10 shillings.

XVI. THE LAND OF ROGER DE BUSLI

M. In BRAIDESTUNE [Breaston] Ligulf and Lewin cilt had 3 carucates of land (assessed) to the geld. (There is) land¹. There Fulc, the man of Roger de Busli, has 5 villeins with 2 ploughs and 10 acres of meadow. In King Edward's time it was worth 40 shillings; now (it is worth) 21 shillings. This Ligulf had half a carucate of soc(land) which Fulc de Lusoris has; having seized it to the wrong of (*interceptam super*) Gilbert de Gand.²

M. In RISELEIA [Risley] Ulsi had 5 bovates of land and the third part of 1 bovate (assessed) to the geld, and Godric (had) 5 bovates and the third part of 1 bovate (assessed) to the geld. (There is) land³. There now 5 villeins have 2 ploughs and 20 acres of meadow. Wood(land) for pannage 9 furlongs in length and 3 furlongs in breadth. In King Edward's time it was worth 21 shillings and 4 pence; now (it is worth) 22 shillings and 8 pence. Fulc holds it of Roger, Ernuin claims it.⁴

M. In BECTUNE [Beighton] Swain had 6½ bovates (assessed) to the geld. There is land for 1½ ploughs. There nevertheless are 4 ploughs and 20 villeins and 2 bordars. Formerly (it was worth) 20 shillings; now

¹ The number of 'ploughlands' is not given.

² If to the 3½ carucates accounted for here there are added the 2 carucates held by Gilbert de Gand, the 1 bovate held by Walter de Aincurt and the 3 bovates held by Henry de Ferrars, Breaston will appear as a typical vill of 6 carucates.

³ The number of 'ploughlands' is not given.

⁴ A 'k' in the margin indicates a claim against the tenant of this manor (cp. 'Scrotun,' p. 338). In the other margin is a 'D' of which the significance is uncertain.

(it is worth) 32 shillings. Roger holds it and Lewine of him.

M. In DORE [Dore] Edwin had 2 bovates of land (assessed) to the geld. There is land for half a plough.

M. In the same place Lewin had 2 bovates of land (assessed) to the geld. There is land for 1 plough. Formerly (it was worth) 20 shillings; now (it is worth) 64 pence.

2 M. In NORTUN [Norton] Godeva and Bada had 12½ bovates of land and 8 acres of land. (There is) land for 2 ploughs. There 3 villeins have 1 plough. Ingram holds it of Roger. Formerly (it was worth) 20 shillings; now (it is worth) 18 pence.

M. In ELSTRETUNE [Alfreton] Morcar had for a manor (*pro manerio*) 4½ bovates and 4 acres of land (assessed) to the geld. There is land for 1 plough. There (are) 9 villeins and 3 bordars with 2 ploughs. There (are) 5 acres of meadow. Formerly (it was worth) 20 shillings; now (it is worth) 30 shillings. Ingram holds it of Roger.

M. In RUGETORN [Rowthorn] Ulsi and Steinulf had 1 carucate of land (assessed) to the geld for a manor and in BRANLEGE [Bramley] 2 bovates of land of the soc(land) of Rugetorn. There is land for 2 ploughs. There 6 villeins with 1 bordar have 1 plough. In demesne there is 1 plough and (there are) 2½ acres of meadow. Formerly (it was worth) 20 shillings; now (it is worth) 16 shillings.

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XVII. THE LAND OF THE KING'S THEGNS

2 M. In BARLEIE [Barlow] Levric and Uctred had 2½ bovates of land (assessed) to the geld. (There is) land for 5 oxen.⁵ There now 3 villeins and 4 bordars have 1 plough. Wood(land) for pannage 3 leagues in length and 4 furlongs in breadth. In King Edward's time it was worth 6 shillings and 8 pence and (it is worth the same) now.

3 M. In CHINEWOLDEMARESC [Killammarsh] Godric and Edric and Turgisle had 7½ bovates of land (assessed) to the geld. (There is) land for 1 plough. There now 5 villeins have 1 plough. There (are) 7 acres of meadow. Wood(land) for pannage 3 leagues in length and 5 furlongs and 70 perches in

⁵ i.e. ⅘ of a plough-team.

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breadth. In King Edward's time it was worth 18 shillings; now (it is worth) 9 shillings.

M. In TOPETUNE [Tupton] Dolfin had 2 bovates of land (assessed) to the geld. It is waste. In King Edward's time it was worth 8 shillings; now it is worth 5 shillings.

M. In TOTINGELEI [Totley] Tolf had 4 bovates of land (assessed) to the geld. (There is) land for 1 plough. It is waste. Wood(land) for pannage 1 league in length and half a league in breadth. In King Edward's time it was worth 10 shillings; now (it is worth) 12 pence.

M. In ESTUNE [Coal Aston] Tolf had 5½ bovates of land (assessed) to the geld. (There is) land for 1 plough. There (are) now 2 sochmen and 6 villeins and 1 bordar who have 3 ploughs. There (are) 2 acres of meadow. Wood(land) for pannage 7 furlongs in length and 4 furlongs in breadth. In King Edward's time it was worth 20 shillings and (it is worth the same) now. Lewin holds (it) of the king.

M. In HENLEIE [Hanley] Godric had 7 bovates of land (assessed) to the geld. (There is) land for 1 plough. There (is) now 1 plough in demesne; and 2 sochmen and 4 villeins and 2 bordars have 3½ ploughs. There (are) 2 acres of meadow. In King Edward's time it was worth 10 shillings; now (it is worth) 20 shillings. Lewin holds (it) of the king.

M. IN THE SAME PLACE (*Ibidem*) Raven had 1 bovat of land (assessed) to the geld. It is waste. Sedret holds it of the king.

M. In TAPETUNE [Tapton] Bada had 1 bovat of land and 4 acres (assessed) to the geld. (There is) land for 2 oxen.¹ There now 4 villeins have 1 plough and wood(land) 1 acre in length and 1 acre in breadth. In King Edward's time it was worth 10 shillings; now (it is worth) 2 shillings and 8 pence. Dolfin holds it of the king.

2 M. In CALEHALE [Calow] Sberne and Hacon had 1 carucate of land (assessed) to the geld. (There is) land for 12 oxen.² There now Steinulf and Dunning have 2½ ploughs and 17 villeins and 1 bordar with 2 ploughs. There (are) 3 acres of meadow. Wood(land) for pannage 1 furlong in length and 1 in

breadth. In King Edward's time it was worth 30 shillings; now (it is worth) 20 shillings. Dolfin claims (it).³

M. In CLUNE [Clowne] Ernui had 6 bovates of land (assessed) to the geld. (There is) land for 1 plough. There (is) now half a plough in demesne; and (there are) 8 villeins with 1 plough. In King Edward's time it was worth 20 shillings; now (it is worth) 8 shillings. Ernui holds (it) of the king.

M. In LULLITUNE [Lullington] Auti had 5 carucates of land (assessed) to the geld. (There is) land for 5 ploughs. There now Edmund has of the king 21 villeins and 3 bordars with 4 ploughs. There (is) a priest and 1 mill (rendering) 6 shillings and 8 pence and 12 acres of meadow. In King Edward's time it was worth 4 pounds and (it is worth the same) now.

M. In EDNUNGHLE [Edingale]⁴ Ælgar had 2 carucates of land (assessed) to the geld. (There is) land for 3 ploughs. There now 12 villeins have 8 ploughs and 4 acres of meadow. Underwood 3 furlongs in length and 1 in breadth. In King Edward's time it was worth 40 shillings and (it is worth the same) now.

M. In TILCHESTUNE [Ilkeston] Osmund benz⁵ had 3 bovates of land (assessed) to the geld. He himself holds it of the king.

M. IN THE SAME PLACE (*Ibidem*) Toli had 3 bovates of land (assessed) to the geld. (There is) land for as many oxen.⁶ There now 2 villeins have 5 ploughing oxen (*boves in car*). There (are) 5 acres of meadow. This land belongs to Sandiacre.

3 M. In SANDIACRE [Sandiacre] Toli, Cnut and Gladuin had 4 carucates of land (assessed) to the geld. (There is) land for 5 ploughs. Now Toli holds it of the king. There (are) 2 ploughs in demesne; and 10 villeins and 6 bordars have 5 ploughs. There (is) a priest and a church and 1 mill (rendering) 5 shillings and 4 pence and 30 acres of meadow and a little underwood. In King Edward's time it was worth 40 shillings and (it is worth the same) now.

M. IN THE SAME PLACE Osmund had 1 carucate of land (assessed) to the geld. (There

³ A 'k' in the margin indicates a claim against the tenants of the manor (cf. note 4, p. 353).

⁴ Now in Staffordshire.

⁵ 'Benz' is interlined.

⁶ i.e. ¾ of a plough-team.

¹ i.e. a quarter of a plough-team.

² i.e. 1½ plough-teams.

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is) land for 1 plough. Now it is waste. There (are) 6 acres of meadow and a little underwood.

M. IN THE SAME PLACE Tochi had 2 bovates of land (assessed) to the geld.

M. IN CELLEDENE [? Chellaston] Osmund had 4 bovates of land and 3 parts of 1 bovatē (assessed) to the geld. (There is) land for 6 oxen.¹ The same holds it himself of the king and has there 3 villeins with half a plough and $2\frac{1}{2}$ acres of meadow. Wood(land) for pannage 3 furlongs in length and 2 in breadth. In King Edward's time it was worth 10 shillings; now (it is worth) 5 shillings.

M. IN ULVRITUNE [] Alun had 1 carucate of land (assessed) to the geld. (There is) land for 2 ploughs. Now Alden holds it of the king. There (are) 12 acres of meadow. Wood(land) for pannage 1 league in length and half (a league) in breadth. In King Edward's time it was worth 10 shillings; now (it is worth) 2 shillings.

M. IN RISELEI [Risley²] Lewin had 5

¹ i.e. for $\frac{3}{4}$ of a plough-team.

² The same amount was held (p. 353) by Godric and Ulsi respectively. The total assessment of Risley was therefore 2 carucates divided into three equal shares of $5\frac{1}{3}$ bovates each.

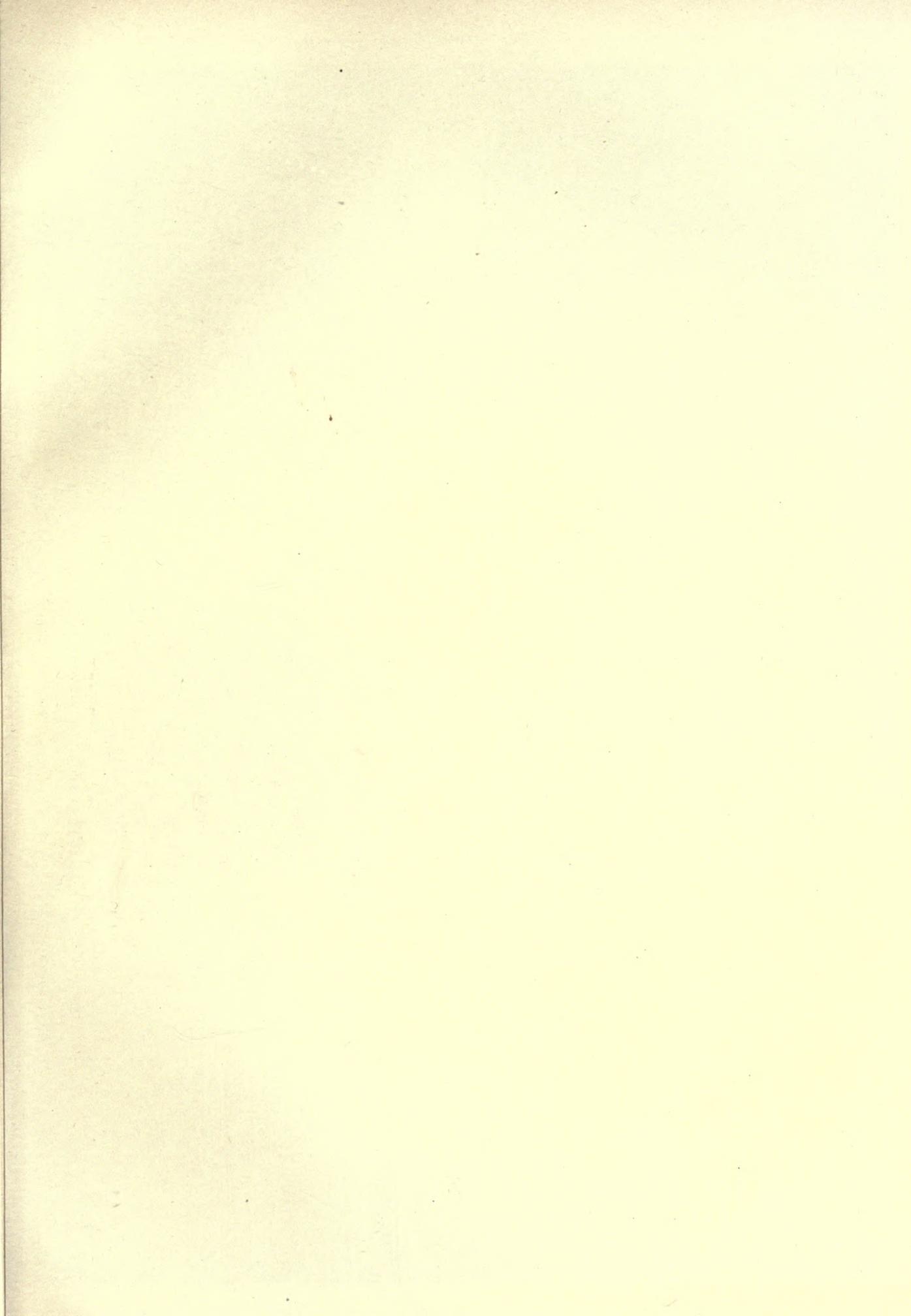
bovates of land and the third part of 1 bovatē (assessed) to the geld. His son holds it now of the king. There (are) 10 acres of meadow. Wood(land) for pannage 9 furlongs in length and $1\frac{1}{2}$ furlongs in breadth. In King Edward's time it was worth 10 shillings and 8 pence; now (it is worth) 5 shillings and 4 pence.

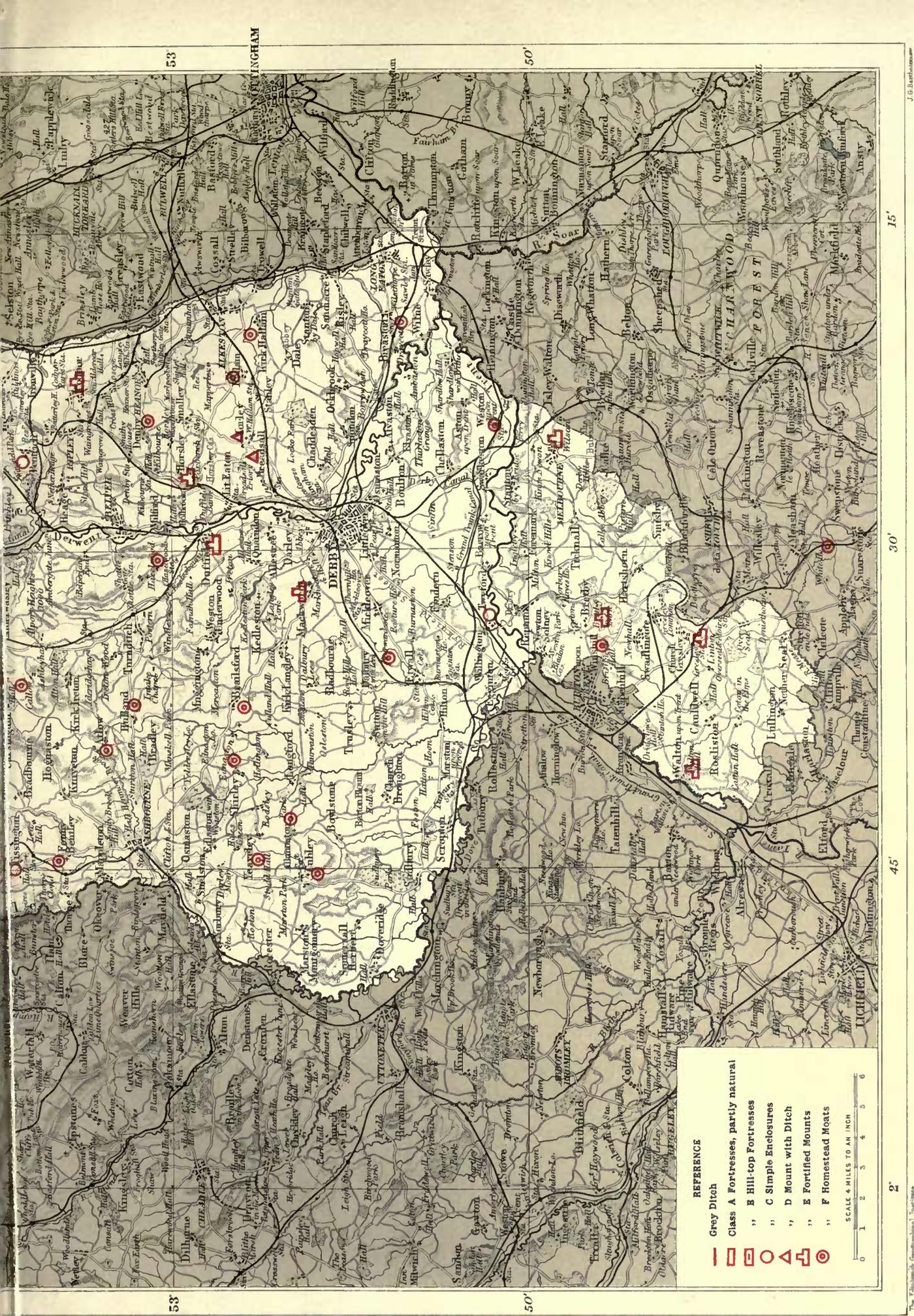
M. IN MERS [] Levenot had 4 bovates of land (assessed) to the geld. (There is) land for 4 oxen. It is waste.

M. IN STANTUN [Stanton by Bridge] Edward had $1\frac{1}{2}$ carucates of land (assessed) to the geld. (There is) land for 2 ploughs. There nevertheless are $4\frac{1}{2}$ ploughs and 4 sochmen and 4 villeins and 40 acres of meadow, and a mill (rendering) 2 shillings. Ernui holds it. It was and is worth 20 shillings.

IN ENGLEBI [Ingleby] (there are) 2 parts of 1 bovatē of land.³ It belongs (*iacet*) to STANTUN [Stanton by Bridge].

³ This exactly completes the assessment of Ingleby. The king held 3 bovates there, Ralf Fitz Hubert $1\frac{1}{2}$ carucates, and Nigel de Statford 3 bovates. These sums with the two-thirds of 1 bovatē given here amount to exactly 2 carucates.



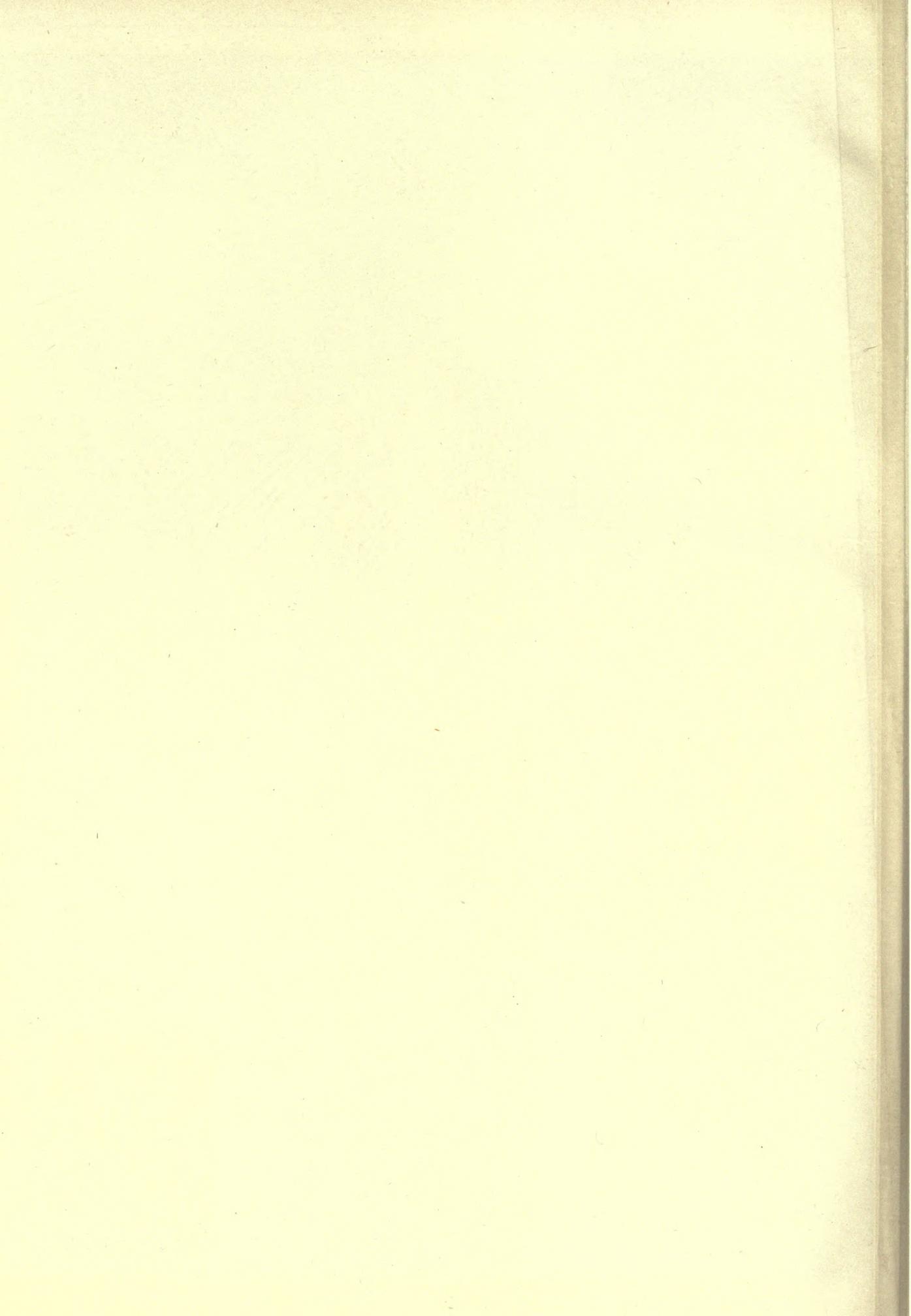


REFERENCE

- Grey Ditch
- Class A Fortresses, partly natural
- Class B Hill-top Fortresses
- Class C Simple Enclosures
- Class D Mount with Ditch
- Class E Fortified Mounts
- Class F Homestead Moats



SCALE 4 MILES TO AN INCH
0 1 2 3 4 5 6



ANCIENT EARTHWORKS

Those only who have attempted to classify or group ancient earthworks can form any idea of the difficulties and uncertainties by which the whole subject is surrounded.¹ It has, therefore, been thought well in dealing with those of Derbyshire to follow, as closely as possible, the scheme adopted by the Congress of Archæological Societies in 1903, on the recommendation of a competent committee. In two particulars, however, the present account of the various forms of ancient earthworks within the limits of this county is more comprehensive than the scheme of 1903, wherein it was recommended that 'boundary banks' or prolonged intrenchments, as well as 'stone circles' and 'burial barrows,' should be omitted from the proposed schedules. It is felt that in such a section as this mention must be made of that long strip of defensive earthwork known as Grey Ditch. The chief features of the Derbyshire barrows have been already adequately discussed by Mr. Ward, under 'Early Man,'² but as the burial mounds of Derbyshire are of such unusual frequency and importance in the north of the county, it is thought better to conclude this article with a list of all such tumuli, or their sites, as have been distinguished by the Ordnance surveyors.

The scheme of 1903 recommended the classification of defensive earthworks under the following heads:—

- A. Fortresses partly inaccessible, by reason of precipices, cliffs, or water, additionally defended by artificial banks or walls.
- B. Fortresses on hill-tops with artificial defences, following the natural line of the hill.
- C. Rectangular or other simple enclosures, including forts and towns of the Romano-British period.
- D. Forts consisting only of a mount with encircling ditch or fosse.
- E. Fortified mounts, either artificial or partly natural, with traces of an attached court or bailey, or of two or more such courts.
- F. Homestead moats, such as abound in some lowland districts, consisting of simple enclosures formed into artificial islands by water moats.

In considering these divisions *seriatim*, it will be found that Derbyshire has remains of forts of considerable moment under sections A and B,

¹ I desire to acknowledge the particular help of Mr. W. J. Andrew, F.S.A., in the correction and extension of this paper. The Hon. F. Strutt kindly pointed out to me certain previous omissions. Mr. P. H. Currey was good enough to supply a plan and section of Morley Moor mount at very short notice. Mr. Mallalieu has also been of much service.

² 'Stone circles' are also treated by Mr. Ward, but in many if not most cases such circles were placed on earth ramparts; hence some of those that probably once carried stones and now are mere earth circles are here named.

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though the hard and rocky ground of Peakland prohibited the extensive use of the spade or its early forerunner ; whilst every variety and age of the subsequent classes has at least some representatives.¹

Of Class A Derbyshire has three examples all memorable, the Carl's Wark, Comb Moss, and Markland Grips. The first of these, which has more of stone than earthwork about it, has received considerable attention at the hands of both competent and incompetent writers ; whilst the last has hitherto met with the most strange neglect and silence.

There are also three good examples of Class B, Cronkstone, Fin Cop, and Mam Tor, taking them in alphabetical order ; but whilst the last is still singularly fine, and in a well-known and commanding position, the other two are much less important and considerably obliterated.

Class C includes rectangular works of no small interest of the Romano-British period, such as the forts of Melandra and Brough, but these come within the scope of the article on Romano-British Remains. Eight other examples have been placed in this division as coming under the head of 'simple enclosures' of a circular form. Staden Low (probably a former stone circle) can scarcely be called 'simple,' for it has a small rectangular enclosure associated with one of circular shape ; but it would otherwise have had to form a class to itself.

Of Class D there are at least five Derbyshire instances, Holmesfield, Hope, Tapton, and two at Morley, and of these that at Hope and one of those at Morley alone retain any magnitude.²

The seventeen cases of fortified mounts with courts or baileys attached, grouped together under Class E, bring together works of very diverse dates, some undoubtedly pre-historic, and others of a comparatively late mediæval date. In thus grouping them, the suggestion made by the Congress Report of 1903 has been followed, wherein it was stated that—'though not strictly within the scope of this enquiry, it is suggested that all mediæval castles should be included in the schedules, since many of them originated in earthworks of Class E.' At Pilsbury there is undoubtedly pre-historic work, though perhaps used again in mediæval times, and at Bakewell an almost certain example of a tenth-century work, which may have been subsequently converted into a post-Conquest fortress ; whilst at Duffield the site of a once massive Norman keep has been shown, by incontestable evidence of the spade and pick, to have been previously occupied by successive generations of Romano-British and Anglo-Saxon defenders.³ The complicated rectangular enclosure of

¹ The numerical references after the names of the various earthworks refer to the 25 in. to the mile Ordnance Survey maps, the Roman numeral giving the sheet, and the Arabic numeral the subdivision. In these great maps each sheet has sixteen subdivisions. If the exact reference to the 6 in. to the mile maps, with their four subdivisions to the sheet, is required, it is well to remember that the sheet number is the same, and that 1, 2, 5 and 6 are 'N.W.' ; 3, 4, 7 and 8 'N.E.' ; 9, 10, 13 and 14 'S.W.' ; and 11, 12, 15 and 16 'S.E.'

² Mr. Andrew has noticed what he considers to be traces of a mount of this description to the west of Chelmorton church.

³ The old name 'Castle' applied to not a few of the Derbyshire earthworks dispels the popular conception of a castle being necessarily composed of masonry. The *New English Dict.* says that the word castle is rightly applied to 'ancient British or Roman earthworks.'

ANCIENT EARTHWORKS

'The Buries,' Repton, long thought to be Roman, has also been included in this class, though with some hesitation.

The moated homestead sites of Class F are not nearly so numerous in Derbyshire as in the neighbouring Palatinate of Chester and in most of the counties of eastern and southern England. This paucity of examples doubtless arises from so large a proportion of its limited area being rocky and mountainous, and altogether unsuited to trenchwork defence of this character. Nevertheless an interesting and diversified number of moated sites are to be found in the southern and western parts of the shire. Twenty-five instances are briefly described, and plans given of the more remarkable. These are all the cases which were sufficiently well defined to attract the attention of the Ordnance surveyors, though there are several remains of moat indications round other manor houses or their sites. Several well-defined rectangular moats have been filled up in the course of agricultural and farm improvements during the past forty years, as at Hollington in Brailsford parish, and at Lullington in the far south of the county. It may well be supposed that in some cases included under homestead moats there may have been a pre-Conquest, or even possibly a pre-historic, origin for such earthworks, but their construction is said to have been continued until as late as the days of Elizabeth; all that is implied by inclusion in this class is that the evidence is almost conclusive that the moat in question once surrounded a dwelling-house, farmstead, or stackyard. The oval-shaped moat seems as a rule to betoken an earlier date than those of rectangular formation. The Cubley example, an irregular oval, is certainly of old origin, and the oval one at Duncourt Farm is probably still older. The fragment of the moat at Stainsby Hall is sufficient to show that it was of oval or circular shape.

In several counties, where there is a rich depth of earth and considerable paucity of stone, as in Bedfordshire and the East Riding of Yorkshire, the precincts of monastic sites were protected by moats and earthen ramparts, the latter being doubtless stockaded. Derbyshire had but few religious houses, and these mostly where stone was plentiful; but there are two examples of this style of enclosure on a small scale of religious sites, one at the Preceptory of the Knights Hospitallers at Yeaveley, and the other in Old Duffield round a grange of Darley Abbey.

THE GREY DITCH

Other counties, such as Essex and Cambridge on the east, or Dorset and Wilts on the west, have far more important dykes or defensive lines of entrenchment than Derbyshire, but the Grey Ditch is not without its interest. It shows itself plainly when traversing at right angles the high road in the valley from Brough to Bradwell, telling probably of early tribal resistance to onslaughts up this valley. Just after passing 'Eden Tree,' the Grey Ditch (x. 9, 10) may be noticed on the right-hand side of the road, climbing up the gradual ascent toward Mich Low. Here it

A HISTORY OF DERBYSHIRE

becomes more obvious; it follows the line of two field divisions, and then crosses the centre of a long field, as it ascends the steep slope leading up to Bradwell Edge. This stretch of the Ditch is about 1,300 ft. long. Cultivation has then brought about a considerable gap, but the Ditch again reappears almost on the top of the hill, where a stretch of 400 feet reaches to the ridge road leading to Brough, at an elevation of about 1,100 feet. Mr. Bray was the first to notice the Grey Ditch, in 1783:— ‘From this Camp (Mam Tor) a ditch is carried down the south side of the hill, across the valley of Micklow-hill, about three miles off; and from thence S.E. by S. crossing the Bradwell, and running by Brough, it goes in a straight line to Shatton, or Bradwell Edge, about three miles more. It is called the Grey Ditch, and was possibly a *Prætentura*, or fore-fence of the Romans. On the side of Mam Tor Hill it is very visible; in the valley it is lost in many places, the plough having destroyed it; but from Micklow-hill to Shatton-edge, it is plainly seen. The slope or front is towards Brough; it is about 20 feet high and 12 feet broad at top. There is no tradition concerning it, but pieces of swords, spears, spurs, and bridle-bits have been found on both sides, and very near it, between Batham Gate and Bradwell-water.’¹

It is doubtful whether the trench noticed by Mr. Bray running down the south side of Mam Tor had any connexion with the Grey Ditch; but at all events that trench has wholly disappeared. Another century of agricultural pursuits, since Mr. Bray wrote, has considerably worn down the elevation and distinctive features of this once great rampart. It has nowhere an elevation exceeding 10 feet, and has a total average width of about 35 feet.

This is not the place for speculation as to the probable age² of a rampart evidently thrown up to resist attack from the Brough side, and possibly once a boundary of the ancient kingdom of Northumbria or Brigantes³; nevertheless, it is only right to mention, however improbable, that the Rev. T. Barns has recently stated his conviction that the Grey Ditch is ‘the most important remaining fragment of the *Limes Britannicus*’ of the first century, in its third stage between Templeborough and Brough.⁴

PROMONTORY FORTRESSES

[CLASS A]

I. THE CARL'S WARK (xi. 9) is a remarkable pre-historic fortress, on a rocky elevation of millstone grit, about two miles to the east of Hathersage. The site is but little known to either the Derbyshire resident or visitor; but the Carl's Wark, with its gloomy desolate aspect, forms one of the most impressive and suggestive features of the county's scenery.

¹ Bray's *Tour through Yorks and Derb.* 204.

² The word Grey has evidently been given to this ditch with the meaning attached to it of ancient or old; a use for which the *New Engl. Dict.* finds abundant sanction.

³ This is the view held by Mr. W. J. Andrew; he suggests that it should be compared with the Bar Dyke north-west of Sheffield.

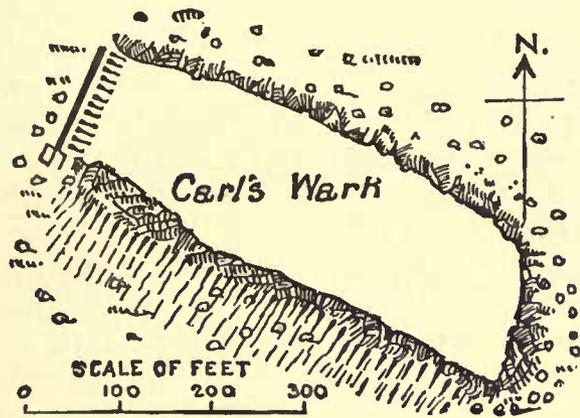
⁴ *Trans. of N. Staff. Field Club*, xxxvi. 105-123.

ANCIENT EARTHWORKS

When the weather is stormy and the clouds lowering, the general appearance and surroundings of this fortress are strangely overpowering from whatever point it is approached. Rising up out of the adjoining swampy moorland, this dark mass of rock, about 600 feet long by 200 feet broad, presents the appearance, according to one picturesque writer, of 'an immense blackened altar'; or rather, as we have seen it when storms swept by, of a great derelict, whose vast blackened hull had grounded on some unseen sandbank.

The Carl's Wark has naturally attracted the attention of certain competent writers, as well as of several careless scribblers. Major Rooke described it as early as 1783;¹ Bateman wrote a little about it in 1848;² Sir Gardner Wilkinson gave valuable details in 1860;³ and Mr. Pennington made some pertinent remarks in 1877.⁴ The most picturesque and at the same time accurate and detailed account of the fortress appeared in 1893 in a work by Mr. S. O. Addy;⁵ whilst the whole question was well summed up by Mr. I. Chalkley Gould in 1903.⁶

The Carl's Wark, an isolated mass of hard Third Millstone Grit, left upstanding when the surrounding more shaly mass had been gradually disintegrated and washed away, naturally suggested itself to the earlier inhabitants as a fort of refuge and defence. On three sides it rises high and almost perpendicularly, particularly on the north, above the boggy swamp of the greater part of Hathersage Moor. On the east and south great stones that doubtless once formed part of the protecting walls



CARL'S WARK.

on the summit have been flung down in the course of centuries and are scattered over the steep slopes below. Some of these once-used blocks measure as much as from 10 feet to 15 feet in length, and are truly of a cyclopean character. At the west end of the fort, nature had not provided against attack, for the ground sloped away, comparatively gradually, to the general surface of the moor. It was at this place that man came specially to the help of nature. A great rampart of earth (thus allowing us to include the Carl's Wark in a section on earthworks), about 20 feet in thickness, was here thrown up, gradually sloping back into the interior of the fort, thus permitting ready access to its outer face or scarp. This outer face is composed of a well-packed wall of dry masonry, which is

¹ *Archæologia*, vii. 175.

² *Reliquary*, i. 163-6.

³ *The Hall of Walthoef*, 1893.

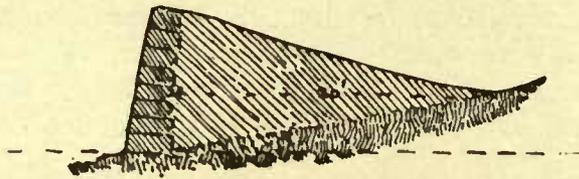
⁴ *Vestiges of the Antiq. of Derb.* 122-3.

⁵ *Notes on Barrows and Bone Caves.*

⁶ *Derb. Arch. Journ.* xxv. 175-180.

A HISTORY OF DERBYSHIRE

still fairly perfect save at the north-western end. The wall is now 85 feet long, and has a height of from 10 to 12 feet above the level of the ground



CARL'S WARK (SECTION OF WALL).

outside. It is 3 feet thick, and formed of such large stones that only a single through course is used. Artificially piled up and cunningly fitted-in stones may also be noticed in certain places on the south side.

The only entrance to the fort was by a path which passed along the base of the artificial western scarping, and then wound up a narrow entrance between two walls of rude overhanging masonry, gaining access to the summit by an opening on the south side at the western angle. Of this entrance Sir Gardner Wilkinson gave the following interesting account in 1860 :—

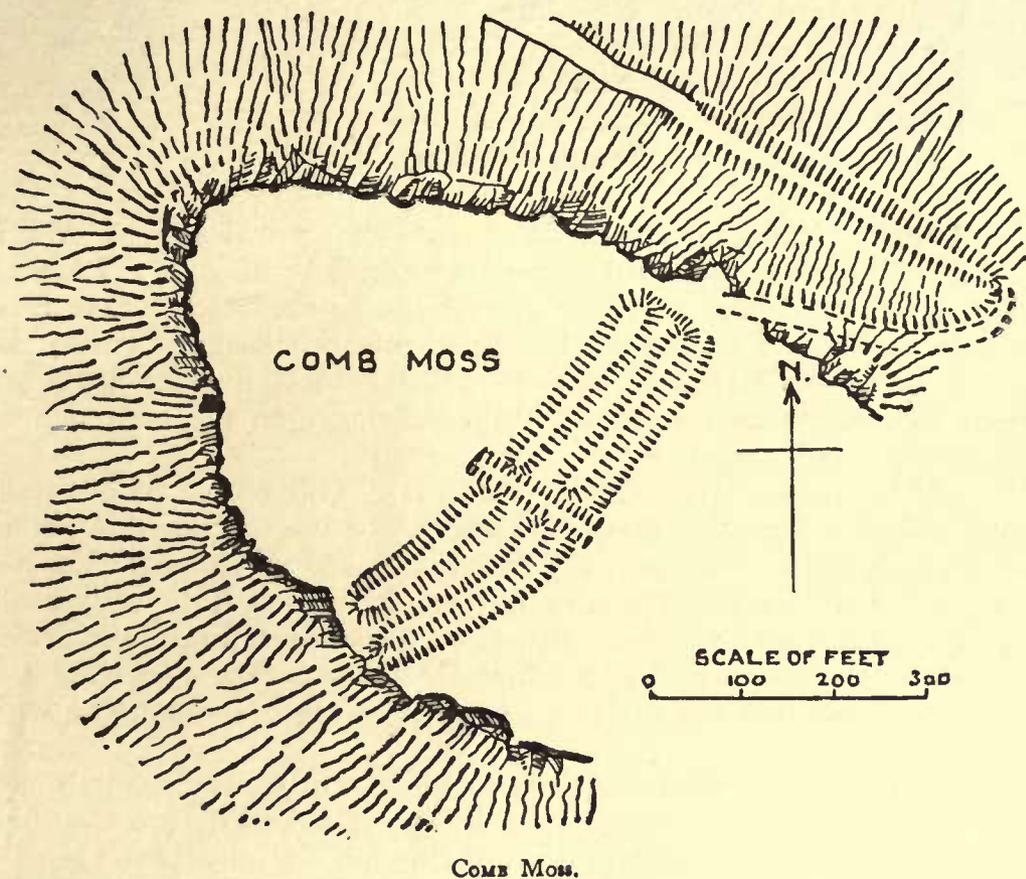
‘ One of the most remarkable features in this fort is the gateway on its south side. It is 7 ft. 2 in. in breadth ; and as the road ascending from the valley below passed between the two curvilinear faces of the wall, which formed the entrance passage, an enemy advancing to force the gate was exposed to the missiles of the besieged on both sides ; while the position of it to the west, projecting like a round tower, raked the face of the wall to the right and left, and formed an advanced work over the ascent. The stones have been well put together, and some are of considerable size ; the largest I measured being 14 ft. 4 in. long by 3 ft. 4 in. in height.’

Visiting the Carl's Wark in 1873, the writer found Wilkinson's account and illustration of this entrance singularly accurate and helpful. Alas ! a visit in 1893 showed that much of this mass of dry masonry had been wantonly and recently pulled down, some of the largest stones being used in the construction of a rude kind of hut. Nevertheless the main features of this remarkable entrance can still be traced.

2. On COMB MOSS (xv. 1) is a remarkably good example of an early defensive earthwork on a large scale, specially protected from attack both by nature and art. Comb Moss is the name of a lofty hill, having an elevation of about 1,600 feet above the sea level, a mile and a half south of Chapel-en-le-Frith. On the northern extremity of this bold promontory, high above all the surrounding country, is the fort or refuge, which used to be known by the name of Castle Dykes, and is still occasionally spoken of by shepherds and others of the locality as The Castle, or Castle Naze. Its shape is a triangle, on two sides of which nature has provided the defence, for the ground drops away in almost precipitous slopes to a depth of about 450 feet. Across the base of this triangle man has constructed a double rampart and fosse to form a stronghold or enclosure, by thus protecting the one side which could be approached on the level. This double rampart was carried right across the opening, leaving only a narrow entrance at the north-east corner on the verge of a precipice,

ANCIENT EARTHWORKS

which would readily be defended by a very small force. The straight opening shown on the plan, right through the centre of the rampart, is clearly of later date than the original construction, and was probably the work of the Romans, during the time when this strategic position must have come within the necessities of their operations. Round the edge of the two precipitous sides of the fort is a rough wall, mainly modern in character, as a safeguard for sheep or other stock. In the early 'seventies,' this walling, particularly at the north-west angle, was composed of much larger stones than is at present the case, and had an older and ruder look.¹ There can be little or no doubt that a substantial wall



of cyclopean character crowned the precipitous ridges of this fort in the early days.

Major Rooke was the first to draw attention to this fort. He sent a communication to the Society of Antiquaries, with a plan, which was published in 1789.² The most valuable part of his brief report refers to the examination (with sectional plan) which he made of the double rampart. He says: 'The construction of the vallum is different from any I have ever seen; being formed of long stones placed diagonally, so as to press inward towards the centre, and then covered with earth: the

¹ From notes of my first visit to Comb Moss, June 1873.

² *Archæologia*, ix. 139.

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base of the vallum is 12 yards.' His plan discloses a spring nearly in the centre of the enclosure, but it is not now visible on the surface.

Mr. J. D. Sainter took the following careful measurements of this fort and its defences in 1877 :—

	feet.
Length of fosse and ramparts	547
Width of outer fosse at top of cutting	30
Depth of ditto from level of ground	10
Height of first or outer rampart from bottom of outer fosse	20
Width of inner fosse at top of ramparts	50-65
Depth of ditto from top of ditto.	10
Height of inner rampart	10
Length of west side of camp	450
Length of north-north-east side of ditto	466
Length of entrance to camp, including the path	366 ¹

A useful paper on Comb Moss fort was contributed by Mr. I. Chalkley Gould to the journal of the Derbyshire Archæological Society.² He therein states that 'Certain depressions of the surface have been thought to indicate stone huts, but their presence does not vitiate the theory of the early "refuge" purpose of Comb Moss, for such a wet and windy exposure would necessitate shelter during even the most temporary occupation.'

3. MARKLAND GRIPS CAMP (xix. 11). This is one of the most remarkable and peculiar examples of Class A of defensive earthworks in the whole kingdom. Considering the striking and exceptional character of this considerable and extensive fortress, it is not a little remarkable that it appears hitherto to have escaped even the barest mention in print; and this notwithstanding that the first Ordnance Survey marks the site as a 'camp,' and that for the last few years it has been encircled with railways.³

In the parish of Elmton, a mile to the east of Clowne church, and a mile and a half to the west of the village of Cresswell, is a large old mill-dam fed by two streamlets flowing through the respective 'grips'⁴ of Hollinhill and Markland, which here unite. Their waters, henceforward called the Wollen, pass on from this point for a mile or two to the east, and then enter the glen of Cresswell Crag, now so famed for its

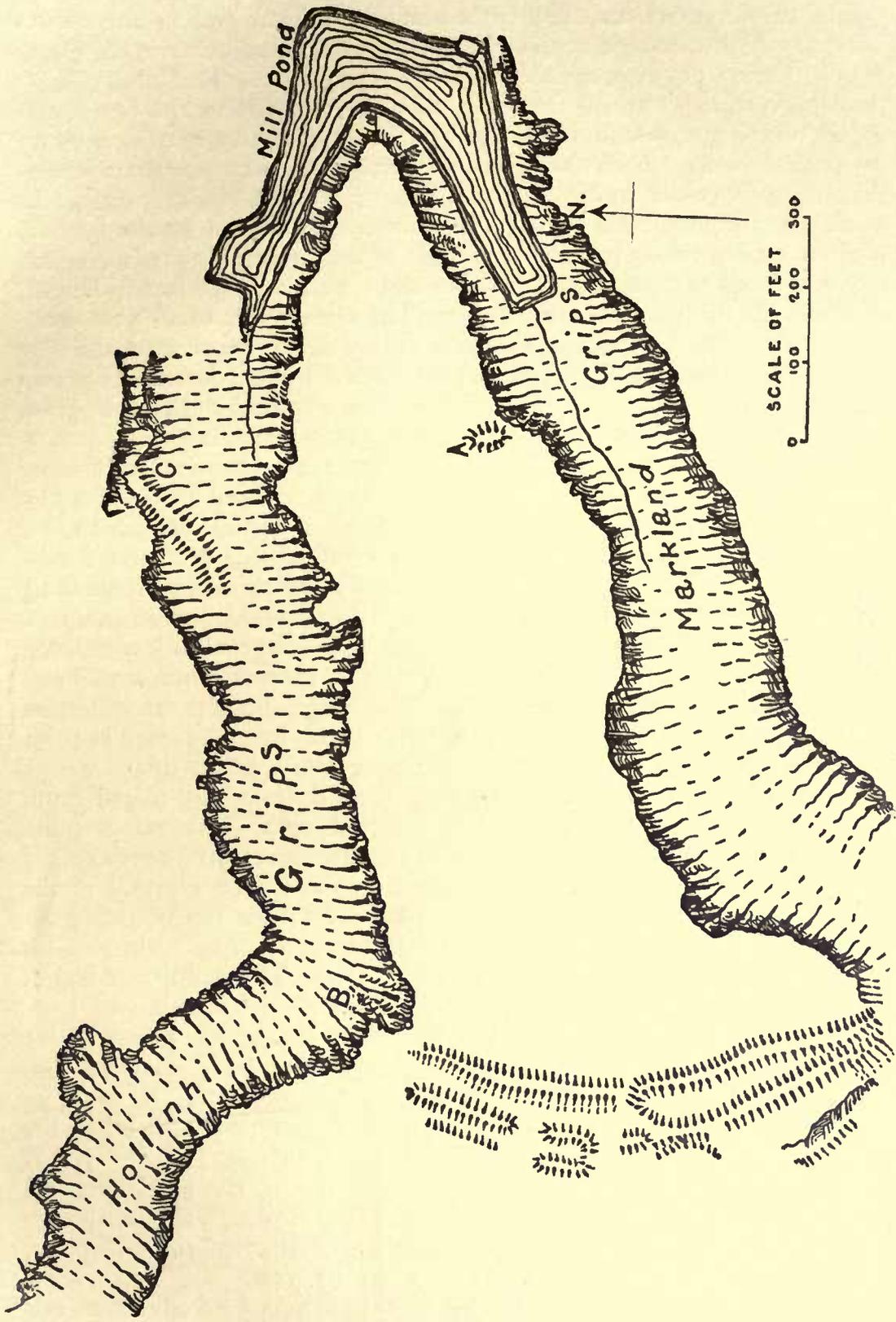
¹ Sainter's *Rambles round Macclesfield* (1878), p. 10. Most of these measurements have been recently tested and found accurate. In this volume (now a rare book) is a striking but rather fanciful plate of the entrance to the fort, and also a ground plan. Mr. Sainter likewise mentions 'a good spring of water in the centre of the area.'

² Vol. xxiii. 108-114.

³ Dr. Spencer T. Hall in his *Peak and the Plain* (1853) gave a picturesque description of the ravines of Markland Grips, which has been copied with and without acknowledgment by several guide-book makers; but though he scrambled up on to the very 'table-land' of the fortress at the junction of the Grips, the fact of it being an ancient refuge-camp or fortress quite eluded his attention.

⁴ The old term 'grip' is described in Murray's *New English Dictionary* as 'a small open furrow or ditch, especially for carrying off water; a trench, or dam.'

ANCIENT EARTHWORKS



MARKLAND GRIPS CAMP.

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bone-caves. Valley, or dale, would not be at all an appropriate term to apply to the short and singularly beautiful sudden dips in the earth's surface which converge at this old mill-pond, and the exceptional place-name of grip, or grips, seems peculiarly appropriate. Hollinhill Grips, which diverges westward from the mill-pond slightly to the north, and Markland Grips, which takes the like direction whilst bearing slightly to the south, have both the same characteristics ; they bear some resemblance to Dovedale in its narrow places, on a much reduced scale. In each case the grip takes the form of a sudden depression in the ground, flanked on both sides by limestone cliffs of the Lower Magnesian, which are mostly quite precipitous, and vary from 25 feet to 40 feet in height. These cliffs or limestone walls abound in places with small yew trees, and are rendered beautiful by trails of ivy and other creepers, whilst larger trees crown for the most part their summits, and some have grown up at the base. The ground within the grips is level and rich in grass, the width between the cliffs varying from 50 to 70 yards.

These grips, as they diverge westward, leave between their inner walls or cliffs a triangular or irregularly tongue-shaped piece of tableland, which seems marked out by nature, after a striking fashion, for defensive purposes. Early man availed himself of this exceptional configuration of the surface, and flung three great ramparts, with corresponding fosses, across the open western base of the triangle, as shown on the plan. By this means a great level space of tableland was enclosed, measuring in extreme length, from the inner rampart to the tip of the tongue overhanging the mill-pond, 433 yards. The original width at the base, previous to the railway cutting off a corner, was just 200 yards ; but this soon decreases to 133 yards, and thence tapers away to the tip.

On the top of the inner rampart grows a series of big-rooted gaunt thorn trees, the remains of an old quickset hedge. This rampart has been chiefly formed of large rough stones ; many of them are partly exposed and of considerable size. The present elevation of the rampart at the south end is about 7 feet above the inner level ; the top of this great rampart in the same part is 24 feet wide, and the ditch beyond, which is 8 or 9 feet deep, has a width of about 15 feet. The width and height at the northern end of the rampart, where more earth and less of large stone seems to have been used, are somewhat less, and appear to have been worn away. The remains of the two outer ramparts were considerable and well defined at the southern end, as shown on the plan, up to recent years ; but a slice of that angle was unfortunately cut off by the making of the Teversall branch line of the Midland Railway. A comparatively modern farm entrance has been cut through the triple ramparts in the centre ; north of that the land is ploughed, and though the lines of the two outer ramparts can be still detected right through, their traces are becoming less and less year by year.

The great enclosure of pasture land is almost perfectly level, and shows no traces of having been hollowed for pit dwellings, thereby supporting the theory that it was used as a refuge camp for men and cattle,

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for temporary occupation in dangerous times, and not for permanent residence. The precipitous walls of the limestone cliffs on the north and south sides have in certain places (particularly in the Markland Grips) become somewhat less steep, from the sloping accumulation, at the base of the *débris*, of falling soil and stone and timber; but their average height originally could not have been less than 30 feet. In one place, on the south side, marked A on the plan, there was evidently some early decay or fault in the rocky contour, with the result that it caused a steep shelving slope, of a few yards in width, instead of a precipitous edge. Above this, it is interesting to note, a considerable rampart of big stones was piled up, out of which a fair-sized tree is now growing. The war entrance to the camp was undoubtedly at the north-west angle, where the traces of an old narrow path, winding up the face of the rock in a kind of recess, and completely commanded on each side by the projecting cliffs, can be clearly seen. This is marked B on the plan, whilst the corresponding steep pathway going up the opposite side of Hollinhill Grips, a little more to the east, is marked C. If the garrison were sufficient in number, such a place as this would be almost impregnable, and would in reality be more difficult to take than the wilder-situated forts on the bleak heights of the Peak. In this case, the attacking force, unless assaulting the triple rampart of the base, would have to descend steep cliffs into the grips, within stone-throw of the defenders, before they could make any attempt to scale or even approach the actual walls or cliffs of the fort; whilst the narrowed extremity, where the grips meet, was probably also protected, then as now, by an artificial depth of water, to accomplish which only the most elementary notion of engineering would be requisite.

No kind of excavation or systematic exploration of this camp has ever, to our knowledge, been made. A few artificial flint flakes were picked up on the top and sides of the ramparts in January 1905. Two local labourers testified to the fact that when the Teversall line of railway cleared away the south end of the ramparts there were many such flints lying about, 'several shaped and pointed, but nobody thought of picking them up.'

HILL FORTS

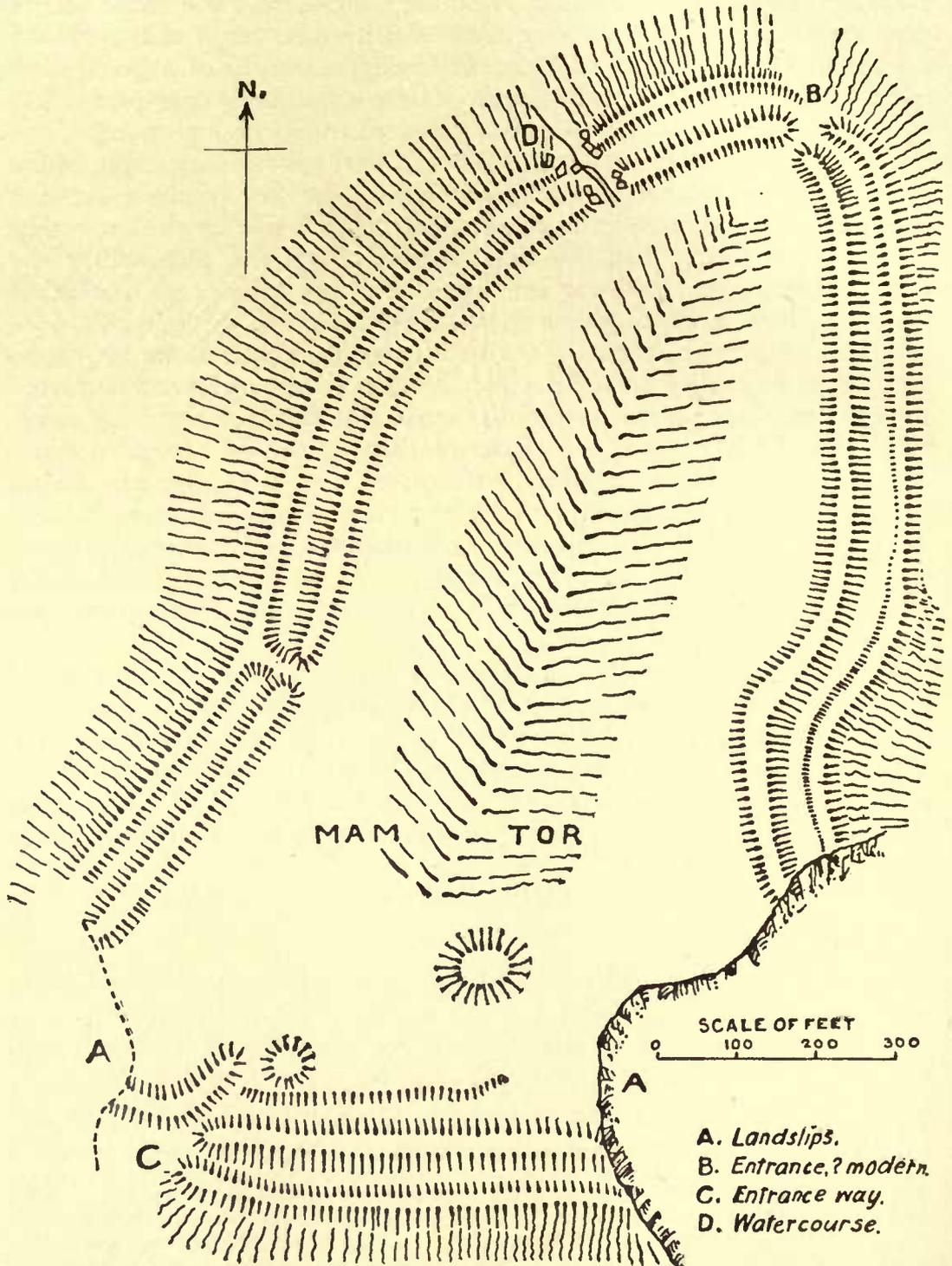
[CLASS B]

1. MAM TOR (ix. 8), the well-known great hill towering above Castleton and Edale to a height of 1,700 feet above the sea level, has its summit crowned with a remarkable and comprehensive earthwork, embracing an area of about sixteen acres, within a rampart that had a circumference, when perfect, of 1,200 yards.¹ The almost precipitous sides of the

¹ Mam Tor was described and a plan given (showing it more perfect than now) in Bray's *Tour*, pp. 202-4, published in 1783. Mr. Andrew thinks that this rampart was never 'perfect,' as it was not required up the precipices which must have existed at the time of its construction, though in a somewhat lesser degree. He believes that the process of disintegration began in the ice age, long before the fort was made. Had not the precipices been there, a better site than Mam Tor could have readily been found, to wit the adjoining Lose Hill; but the precipices were space gained without necessitating the employment of a single man to guard them.

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acclivity upon which this lofty camp or enclosure was placed gave to it a strong natural defence all round, save on the north, where it is connected with the ridge of Lose Hill. The defenders increased this natural defence by encompassing the summit within a powerful double rampart, which is still fairly perfect. A long-established local name for Mam Tor is the Shivering Mountain, so called from the shale of which it is com-

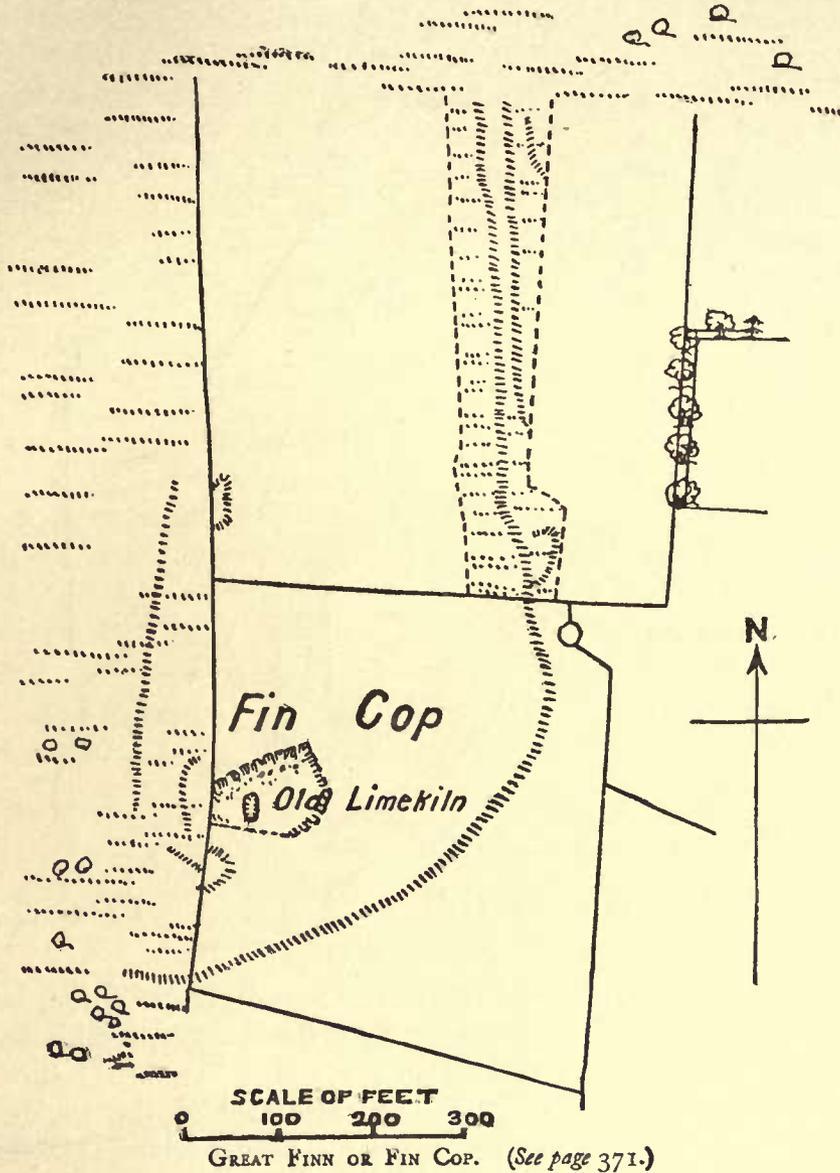


- A. Landslips.
- B. Entrance, ? modern.
- C. Entrance way.
- D. Watercourse.

MAM TOR.

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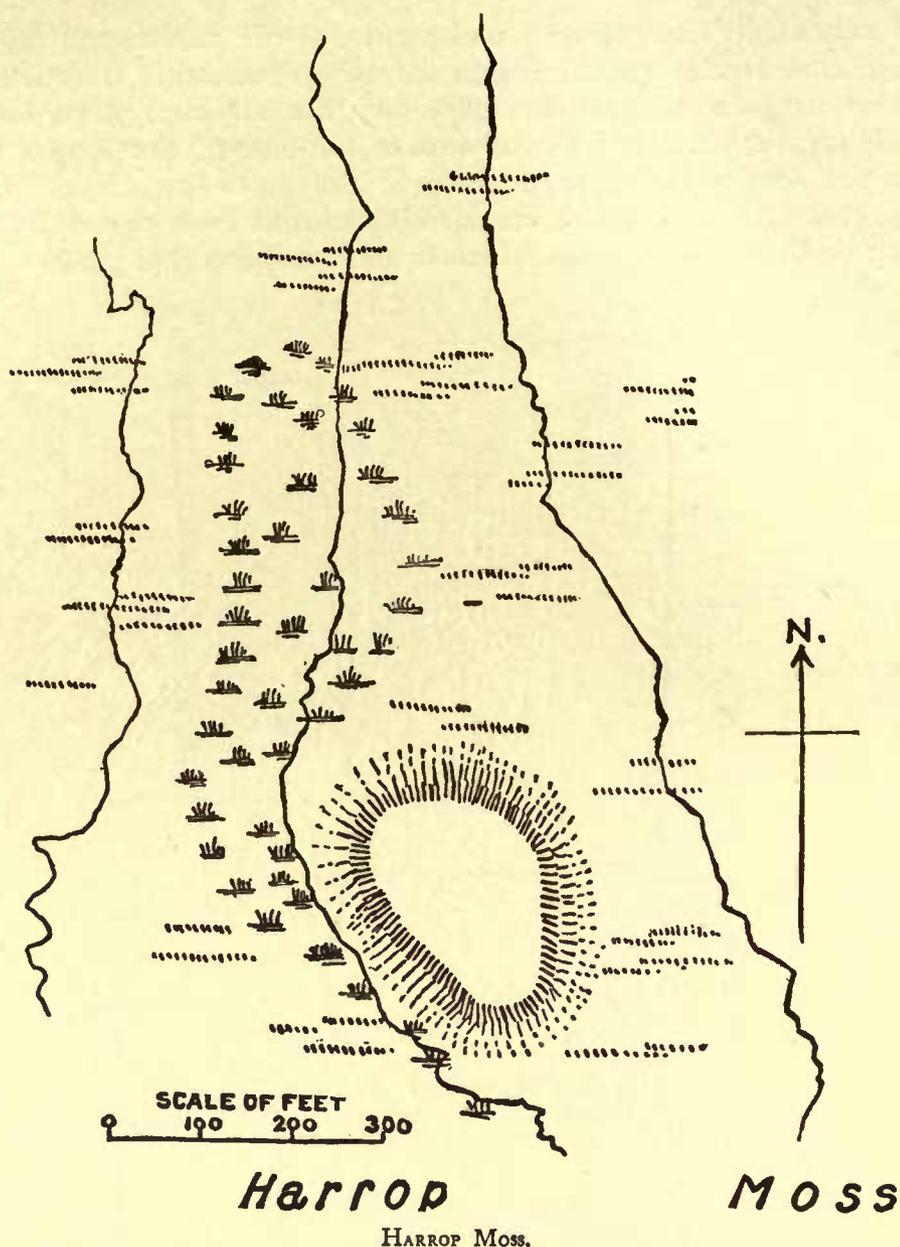
posed continually decomposing under atmospheric action, and falling at times in considerable quantities into the valleys beneath. The enclosure is of an irregular tongue-like shape, and the ramparts have for ages been slowly disappearing on both sides of the base of the tongue which forms the southern end, particularly at the south-east angle. In one respect this earthwork differs in a striking manner from the enclosure on the top of Comb Moss, with which in most respects it is parallel. The



summit of Mam Tor is not flattened, and the ramparts are carried round the hill, which rises within the enclosure in a hog-back ridge.

The small break in the ramparts at the northern tip of the tongue is not supposed to be original; and another on the north-west has been caused by the constant flow of water from a spring within the enclosure. The chief and probably the only original entrance is at the south, where there are remains of a third bank, making a triple rampart. An old

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pathway, that shows its age from its worn, sunken condition, winds its steep way down to the valley beneath from the almost precipitous height of the south-west corner of the camp.

There are two small tumuli at the south end of the enclosed area, 'one of which was opened some years ago, and a brass celt and some fragments of an unbaked urn were found in it.'¹

The extreme length of the enclosure from north to south is 1,125 feet; and the greatest width 700 feet. The southern end yields a measurement of a little under 600 feet, but it must have been fully 1,000 feet wide before the process of disintegration of the flaky shale set in.²

¹ Bateman's *Vestiges of the Antiq. of Derby*. (1848), 124.

² The best account of Mam Tor is that given by Mr. I. Chalkley Gould, *Journ. of Derby Arch. Soc.* xxiv. 27-31. This fort is also described in Mr. J. D. Sainter's *Rambles round Macclesfield*, where a ground plan is given opposite p. 12.

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2. Mr. Bateman describes the top of **CRONKSTONE HILL**, a considerable elevation of the West Derwent ridge, as 'surrounded by a vallum and rampart of earth and stone, ranging about 100 yards on every side of a barrow.' The traces of these are now much less marked than they seem to have been in his days.¹

3. On the summit of **GREAT FINN**, or **FIN COP** (xxiii. 6), in the township of Taddington, at an elevation of 1,071 feet above the sea level, was another of the lofty Derbyshire camps surrounding a hilltop. Bateman, writing in the 'forties' of last century, said of this site, 'There are many ancient British remains which are gradually disappearing under cultivation.'² Since that date still more of the ramparts of this once large earthwork have disappeared. There seems to have been a considerable enclosure following the general configuration of the summit. A piece of double rampart, about 550 feet long, is extant on the east side, whilst a single rampart runs round in a curve further south.

SIMPLE ENCLOSED CAMPS

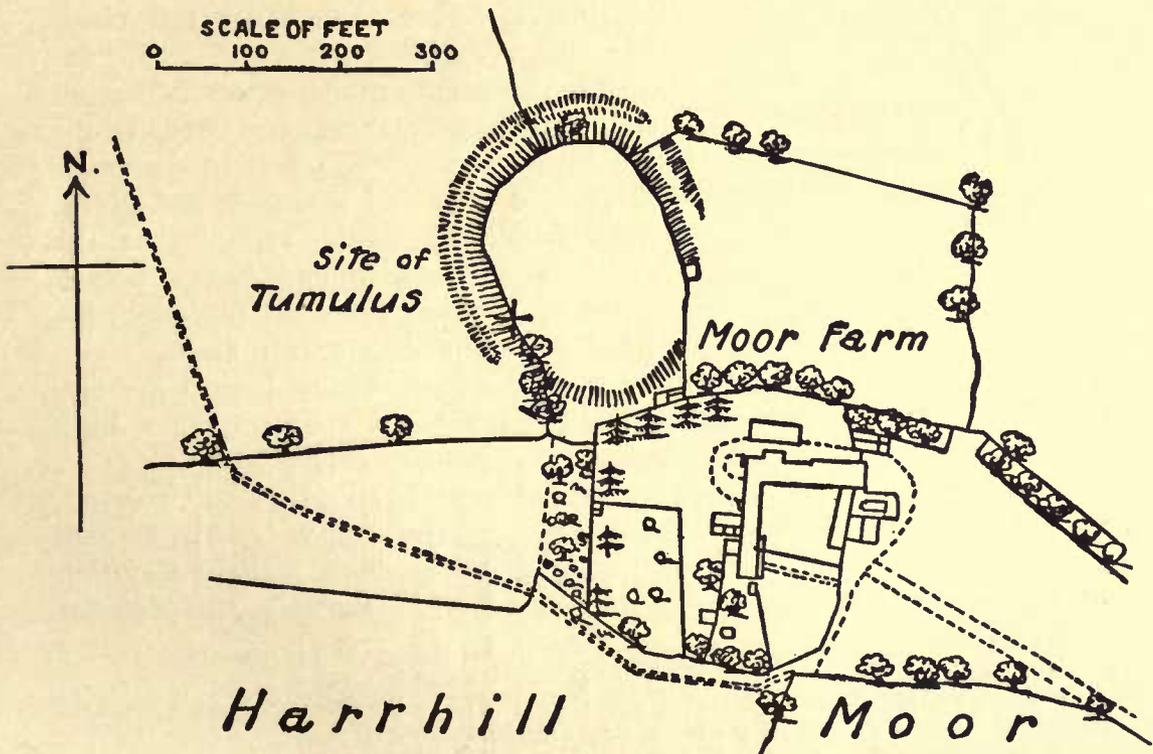
[CLASS C]

1. On **HARROP MOSS** (iii. 6), in Glossop parish, is a small pear-shaped enclosure within a single rampart. The greatest length of the inner area, from north to south, is 265 feet; the greatest width is 160 feet. This enclosure or camp is known as **TORSIDE CASTLE**.

2. On **HARTHILL MOOR** (xxviii. 11), immediately to the north of Moor Farm, is a small elliptical enclosure or camp known as **CASTLE**

¹ Bateman's *Vestiges*, 125.

² Bateman's *Vestiges*.

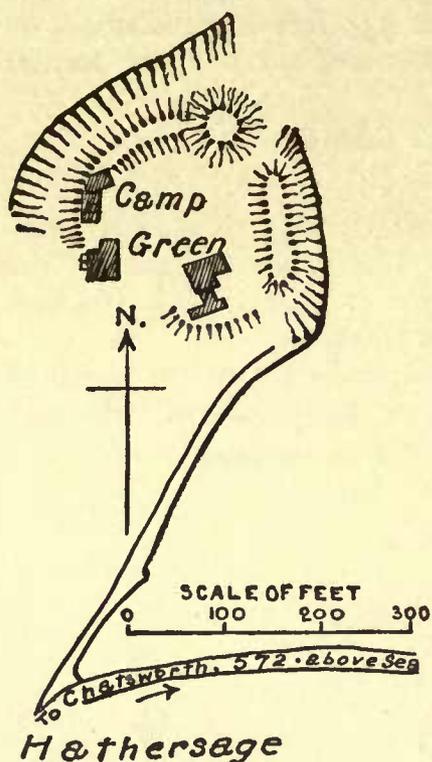


HARTHILL MOOR.

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RING. It has been enclosed with a rampart, in part double, and deep ditch, though a portion of this, at the southern end of the oval, disappeared some time ago owing to farm enclosures. Its internal measurement from north to south is about 240 feet. There was a small tumulus adjoining on the west side, but it has been removed.¹ Major Rooke gave a plan of Castle Ring in 1782; he says of it:—‘It has a deep ditch and double vallum; the entrance is very visible on the south-east side, where part of the vallum has been levelled by the plough. The diameter from north-east to south-west is 143 feet, from south-east to north-west 165 feet.’ But the plan gives the last measurement as 156 feet.²

3. Immediately to the east of HATHERSAGE church is a small earthwork known as CAMP GREEN (x. 12). It was originally a circular enclosure having a diameter of about 200 feet, and surrounded by a rampart and ditch. There are still some remains, but it is now traversed by a footpath and much of the site is encumbered with buildings.



CAMP GREEN, HATHERSAGE.

Bateman described it, in 1848, as ‘a high, large, circular mound of earth inclosed by a deep ditch and vallum.’³ Sir Gardner Wilkinson wrote of it, in 1860: ‘Its position and *entourage* argue in favour of its being British.’⁴ There is, however, a much earlier and more accurate account of this earthwork than those just cited. Mr. Bray, during his tour of 1779, describes this small circular camp as having an outside diameter of 200 feet, whilst the inner area was 144 feet in diameter. A ground plan and a section are given, from which it would appear that the centre was not a mound but a hollow within a rampart some 20 feet high, the whole surrounded by a deep ditch.⁵

This earthwork was visited by the British Archæological Society, in July 1889, when it was described as circular and consisting of a high rampart with a moat outside, but in a fragmentary condition.⁶

4. On the high ground above the road from Hope to Castleton, on the left hand a little beyond Hope, is the FOLLY (x. 5), a small annular entrenchment about 75 feet in diameter, with a slight elevation in the centre. A celt has been found here. Possibly this circular

¹ Briefly described in Bateman's *Vestiges*.

² *Vestiges*, 125.

³ Bray's *Tour in Derb. and Yorks* (1783), 245, plate v. Perhaps both Bray and Bateman meant the same thing, the centre being raised as a sort of mound surrounded by a vallum.

⁴ *Journ. Brit. Arch. Assoc. N. S.* vi. 276.

⁵ *Archæologia*, vi. 113, plate 16.

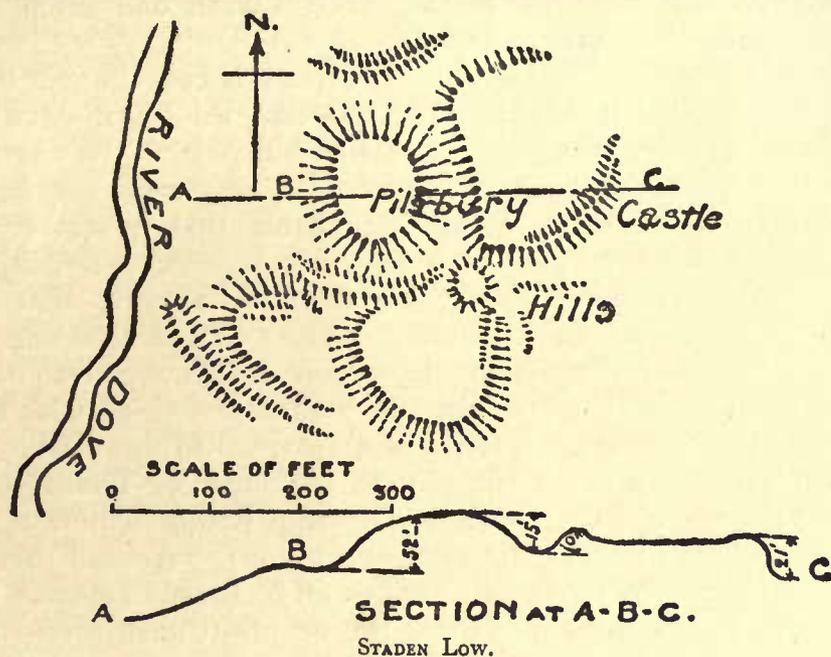
⁶ *Reliquary*, i. 162-3.

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rampart originally bore a stone circle, for it much resembles the account of one on Abney Moor described by Major Rooke in the eighteenth century, and found stripped of its stones a few years later when visited by Dr. Pegge.

5. Below PENTRICH (xxxv. 14), to the immediate east of the high road from Ambergate to Oakerthorpe, and to the west of the site of the Ryk-nield Street, which can here be faintly traced, is a small circular enclosure within a single rampart. It is known as CASTLE HILL, and is 125 feet in diameter; it lies to the north of the alleged site of a Roman camp.

6. At STADEN LOW, about a mile from Buxton on the Ashbourne road, are the remains of several small tumuli and possible earthworks, but much interfered with by enclosure and quarrying. Some 400 yards due west of Staden Low is a circular earthwork with small rectangular enclosure on the west side. This rather singular earthwork was first



noted by Dr. Stukeley, nearly two centuries since; his observations were usually most correct, though his conclusions or surmises, in the light of later archæology, were frequently extravagant. Stukeley's measurements and part of his description of this double earthwork correspond pretty closely with its present condition, as will be seen from the plan; but the plough and other causes have very much reduced the former height of the ramparts, whilst an angle of the rectangular enclosure has been roughly cut off by the railway.

The following is the account given of it by the learned doctor in 1725:—'Escaping from this Stygian cave (Pool's Hole), I re-visited the antiquity called the Round Fold, by the roadside from Chelmorton hither, at Staden, and under the hill called Staden Hoe. I take it to be a curious Celtic antiquity, much of the nature of those which in Anglesey and Wiltshire we call Druids' houses; so in Dorsetshire circles

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of stones they call Folds. The country people say it was cast up in war-time long since. It consists of a square vallum, 100 feet each side: the ditch whence it came is on the inside: eastward of this is a circle of 160 feet diameter, of like manner: the whole stands on an open plain, which declines northward: the square is upon a level, but the circular part declines gently from thence: on that part of the circle furthest from the square is a little semicircular cave of earth, like the place for a tabernacle. It is hard to say whether it was for a private use, or for judicature, or religious affairs; but in the pasture behind it is a barrow, and several more barrows in view on the hill-tops. At Staden I saw a large square entrenchment, now divided into pastures; and upon the top of the hoe, where the hawthorn stands, seem to have been some works. This circle of ours, by sinking the ditch within, seems well contrived for shows, tiers of people may stand commodiously round it, and look over one another's heads. Both vallum and ditch are but small, much inferior to that of a camp.'¹

The real object of this double earthwork is now difficult to ascertain. It may be that it was defensive and that the larger circular part was perchance for the men, and the smaller adjunct for their cattle, and therefore it is here described; but the height of the circular enclosure is now so very slight that it seems improbable that it was ever constructed for military purposes, and it is easier to accept Dr. Stukeley's opinion, though without adopting his theories, namely, that it is a 'stone circle' denuded of its stones. There are indications in his account—such as its corresponding dimensions with the plateau of Arbor Low, the 'ditch within' and the 'barrow' without—which, coupled with the position of the entrances, cannot be overlooked in this relation.

7. On TIDESWELL MOOR (ix. 16), to the north of The Holmes, is an almost perfectly circular enclosure or camp within a now very low rampart, the whole having a diameter of 300 feet. A small part of the north-western arc of the circle has been cut off by the old roadway termed Batham Gate; this is a proof of the early or pre-Roman origin of this circular camp.

8. Adjoining the churchyard at TISSINGTON (xxxviii. 1 and 2), on the north side of the church, is a very similar defensive earthwork to that of Hathersage, much worn down, and with a rampart that was probably in its origin of much greater elevation. It has a diameter of about 130 feet.

CASTLE MOUNTS

[CLASS D]

1. At HOLMESFIELD (xvii. 4), just at the back of the village school, is a small artificial mound or elevation known as CASTLE HILL. It seems to have been a small example of a ditch-encircled mount, without any bailey or court attached to it.

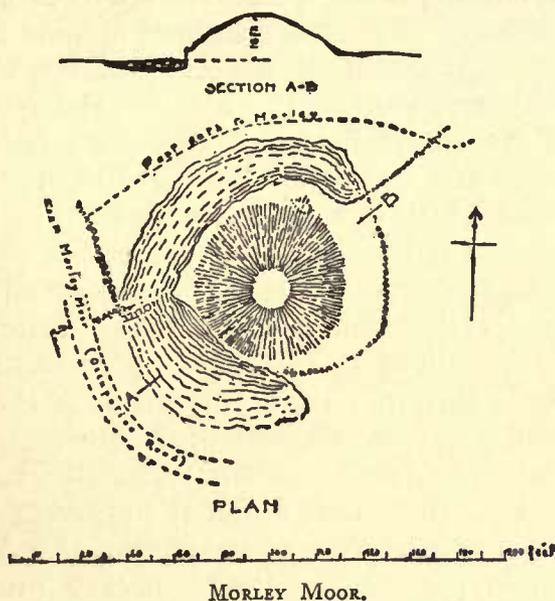
¹ Stukeley, *Itinerarium curiosum*, 'Iter boreale,' 27. Bray also briefly described this earthwork in 1779 (*Tour*, 236), and Glover and Bateman in the last century.

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2. By the roadside almost immediately to the west of HOPE church (x. 5), and by the side of the river Wye, is a lofty mound, which must have been a good example, when perfect, of a fort consisting of a ditch-encircled artificial mount. It does not appear to have had any kind of bailey attached, but it has been encroached upon by the sweep of the river on the south, and by a garden on the east. It has clearly lost some of its height, and has been damaged on the west side by cattle. Its diameter, when perfect, was about 175 feet.

3. At MORLEY (l. 3), to the north-east of the church, is a mound, now of small dimensions, apparently of this character.¹

4. On MORLEY MOOR (l. 2 and xlv. 14), about 450 yards to the west of the church, is a large mound, now bearing many well-grown trees, and still nearly surrounded by a water-filled moat. Mr. Andrew considered it to be a very perfect specimen, and that there are few finer examples of this type of earthwork in the kingdom. Mr. P. H. Currey, to whom we are indebted for the plan and elevation, says (February, 1905)—‘Owing to the hedge being broken down, the lower parts of the mound are rapidly crumbling away under the tread of cattle and children. The upper part is at present maintained by the roots of the trees with which it is covered; when these trees fall, as some of them may do very soon, the mound will rapidly wear down as its sides are very steep. There is a nearly level platform on the top, about 15 feet in diameter.’



5. At TAPTON (xxv. 2, 3), immediately to the north of Chesterfield, just within the grounds of Tapton House, is an artificial elevation known as CASTLE HILL. From the remains, and the little that has been stated about it in the past, it would appear that it was originally a simple earthwork fort of the moated mound description.

CASTLE MOUNTS WITH ATTACHED COURTS

[CLASS E]

1. ASHFORD CASTLE (xxiii. 6). In the centre of the village of Ashford, at the back of the Bull's Head Inn, is a small moat or trench, which

¹ It has generally been assumed that this mound was a tumulus or barrow. The late Mr. T. O. Bateman had trenches dug through it in the 'sixties' of last century, but with no result. Mr. Andrew's opinion that this is the worn-down mound of an early holder of Morley who moved here in more peaceful times, from the still earlier stockaded position to the west, in order to be near the church, seems far more tenable.

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has of late years become somewhat obliterated. Tradition has it that this was the site of Ashford Castle.

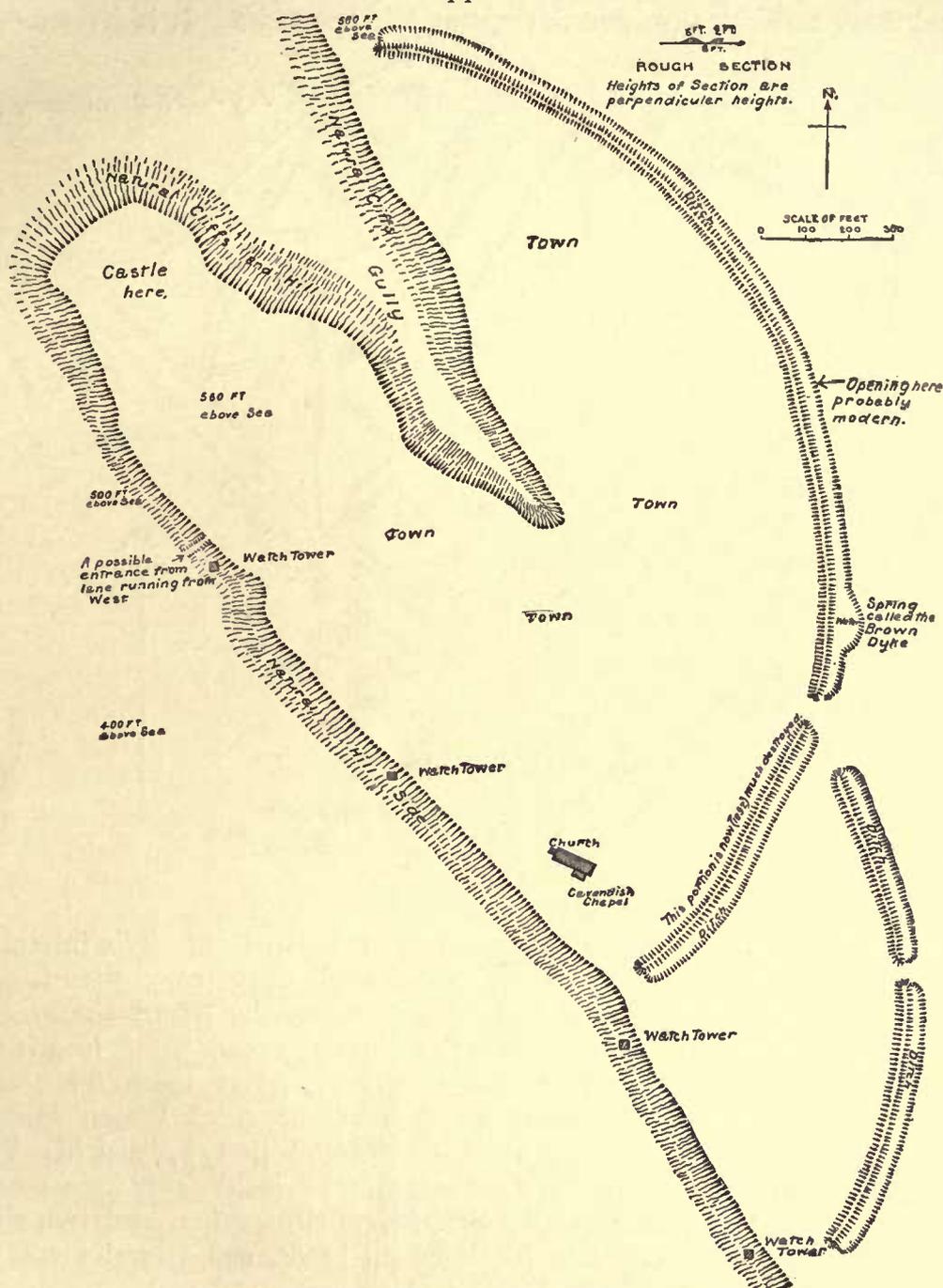
2. **BAKEWELL CASTLE HILL** (xxxiii. 11). Close to Bakewell Railway Station is a once lofty mound on a natural elevation, with remains of a base court or bailey, long known as Castle Hill. The base court ended at the fence line to the north-east, but beyond the ditch of this fence there is some trace of defensive work further to the north (which used within memory to be much more apparent) still remaining. The present deep road from the station was sunk about 1887; but there was an old sunk road here before the deeper one was cut, which probably followed the line of the outer fosse. On the hill side, across the railway, are some entrenchments, probably representing an outwork of the main fortification, but possibly of earlier date. They are not sufficiently preserved for a more definite opinion to be offered.

According to the Anglo-Saxon Chronicle, under the year 924, King Edward, after being at Nottingham with his forces, 'went thence into Peakland, to Bakewell, and commanded a burh to be built nigh thereunto and manned.' The presumptive evidence that the earthwork of the Castle Hill is King Edward's burh is, in the opinion of Mr. I. Chalkley Gould and other competent archæologists, exceedingly strong. At this time the Saxon king was gradually winning his way in his contest with the Danes, constructing many fortresses to maintain his power. At Bakewell, as at Nottingham, Stamford, and elsewhere, it seems to have been Edward's policy to construct the accommodation for his garrison and people on the side of the river opposite to that occupied by the older town. Mr. Gould, who carefully examined this site in 1899, writes 'As we have here a mount and traces of two courts Bakewell Castle must be included among the strongholds of class E, but there is a marked difference between the features of this, and those of a typical example. In the latter the mount is the most important element of the works, and is usually from twenty to fifty or more feet in vertical height above a fosse which completely surrounds it; here on the other hand the mount is only some 9 feet above the bailey, has no fosse, and was on, or formed part of, the rampart, being raised, I have little doubt, to defend the entrance to the fortress. A similar arrangement is manifest on a work at Tempsford (Beds), at Barking (Essex), probably at Newenden (Kent), and possibly at Hathersage in this county and elsewhere. Surrounding the summit of this mount, then possibly of somewhat larger dimensions, would be a stockade or wall of timber, a similar defence being placed along the top of the earthen ramparts of the baileys. The small upper court would accommodate the residences of the chief men and retainers as well as the stables, while the second or outer court would form a defensive enclosure for the homes of the king's people, who would be to some extent at enmity to the inhabitants of the town, many of whom probably were of Danish blood.'

3. **BOLSOVER CASTLE** (xxvi. 6). Bolsover Castle, with the town behind it to the east, stands forth boldly on a ridge or terrace of limestone

ANCIENT EARTHWORKS

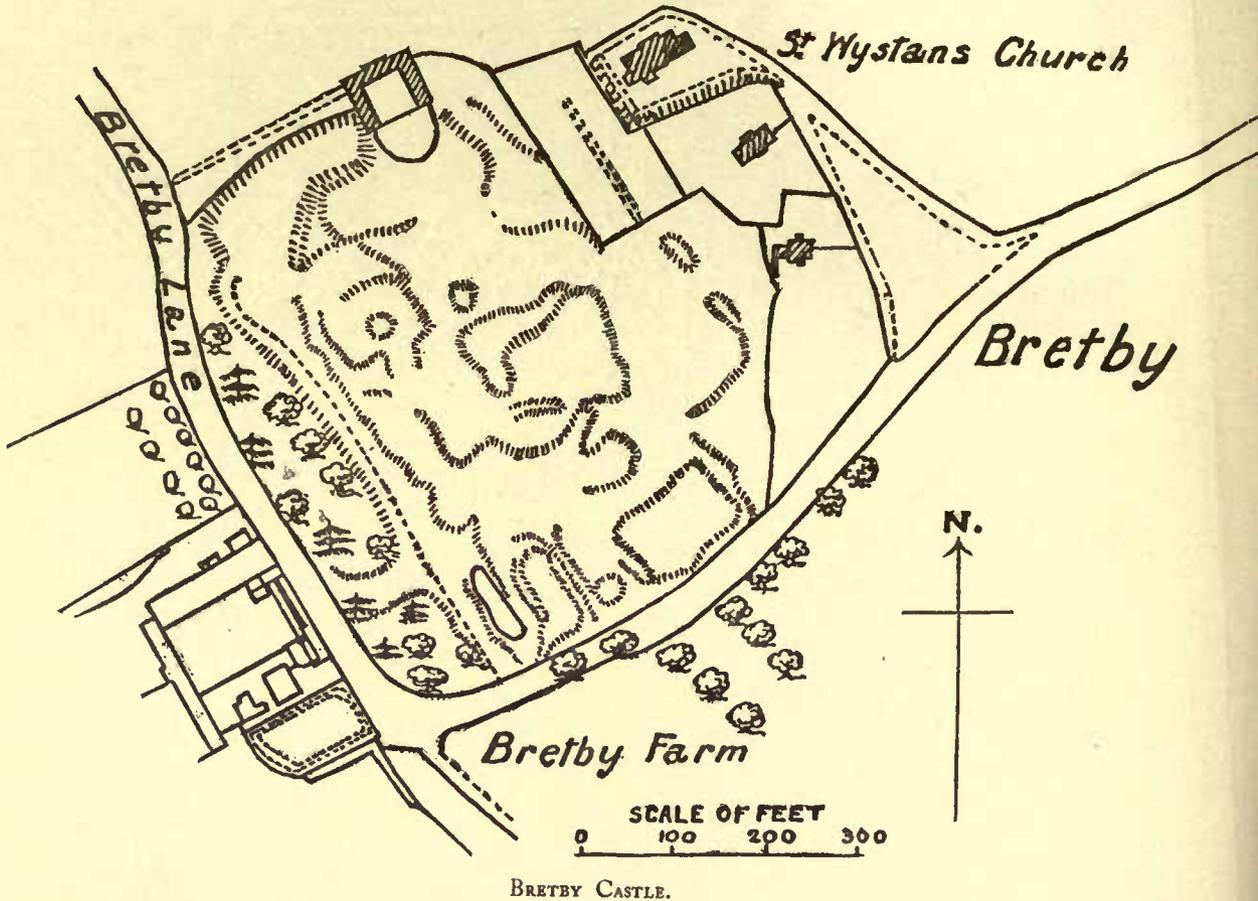
rock, with a fair prospect of a wide cultivated valley to the west. It is from 560 to 580 feet above the sea level, and about half that height above the valley immediately below it. On this commanding site William Peverel had a castle as well as at Castleton in the Peak, and the custody of these two strongholds was usually in the same hands during the Norman period. The keep of the Norman castle stood on the site of the present castle, and some of the old foundations remain. There was probably at that time a small bailey or inner court on the plateau to the south-east; part of its intrenchment seems to appear near the corner of Castle Street.



BOLSOVER CASTLE. (From plan by Rev. E. A. Downman.)

A HISTORY OF DERBYSHIRE

In addition there was a strong semi circular intrenchment or outer bailey embracing the town on its north-east and eastern sides, where there was no declivity and the defence was most assailable. This intrenchment, corresponding to the Town Ditch at Castleton, though on a larger scale, started in a north-easterly direction from the keep, and swept round a considerable space of ground until it reached the most southerly point of the plateau or terrace. Doubtless the rampart above this ditch would be well stockaded. There are considerable remains of this trenching still extant, as is shown on the plan, though several parts have disappeared through new building and more careful cultivation during the last few years. It is divided into



two chief sections by the diverging roads at Town End. The intrenchment can be plainly seen at the north-east angle of the town for a length of 360 yards; then after a slight break it can be traced almost due south for another 200 yards. Here buildings and roads break into it for a space, when it stands out plainer than ever, going south for nearly 400 yards until within a short distance of the third Watch House. Dr. Pegge made brief allusion to this earthwork in 1783, and Mr. Pilkington a few years later.¹ No examination of it has ever been made, but the late vicar had a small collection of flint flakes, and two flint spear-heads, as well as a few Anglo-Saxon beads, and several pieces of

¹ Pegge's *Sketch of Bolsover and Peak Castles*, 5. Pilkington's *Derbyshire*, ii. 360.

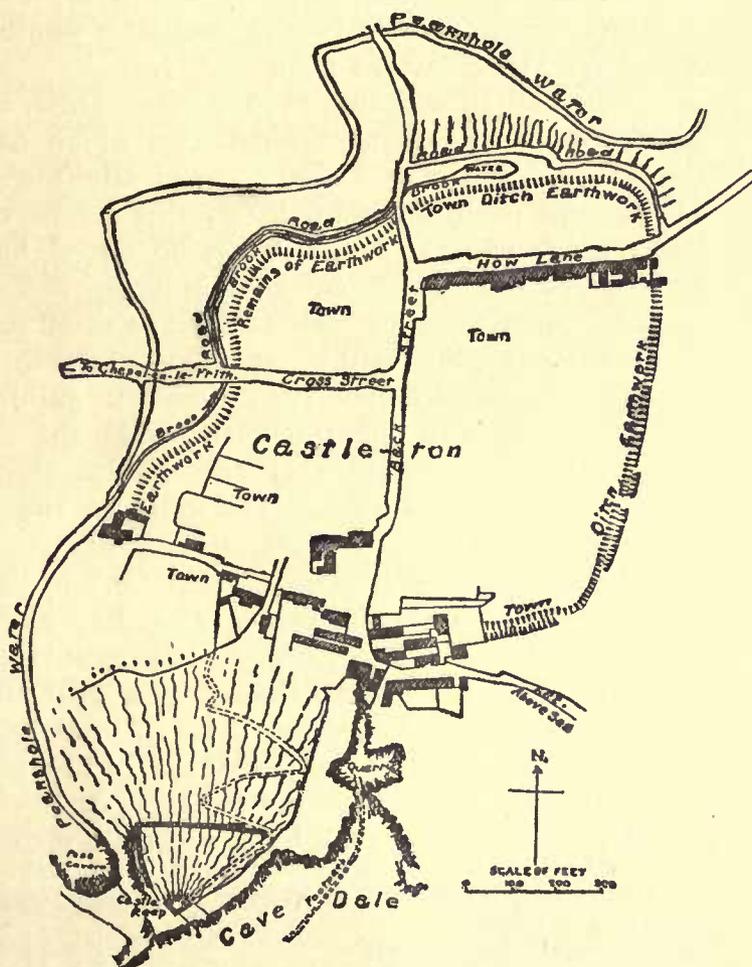
ANCIENT EARTHWORKS

broken bronze ornaments of the same date, all of which were found near together at the southern extremity of the intrenchment. These relics had probably been thus thrown up together when the trench was being made or repaired. On the whole it seems most likely that the town ditches or outer-bailey ramparts, both here and at Castleton, were constructed in the period that preceded the Conquest, and doubtless were renewed and strengthened by the Normans.

4. The old castle of **BRETBY** (lvii. 14) stood on a plot of ground immediately to the south-west of the church. It was pulled down towards the end of Elizabeth's reign by Philip, first earl of Chesterfield, who built a great mansion on another site. The extensive mound-covered foundations occupy a space of about 600 feet square. They seem to indicate two courts. There are remains of the moat on the west side.

5. **CASTLE GRESLEY** (lx. 10). The castle here was of sufficient importance to give this township a name which it still bears to distinguish it from Church Gresley. All stone remains of the mediæval building have long ago disappeared. There only remains a hillock known as Castle Hill, near the Midland Railway Station. There was probably an earthwork mound on this site, prior to any more substantial work.

6. The famed **CASTLE OF THE PEAK** (x. 5) occupied a triangular piece of ground elevated about 300 ft. above the village or little town of Castleton at its foot. This area has its broad base to the north, measuring about 300 feet in length, whilst the distance from the southern apex to the centre of the north enclosure is about 200 feet. The site is one singularly well suited by nature for defensive purposes; on the west is a gloomy precipice 260 feet above the vast entrance to the Peak Cavern; on the south-east is another irregular precipice falling down some 200 feet into Cave Dale; whilst on



THE CASTLE OF THE PEAK.

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the north is a long steep slope ascended by an old winding path from the town below. This triangular area was walled round by William Peverel soon after the Conquest; the late Norman keep at the south apex was not built till 1176, as will be told hereafter in detail.¹

The circumscribed plot of ground to the north of the keep, known as the Castle Yard, which was used in Elizabethan days as a great pinfold for sheep that trespassed on the deer pastures of the Peak Forest, 'could not at any time have been sufficiently ample to accommodate the numerous establishment of a great feudal chieftain.'² Those who took shelter below the castle proper either in Norman or pre-Norman times would require some kind of defence, and hence at some date unknown a kind of outer bailey was formed enclosing the town of the castle, or Castleton, in a wide semicircular stretch, after the same fashion as at Chipping Ongar, Essex. Of this earthwork, a fosse and vallum, long known as the Town Ditch, there is a fairly perfect fragment on the south-east of the town about 200 feet long, and a longer piece further on the east. It may also be plainly noted in a field opposite the 'Bull's Head,' on the west of the town, above the millrace of the stream from the great cavern. In fact, although the Ordnance Survey only shows the eastern portion, Mr. Andrew and the present writer were able to clearly trace the whole of the enclosing semicircle in May, 1905, as shown on Mr. Andrew's plan.

The earliest mention of this Town Ditch is the eighteenth-century account by Bray: 'An intrenchment, which begins at the lower end of the valley, called the Cave, inclosed the town, ending at the great cavern, and forming a semicircle; this is now called the Town Ditch, but the whole of it cannot easily be traced, having been destroyed in many parts by buildings and the plough.'

7. CODNOR CASTLE (xi. 12). The small remains of the once extensive castle of Codnor will be described in the topographical section. So far as earthworks are concerned there are considerable portions of a wide and deep moat still extant, particularly on the east side. This moat is probably of fourteenth-century date, when the castle was considerably strengthened and extended. The moat on the north and west sides was quite as perfect as on the east side until about fifty years ago, when considerable search was made for ironstone on the castle site.³

8. DUFFIELD CASTLE (xliv. 12). The highly interesting discovery of the foundations of the immense Norman keep of Duffield Castle in 1886 will be described in the topographical section. Here it is only necessary to say that the excavations and investigation of the site known as Castle Orchard brought much that was of interest to light, which showed an occupation of this site much earlier than the Conquest. The surrounding earthworks, of which a sketch plan drawn in 1887 is here

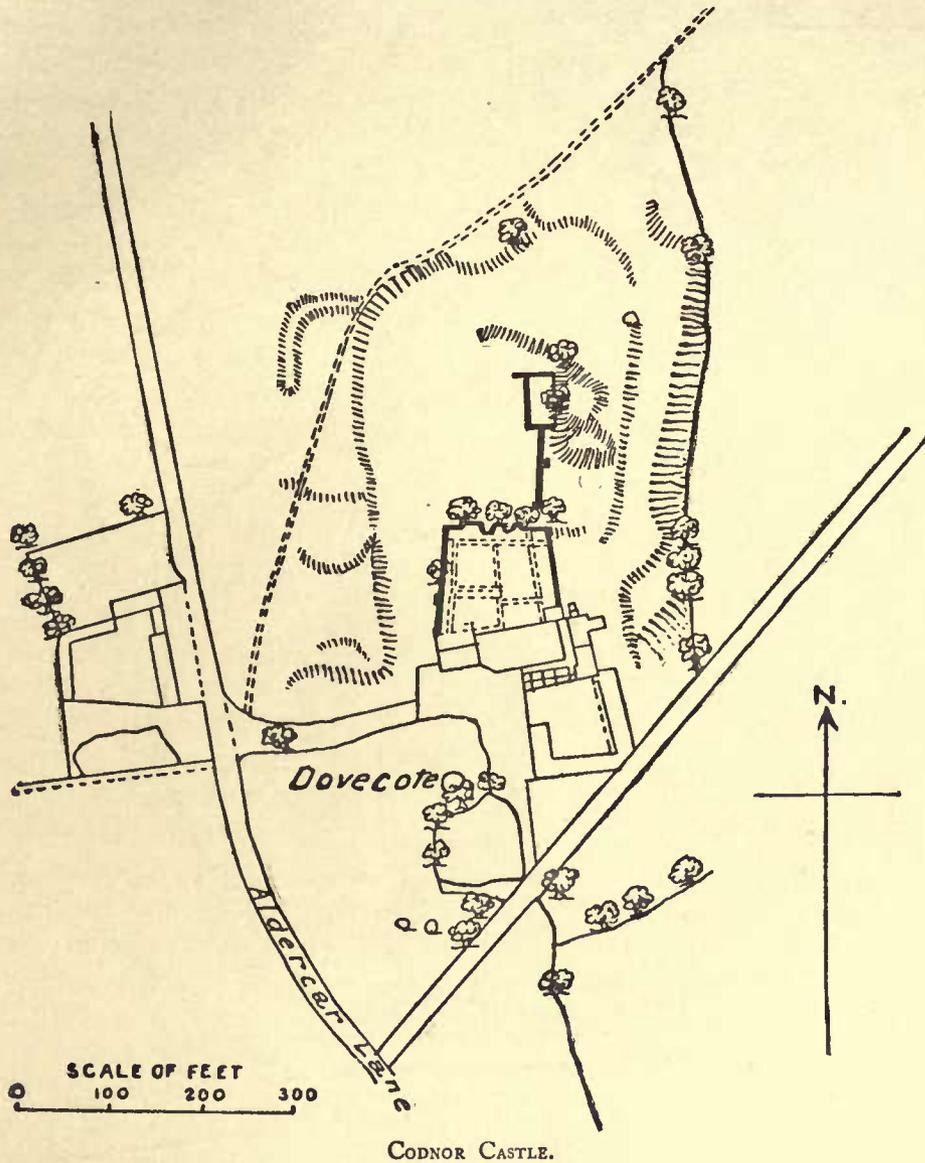
¹ Mr. W. H. St. John Hope's article in *Derb. Arch. Journ.* (1889), xi. 120-126, is the best account of Peak Castle.

² Glover's *Derbyshire*, ii. 197.

³ The best account of Codnor Castle, its remains and owners, with a plan, is that by Rev. C. Kerry, *Derb. Arch. Journ.* xiv. 16-33.

ANCIENT EARTHWORKS

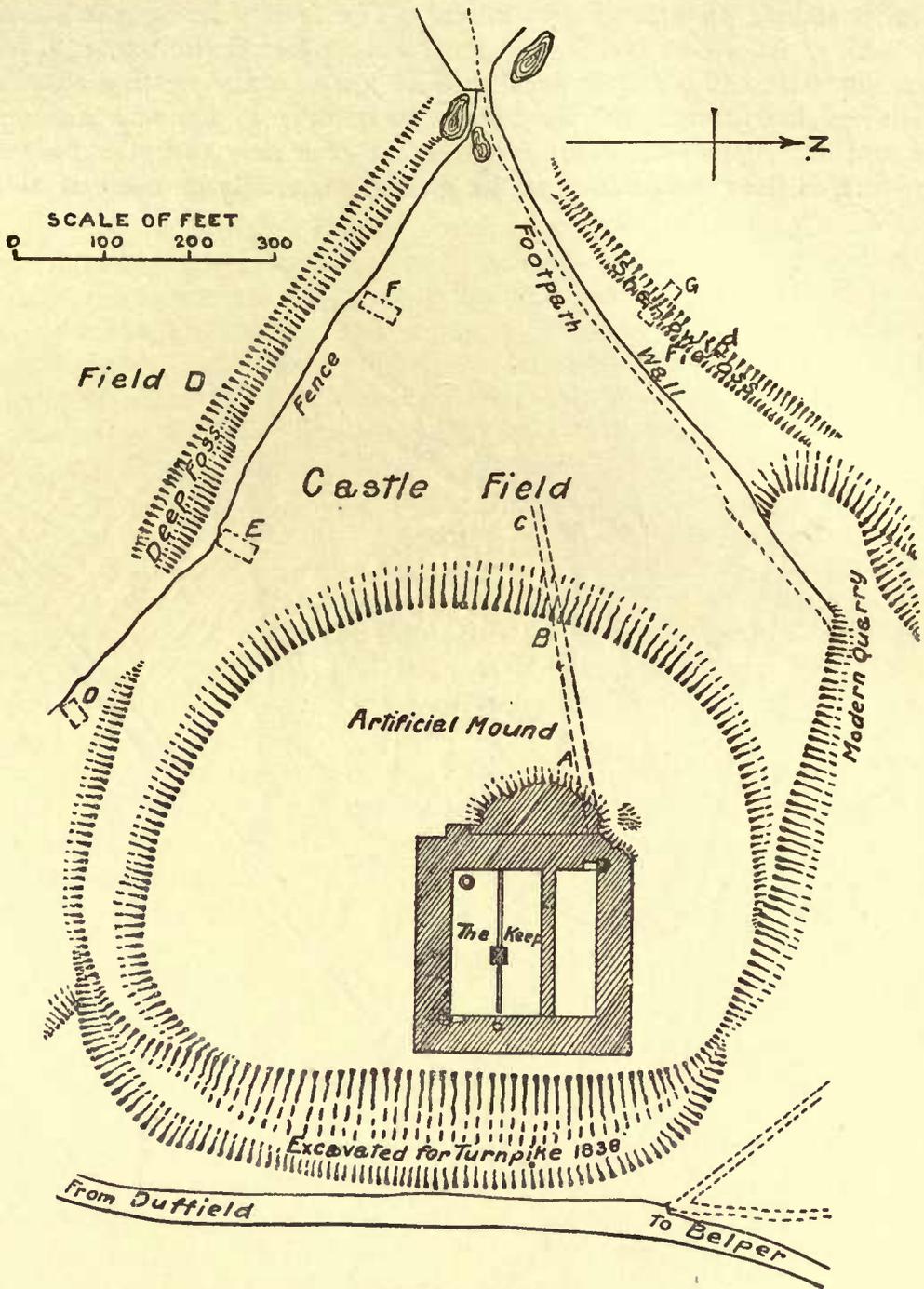
given, contained an area of five acres.¹ The deep fosse on the south-west side, in its widest and deepest part, was 35 feet at the top, 18½ feet at the bottom, and 7 feet in depth. The fosse on the north-west side, which had been much interfered with by quarrying, was of a different date and far shallower. The construction of a new turnpike road in 1838 altered the configuration of the ground materially on the east side,



and made the slope much steeper. The circular mound on which the Norman castle was erected proved to be partly artificial, and had been raised some 10 or 12 feet above the natural level of the western part of the field. Six stone implements and a fragment of Celtic pottery indicated the earliest occupants of a knoll that commanded an important ford over the Derwent leading to the Wirksworth Valley and its lead mines.

¹ Plan by Mr. Greenwell, *Derb. Arch. Soc. Journ.* ix. plate 7.

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DUFFIELD CASTLE.

The numerous traces of the holding of this site by the Romans have been dealt with in the article on Roman Remains.

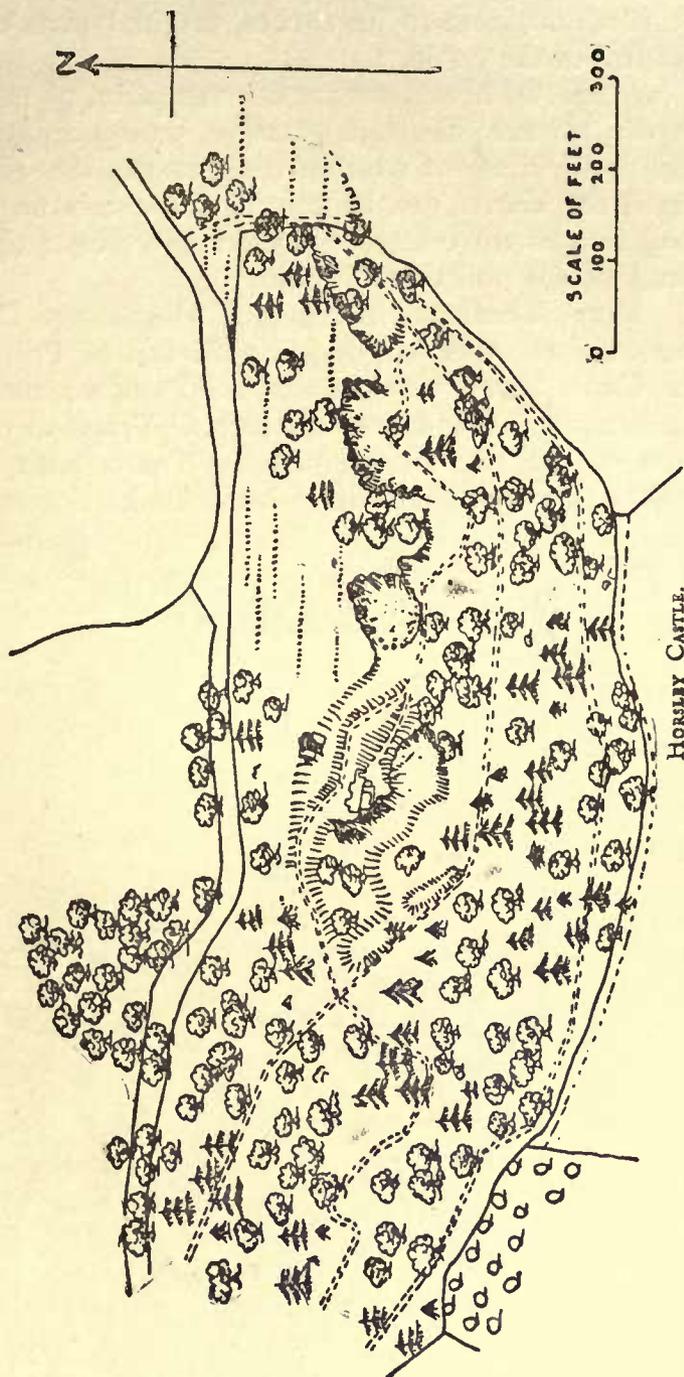
Trenches that were cut at D, E, and F, as marked on the plan, exposed, in each instance, some two feet below the surface, charred wood and black ash, pointing to the burning of a stockade on this line, possibly when the Danes attacked the site in the tenth century. A large variety of Anglo-Saxon finds came to light on the top of the mound at some little depth, particularly in the deep trench marked A, B, C; they

ANCIENT EARTHWORKS

included an amber bead, part of a bronze brooch, and a great variety of Anglo - Saxon pottery fragments, showing a long-sustained occupation of the burh that was probably constructed between the departure of the Romans and the coming of the Normans.¹

Unfortunately, the making of new roads and the building of villas has completely blotted out the interesting series of earthworks round the castle, since the drawing of the plan.²

9. The site of HORSLEY CASTLE (xlv. 10), of whose existence and repairs there are record evidences as early as the latter part of the twelfth century, has been so long used for quarry purposes and afterwards planted over, that very little proof of the former extent of this once important stronghold can now be obtained. 'The present ruin formed a portion of the keep, which appears to have been multangular, and



apparently constructed on an outcrop of the rock at a considerable elevation above the rest of the castle buildings.'³ Several visits to the site made by the writer of this section have failed to elucidate any conjectural plan either as to stonework or earthwork, save that some of the

¹ 'Duffield Castle : its History, Site, and recently found Remains,' by Rev. Dr. Cox. *Journ. of Derb. Arch. Soc.* ix. 118-187. Three distinct pre-Norman deposits of pottery fragments and other *débris* were found in successive layers, as exposed in the trenches.

² The actual foundations of the Norman keep have been preserved and enclosed, through the generosity of the Hon. F. Strutt and Mr. Herbert Strutt.

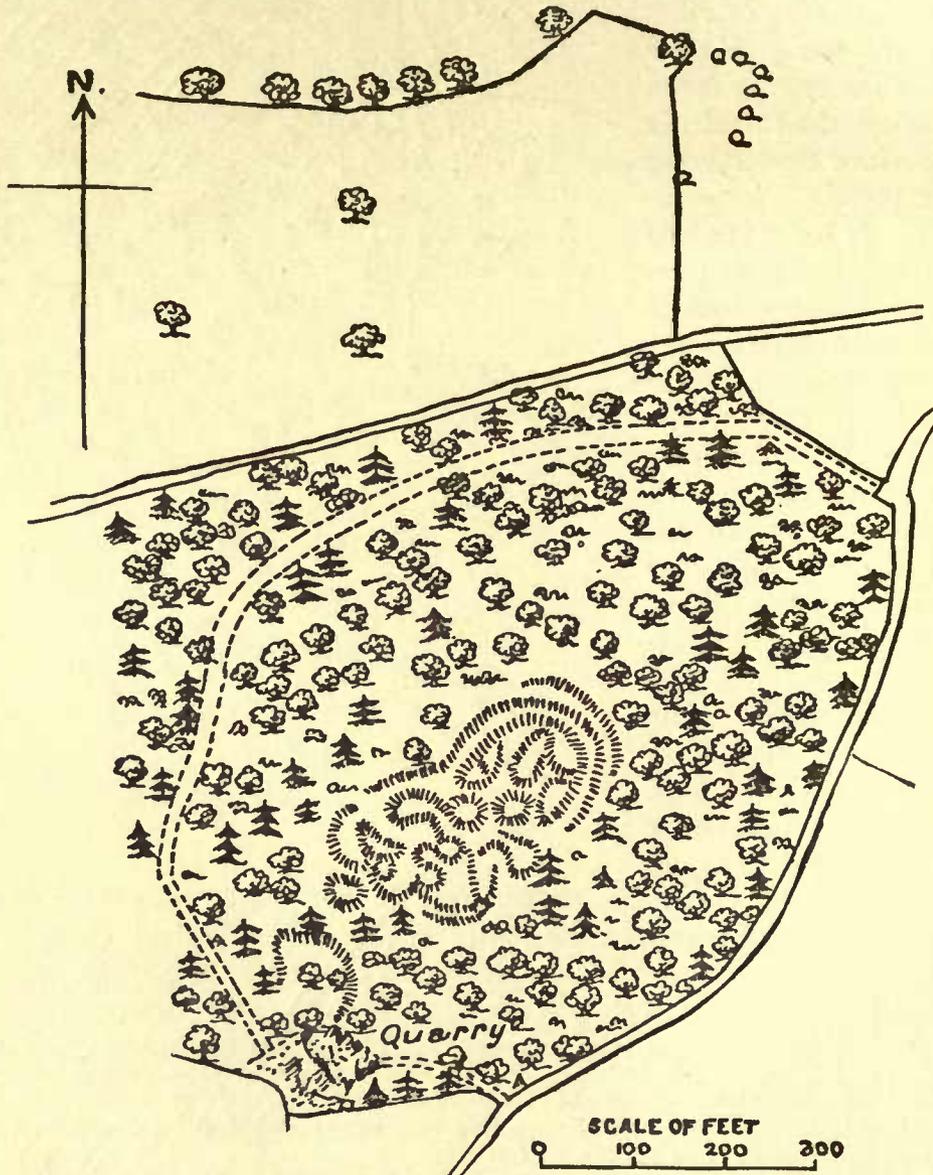
³ 'Annals of Horston and Horsley,' by Rev. C. Kerry, an article in *Derb. Arch. Journ.* x. 16-17 (1888). This is the best printed account of Horsley Castle.

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earthworks seem to have been original parts of a deep moat round the centre of the castle.

10. Of MACKWORTH CASTLE (xlix. 7) nothing has for a long time remained save the fine gateway, dating from the time of Henry VII. In the field to the west of the gateway the outlines of two large quadrangular courts can be traced. There is no evidence of any moat or adjacent earthworks, nor is there any record of a castle here before the end of the fourteenth century.

11. The small remains of MELBOURNE CASTLE (lviii. 6) are at the east end of the town, opposite the end of Potter Street, on a site known as Castle Farm. They consist simply of a piece of a ruinous wall, and the semicircular foundation of a turret. Traces of possible earthworks beyond are of the slightest character. There seems no reason to believe that there was any kind of defensive castle here prior to the fourteenth century.

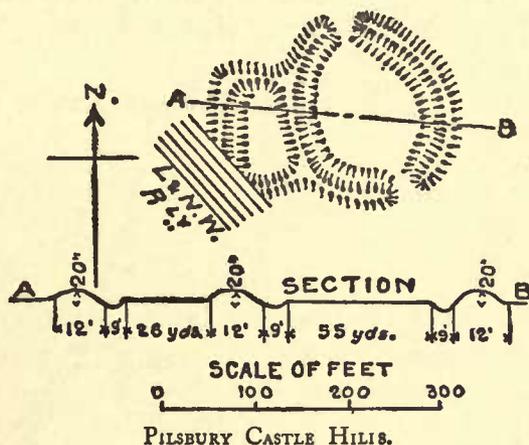


MOUSELOW CASTLE.

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12. MOUSELOW CASTLE (xi. 8) is the name of a round hill about a mile to the north of Glossop. On the top of its wooded summit is an intricate earthwork. The present confused condition of mounds renders the suggestion of any scheme or plan of its original construction almost an impossibility, save that there are fairly obvious traces of a double rampart—and on the east a triple rampart—encircling an oval formation about 350 feet in extreme diameter. All that can be safely said of its date is that Mouselow Castle was probably a Celtic fort to some extent reused during the Roman occupation. Glover, writing of Mouselow Castle in 1829, says:—‘This hill, forty-five years ago, was pastured to the top, on which it was plain to be seen a building had stood, there being deep holes and a quantity of stones. The top occupies a large space of ground. The whole of the hill, as well as the top, is now planted with firs of about forty-five years’ standing, and the late Hon. Edward Bernard Howard gave it the name of Castle Hill.’¹

13. PILSBURY CASTLE HILLS (xxvii. 7). It would indeed be strange if a site bearing a name that denotes fortification in three successive languages did not bear obvious traces of its former use. The appearance and nature of this earthwork can be much better realized from the plan than from any verbal description, more particularly as a tumulus seems to have been combined with earthworks. Moreover, the earthworks are apparently of two different dates, and a further element of confusion has been introduced by the reckless way in which exploring excavations have been undertaken on at least two distinct occasions. This remarkable earthwork is situated between the River Dove on the west and a ridge of rocks on the east. The ground that it covers measures roughly 175 yards from east to west, by 150 yards from north to south. The following description appeared in Glover’s *Gazetteer* in 1831:—‘At Pilsbury, in Hartington parish, in a deep valley on the banks of the Dove, in a field called Castle Hills, are some ancient remains deserving of notice. On the east side is a sharp natural ridge of rocks, which in one part rises to the height of seven or eight yards, bearing some resemblance to a sugar loaf. Adjoining to this is a raised bank, inclosing an area of about sixty yards from north to south, and forty from east to west, having a barrow near its western side about forty yards in diameter. Southward of the barrow is a second bank, forming a square of thirty yards each way.’²



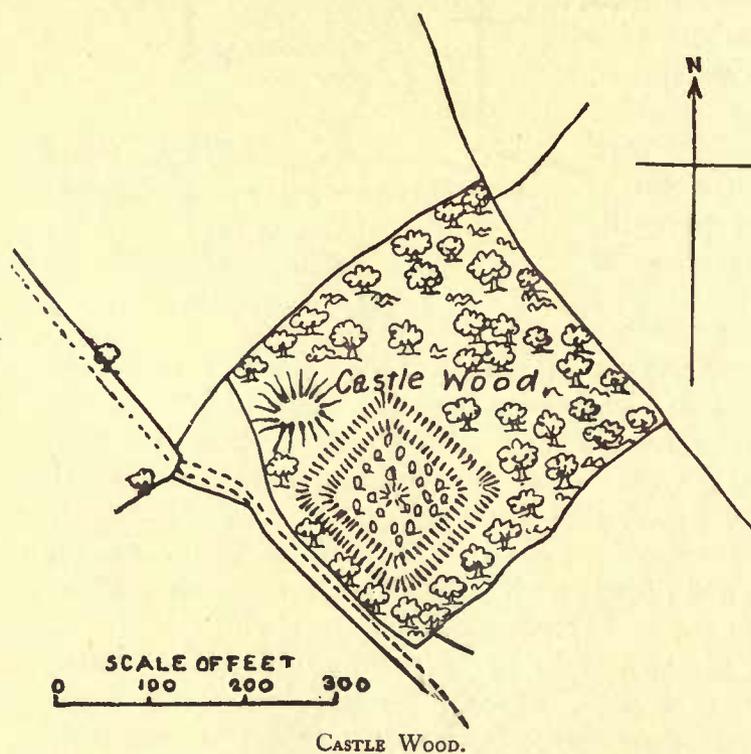
1 Glover’s *Derbyshire*, i. 298. Glover has adopted this passage from *A Description of the Country round Manchester*, by J. Aikin, M.D., 1793, by merely changing ‘fifteen years’ to ‘forty-five years.’
 2 Glover’s *Derbyshire*, i. 236. This description is reproduced, almost verbatim, in Bateman’s *Antiquities* (1848), 123.

A HISTORY OF DERBYSHIRE

The earthworks at Pilsbury have many points in common with those of Mexborough,¹ though not so well defined. Mr. Andrew, who has given much attention to this earthwork, considers it to be 'a typical mount and bailey work.'

14. THE BURIES (lvii. 2) is the suggestive name of a remarkable earthwork in Canons Meadows, which used to belong to the priory of Repton, between the once double courses of the Trent, just below the bridge to Willington. It is a rectangular enclosure measuring on the north side 226 feet, on the south 205 feet, on the east 157 feet, and on the west 164 feet. It is described by Mr. Hipkins, F.S.A., as 'a curious parallelogram of raised earth which is supposed to be the remains of a Roman camp, called Repandum by Stebbing Shaw, the historian of Staffordshire, but he gives no proof for the assertion. . . . Within the four embankments are two rounded mounds, and parallel with the south side are two inner ramparts, only one parallel with north. It is supposed by some to be "a sacred area surrounding tumuli." The local name for it is "The Buries." In my opinion it was raised and used by the Danes, who in A.D. 874 visited Repton, and destroyed it before they left in A.D. 875.'²

15. In CASTLE WOOD (xxxvi. 9), near Range Farm, about a mile to



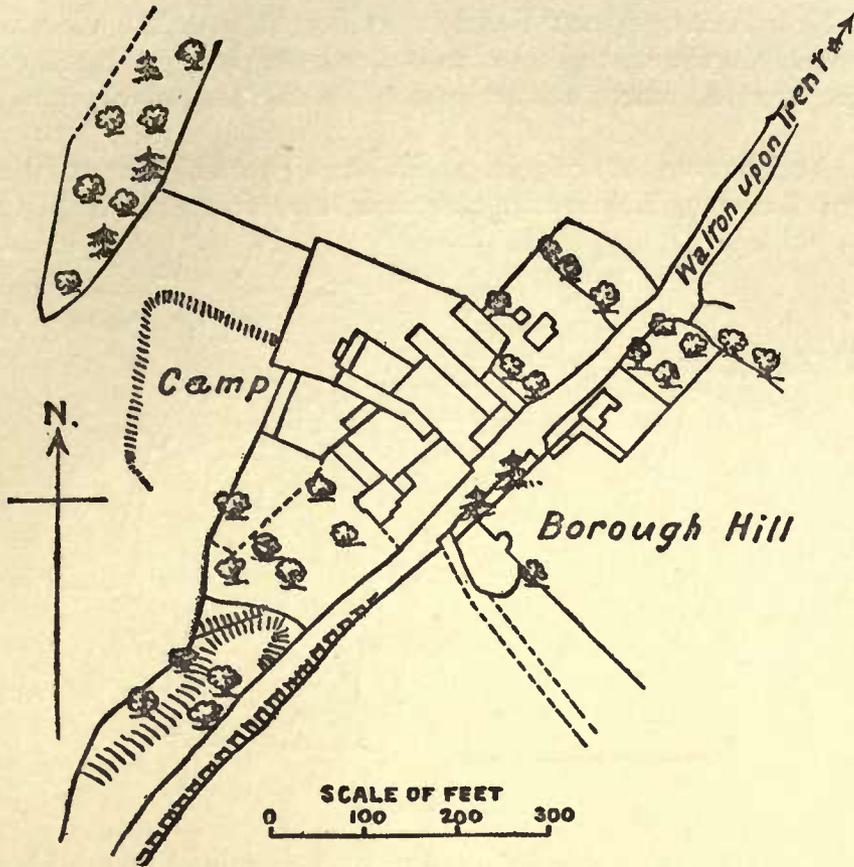
the east of South Normanton, is a rectangular moated enclosure having a square of about 225 feet from the outer side of the trench. In the centre is a small raised mound, and there is a larger mound close to it on the north-west. It seems to have been some form of an early defensive work, altered in mediæval days. It would probably repay exploration. It is termed 'Moat' on the Ordnance Survey map, but is certainly not to be included under Home-stead Moats.

16. The name BOROUGH HILL (lix. 11), on the high ground in the parish of Walton-on-Trent, points to pre-Norman occupation of this site.

¹ *Journ. Brit. Arch. Assoc.* N.S. x. 39; Clark's *Mediæval Castles*, i. 25.

² *Repton and its Neighbourhood* (2nd ed. 1899), p. 3; on pl. iv. is a ground plan. Mr. Andrew thinks a Danish ninth-century origin for this earthwork is probably correct.

ANCIENT EARTHWORKS



BOROUGH HILL, WALTON-ON-TRENT.

Here are some remains of earthworks, part of which is known as the Camp, as shown on the plan. But they have been so interfered with by roads, buildings, and enclosures, that it would be useless to speculate on their original plan.

17. The name of CASTLE FARM (xxviii. 6), in Youlgreave parish, immediately to the right hand on the road from Middleton to Youlgreave, naturally excites attention, and tradition has it that it is the site of a former castle of Youlgreave. At the back of the farm buildings are some slight remains of earthworks, or of foundation mounds of removed buildings. The late Mr. Bateman conducted some explorations here in 1855 (though not mentioned in his books), but with no result.

HOMESTEAD MOATS

[CLASS F (A)]

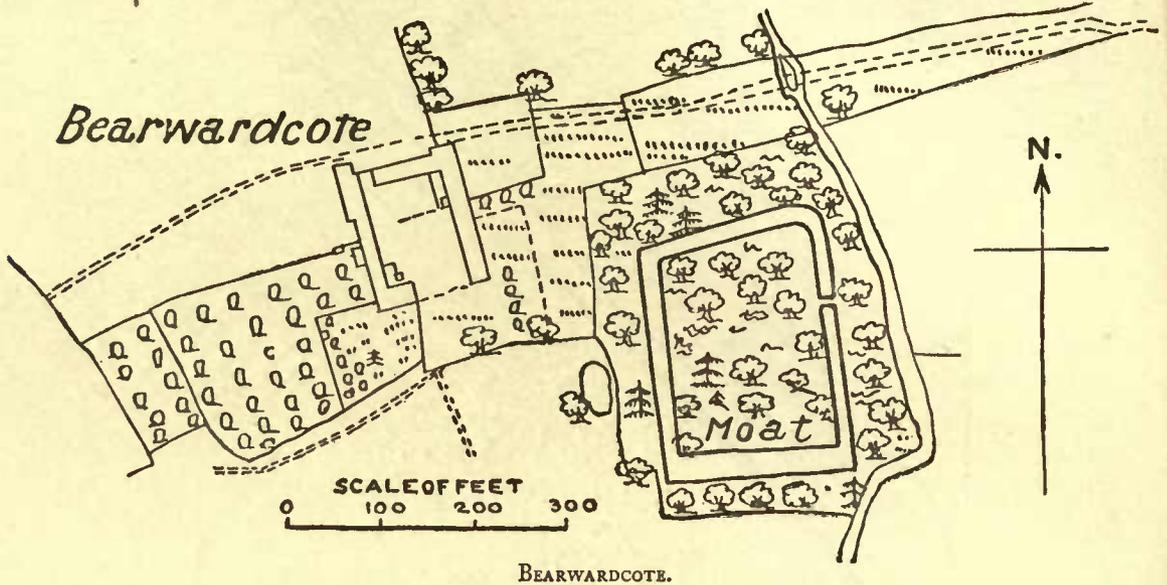
1. APPLEBY MOAT HOUSE (lxiii. 15). The seat of the old Appleby family for many generations was immediately to the west of the church. It is known as the Moat House, and there are remains of the moat on the north, south, and east. Glover (1831) describes it as 'entirely surrounded by a moat, with no other entrance than that of a draw-bridge.'¹

¹ Glover's *Derbyshire*, ii. 25.

A HISTORY OF DERBYSHIRE

2. Near ATLOW MOAT FARM (xxxviii. 16), in Atlow, close to Henmore brook, are the four sides of an old moat enclosing a space of about 200 feet square, where formerly stood a homestead of the Okeover family.

3. At BEARWARDCOTE (liv. 2), in Etwall parish, near to the Great Northern Railway, is a rectangular area, measuring about 250 feet by



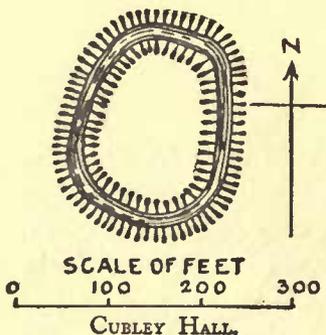
175 feet, surrounded by a water-filled moat, and gained by a bridge on the east side. The area is planted and surrounded with trees.¹

4. BRAILSFORD OLD HALL (xliv. 13), which long ago disappeared, stood to the south-east of the present rectory house; there are traces of a large moat.

5. At MOAT BANK (lvii. 14), BRETBY, there are some small remains of what appears to be a former homestead moat.

6. CALLOW HALL (xxxix. 45). This ancient homestead, in Wirksworth parish, still retains part of two sides of the former moat by which it used to be surrounded.

7. In CHATSWORTH PARK (xxiv. 5), on the left-hand side of the road from the bridge over the Derwent to the great house, is a low sixteenth-century tower or square of parapetted masonry, rising out of a water-filled moat. The upper part, planted with shrubs, is known as Queen Mary's Bower. It is quite possible that this was originally a mount and ditch, the mount being enclosed by its present masonry in deference to the Italian style of landscape effect then in vogue. This would account for the core of earth within it.



8. The site of CUBLEY HALL (xlviii. 5), for many generations a seat of the Montgomery family, is surrounded by a water-filled moat of

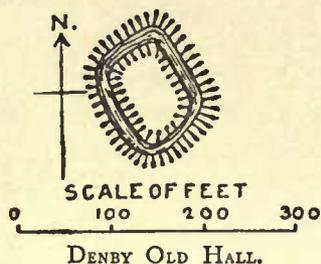
¹ *Derb. Arch. Journ.* iv. 63.

ANCIENT EARTHWORKS

irregular oval shape. This moat, to the west of the church, has an outer diameter, from north to south, of 250 feet, and its widest diameter from east to west is 200 feet, where are traces of a rampart on the inside of the ditch.

9. The site of the original hall of DENBY (xl. 15), a short distance from the present house of Elizabethan origin, known as Denby Old Hall, is surrounded by a rectangular moat having an outside measurement of about 175 feet by 125 feet. In a recent account of Denby occurs the following description:—

‘The moat, long since disused, lies about 50 yards north of the present house; it is about 35 feet wide at the top and 6 feet deep, and encloses a rectangular platform measuring about 58 feet by 80 feet; on three sides it is excavated in the solid ground, but on the north it is confined by an artificial bank on the edge of a small ravine formed by a stream coming down from Marehay, from which it was probably fed. Except in very wet weather it is now dry, but in the memory of the present farm tenant it was filled with water, and only a very slight diversion of the stream would be necessary to bring the water into it again.’¹



10. At DUNCOURT FARM (xxxix. 13), near Millington Green by Biggin Brook, in Wirksworth parish, is a small moat of oval shape. If this example belongs to the homestead class, it must be of early date.

11. There are some slight remains of the moat that once surrounded the manor house of the Beresford family of FENNY BENTLEY (xxxviii. 9, 10).

12. Near FOXHOLE FARM (l. 4), by Stanley Brook, in the parish of West Hallam, is one side of a water-filled old homestead moat.

13. At a place called MOAT HALL (xxvii. 15), in Hartington parish, near the river Dove, north of the Hartington cheese factory, part of two sides of the wide moat that surrounded a former homestead still remains.

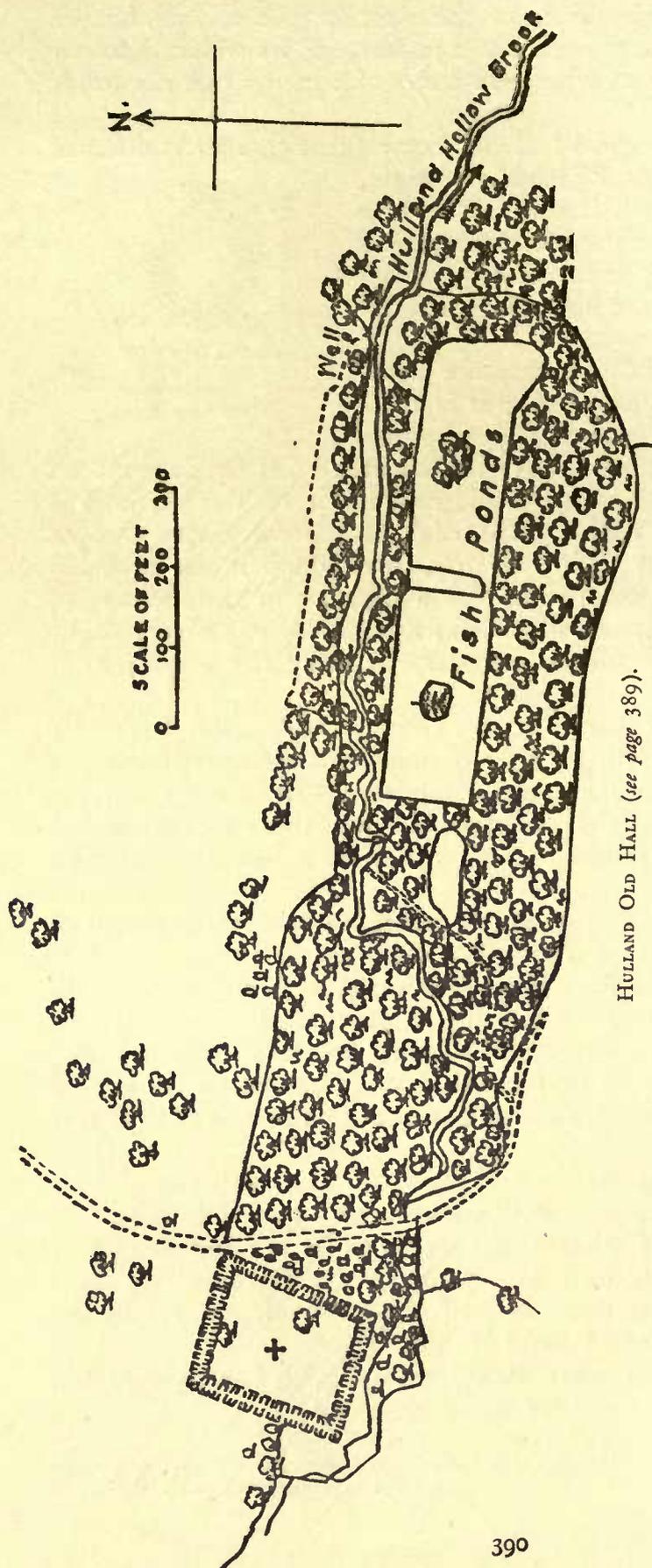
14. A little to the north of the village of HOLMESFIELD (xvii. 4) is an old square homestead moat, enclosing an area of upwards of 200 feet square.

15. The site of HULLAND OLD HALL (xliii. 4) is surrounded by a well-defined moat enclosing a parallelogram about 150 feet by 125 feet, and there are still traces of what would appear to be the foundations of the drawbridge. A little over 200 yards to the east are two large mediæval fish-ponds. The moat, as well as the ponds, was fed by the adjacent small stream, called Hulland Hollow Brook.

16. The old hall of HUNGRY BENTLEY (xlviii. 6), Longford parish, has two sides of a large water-filled moat remaining.

¹ Mr. Percy H. Currey, ‘Denby Old Hall and its Owners,’ *Derb. Arch. Journ.* (1904), xxvi. 1–21. An excellent photographic plate of one side of this moat, taken in winter when filled with water, accompanies this paper.

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HULLAND OLD HALL (see page 389).

17. At MAPPERLEY PARK WOOD (xlv. 16), in Kirk Hallam parish, are some small remains of a square moat that formerly surrounded a vanished homestead.

18. In MOAT WOOD (lviii. 10), MELBOURNE PARKS, there is a small water-filled moat, within which was the site of the lodge pertaining to the park attached to Melbourne Castle.

19. At ASHBOURNE FARM, SHIREBROOK (xxvi. 16), are the faint traces of a small moat, apparently of the homestead character.

20. SHIRLEY HALL (xliii. 15) was surrounded by a small square moat; three sides of it, which are water-filled, still remain.

21. The site of the original hall at SNITTERTON (xxix. 14) is still clearly defined by a rectangular moat, now drained, one side of which has been filled in to make the road from Matlock. This must not be confused with the dyke immediately behind the present Elizabethan hall. The outer measurement of this moat is about 200 feet square.¹

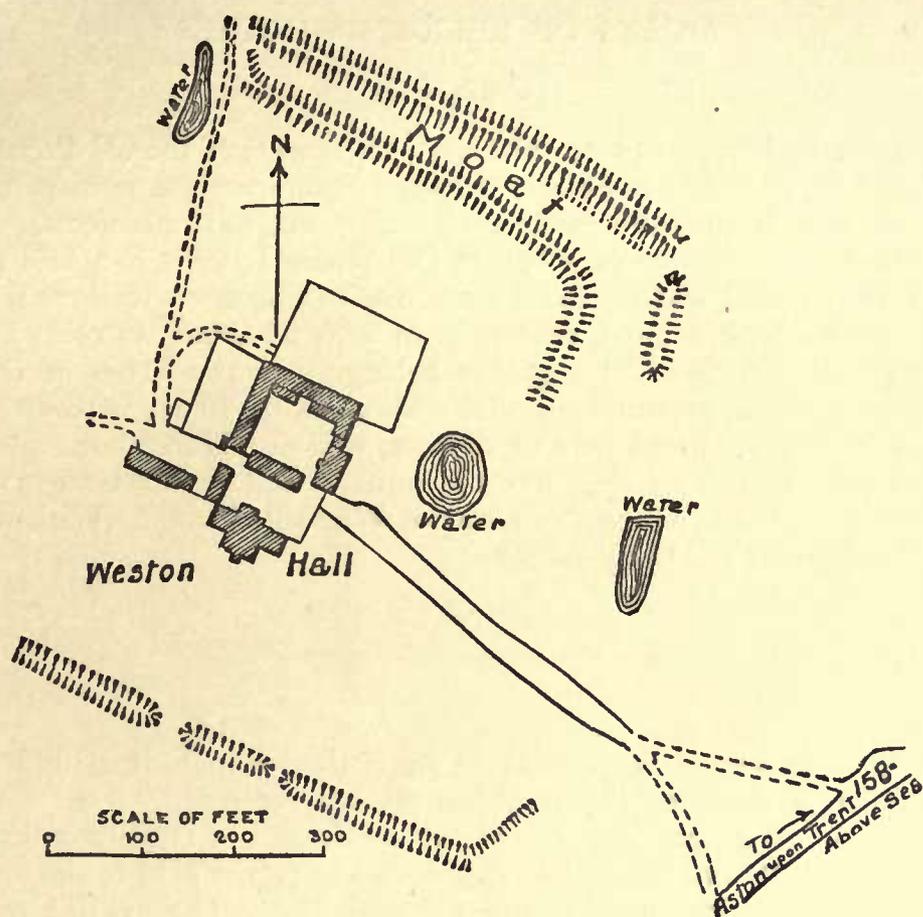
22. STAINSBY HALL (xxx. 1), in Ault

¹ A paper on Snitterton Hall read by Mr. W. J. Andrew to the Derb. Arch. Society, 1904.

ANCIENT EARTHWORKS

Hucknall parish, for many generations the home of the Savage family, has a small piece of the old moat remaining, of semi-circular shape.

23. WESTON-ON-TRENT (lv. 15). The largest homestead moat in Derbyshire is that which enclosed the old hall of Weston, said by Lysons to have been built by the Ropers early in the seventeenth century. The Ropers' hall, however, succeeded to one of greater antiquity. The narrow moat is fairly perfect on the north and south, in each case having a length of about 550 feet; there are also some remains on the east side of the large square of the enclosure, but nothing is left on the west. The distance from the north piece of the moat to that on the south is



OLD HALL, WESTON-ON-TRENT.

about 700 feet. It will be noticed on the plan that there are indications both on the north and the east of a second or inner moat, but the remains are not sufficiently clear to state this with certainty. Double homestead moats are occasionally found; but in such cases the inner one is generally immediately round the actual house. If this was the case at Weston, the old mediæval house must have stood to the north of that which is now standing.

24. WINGFIELD MANOR HOUSE (xxxv. 14). The remains of earthworks and what is usually termed a moat—though probably always dry—about the ruins of this great fifteenth-century house are

A HISTORY OF DERBYSHIRE

considerable.¹ A plan of the whole will appear in the topographical account of the place.

25. WOOD HALL (li. 9), a little to the north-west of Risley, used to be a park-surrounded seat of the Babingtons. The site can be identified by the remains of a rectangular moat slightly irregular in outline, but with two deep ditches and double rampart on the west, which is the weakest side according to the lie of the land. On the south side are traces of a larger enclosed square, which may have been round the farmstead.²

MOATS OF RELIGIOUS HOUSES

[CLASS F (B)]

1. Round STYDD HALL (xlvi. 1), on the site of the old Preceptory of Stydd or Yeaveley, in Shirley parish, are the irregular remains of the old square moat which formerly enclosed the extensive precincts.

2. At HAZELWOOD (xliv. 4), in Old Duffield parish, in a field to the right of the road leading from Hazelwood to Shottle, are three sides of a once considerable moat, enclosing an area of about 200 feet square. Here there formerly stood a grange belonging to the Abbey of Darley. A few fragments of encaustic tiles and moulded stones of fourteenth-century date were found here in 1877, as well as a Nuremburg token.³

There are also probable traces of moats round Boyube Grange which pertained to Dale Abbey, and round Wigwell Grange, Wirksworth, which pertained to Darley Abbey.

Another earthwork remains to be noticed which it is difficult to classify on account of the treatment it has received. The 'GIANT'S GRAVE' lies on a steep slope of the hill to the east of Ockbrook, in what was an old enclosure before the award of 1773; the field to the south is called 'Castle Field' and is also an old enclosure. The existing mound, or rather combination of three mounds, measures about 100 feet east and west, by about 80 feet north and south. To the west there is a mound or rampart that looks like a portion of defensive earthwork, but it tails off suddenly both north and south. To the N.N.E. of this is another heap, with vague continuations, suggestive of a once circular embank-

¹ 'Remains of the old earthworks thrown up for defence at the south-east angle of the south quadrangle can still be traced. On the north and on part of the east sides of the manor house are excavations that are usually spoken of as a dry moat. But it seems more likely that they were quarries for the stone of which the rougher parts of the house are built than made for any defensive purpose.' Revd. Dr. Cox 'On the Manor House of South Wingfield.' *Derb. Arch. Journ.* (1886), viii. 77-8.

² From information supplied by Mr. Mallalieu.

³ This was the result of a few trenches dug across the bottom of the moat by the writer of this section.

ANCIENT EARTHWORKS

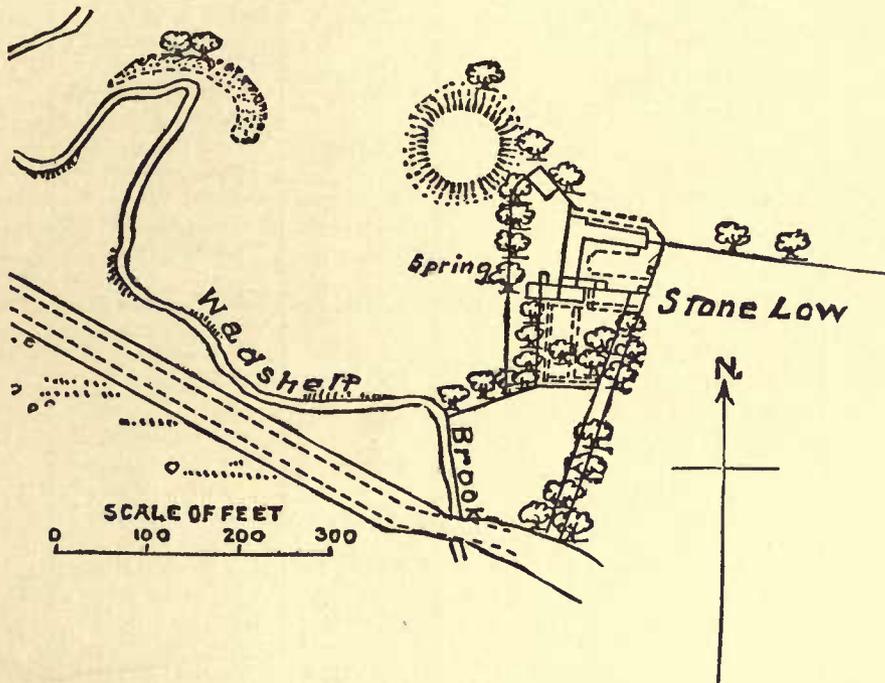
ment. In the third place, there is a high mound, north of the one just named, higher than the others and of irregular shape.

To the south-east of this Giant's Grave there was, prior to the 1773 enclosure, one of the town 'fields' of Ockbrook. Mr. Mallalieu's theory is that this was some form of defensive earthwork, and that the frugal and practical freeholders and homagers of Ockbrook carted away most of the material—that which remains is a red marl—to fertilize the communal field some 500 yards to the south. The field-land is light and gravelly and would be improved by marling. Such action as this would result in the leaving a mere mangled torso of a late Saxon or early Norman burh.¹ On the whole this theory seems most reasonable, and the old name of Castle or Castle Hill Field affords strong corroboration. Contrariwise 'Giant's Grave' suggests a sepulchral tumulus, or an aggregation of barrows; but probably this popular name is a comparatively late invention.

APPENDIX

TUMULI

The following is a complete list (about 150) of the tumuli or barrows (usually termed 'lows' in Derbyshire), or their sites, as marked on the Ordnance Sheets. A list of 206 Derby-



STONE LOW.

shire barrows that had been explored was given by Mr. Bateman in 1861. Many have disappeared in the construction of further fences and through other causes since that date. The sites of many others could be identified, but those only are here included (with an asterisk prefixed) which showed such traces as to be recognized as former barrows by the Ordnance surveyors without the aid of printed or vocal information.

¹ We are greatly indebted to Mr. Mallalieu, of Ockbrook, for the careful account and rough plans of this earthwork.

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The order adopted is that of the Ordnance Sheets, which begin at the north and cross over the county from west to east.

It is quite possible that one or two of the *larger* lows or tumuli were, in their origin, mounts or small defensive enclosures, notably Stone Low, Brampton.

The references are to (1) A., Bateman's *Vestiges of Antiquities*, 1848; (2) D., Bateman's *Ten Years' Diggings*, 1861; and (3) P., Pennington's *Barrows and Bone Caves*, 1877.

O. S. Sheets.	Name and Parish.	References.	O. S. Sheets.	Name and Parish.	References.
V. 2	Chisworth, Glossop		XVI. 3	Foolow, Eyam.	
"	Brown Low, Ludworth	D. 245	"	* Slatepit Piece, Eyam.	
VI. 13	Kinderlow End, Glossop.		XVI. 4	Five Tumuli, Eyam Moor, Eyam . .	A. 26, 113
VII. 1	Birchinlee, Derwent	P. 47	XVI. 6	Long Low, Hope.	
VII. 2	Green Sedges, Hathersage.		XVI. 7	Eyam Edge, Eyam	A. 26
VII. 6	Pike Low, Hathersage.		XVI. 11	Longstone Moor, Bakewell . . .	D. 40, 79
IX. 7	Lords Seat, Castleton.		XVI. 14	Rolley Row, Bakewell.	
IX. 10.	Gautries Hill, Peak Forest	P. 26-28	"	Great Longstone, Bakewell.	
"	Mag Low, Chapel en le Frith.		XVI. 15	Bleaklow, Bakewell.	
IX. 11	Two Tumuli, Eldon Hill, Peak Forest	D. 97; P. 11-17	"	* Bleaklow, High Rake, Bakewell .	D. 40
"	Smaller One, Peak Forest.		XVI. 16	Beacon Rod, Bakewell.	
"	* Perry Dale, Peak Forest	P. 28-9	XXII. 1	Staden Low (several small tumuli), Chelmorton.	
IX. 14	Rake Vein (oblong), Peak Forest.		XXIII. 7	Cracknowl Wood, Bakewell.	
IX. 15	Snelslow, Peak Forest.		XXIII. 9	Manor House, Sheldon, Bakewell .	A. 58
IX. 16	Oxlow, Peak Forest	P. 25-6	"	Sheldon, Bakewell .	A. 58
X. 9	Dirtlow or Siggett, Castleton	P. 31-40	XXIII. 12	Tumuli, Calton pastures, Edensor. .	A. 22; D. 64, 118, 128
X. 15	Eight Tumuli, Oferton Moor, Hope	P. 21, 50	XXIII. 14	Bolehill, Bakewell .	D. 90, 104
"	Four Tumuli, High-Low Bank, Hope	D. 89, 244; P. 51	"	* Bolehill Plantation, Bakewell	D. 253
"	Smelting Hill, Hope.		XXIII. 15	Burton Moor, Bakewell.	
XV. 1	Cow Low, Chapel en le Frith . . .	A. 91; D. 188	"	Grindlow, Bakewell.	D. 47
"	Lady Low, Chapel en le Frith . . .	D. 150, 156, 163	XXIII. 16	Two Tumuli, Beech Square, Edensor.	
XV. 7	Withered Low, Tideswell	A. 95	XXIV. 2	Stone Low (large), Brampton.	
XV. 11	Wind Low, Tideswell	A. 88-9	XXIV. 10	Hob Hurst's House, Bakewell	D. 87-8
"	Wormhill, Tideswell.		XXVII. 3	Cronkston Low, Hartington	A. 33; D. 56
XV. 14	Lowfoot, Hope.		XXVII. 7	* Waggon Low, Hartington	D. 34
XV. 15	* Great Rocks Dale, Hope.		"	Pilsbury, Hartington	A. 105, 123
XVI. 1	Tideslow, Tideswell.		XXVII. 8	Parsley Hay, Hartington.	D. 22-3
"	Cop Low, Hope .	D. 129	"	Custard Field, Hartington.	
"	Stan Low, Hope .	A. 74-5	XXVII. 12	By High Peak R'way, Hartington.	
			"	Lean Low, Hartington.	A. 35-6, 102

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O. S. Sheets.	Name and Parish.	References.	O. S. Sheets.	Name and Parish.	References.
XXVII. 12	Carden Low, Hartington . . .	A. 63	XXVIII. 5	Bunker's Hill, Youlgreave.	
XXVII. 16	Bank Top, Hartington . . .	D. 86	"	Arbor Low, Youlgreave	A. 64-5, 74, etc.
XXI. 8	Anthony Hill, Hartington . . .	D. 81	XXVIII. 6	Bee Low, Youlgreave	A. 35; D. 71
XXII. 1	Staden Low, Bakewell . . .	A. 98	"	Two Tumuli, Low Moor, Youlgreave.	
"	Fox Low, Hartington . . .	D. 56	"	* Cross Flat Plantation, Youlgreave .	A. 34-5; D. 22
XXII. 2	Gospel Hillocks, Bakewell . . .	D. 70	"	Flax Dale, Youlgreave	A. 100; D. 62
"	* Gospel Hillocks, Bakewell.		XXVIII. 10	Kenslow Knoll, Youlgreave . .	A. 28, 33, 50
XXII. 4	Priestcliffe Low, Bakewell . . .	A. 95	"	Ringham Low, Youlgreave	A. 50, 103; D. 64, 94
XXII. 5	Harper Hill, Hartington.		"	Rusden Low, Youlgreave	D. 43
"	Staker Hill, Hartington. . . .	D. 67, 80	XXVIII. 11	* Rowlow Brook, Youlgreave.	
XXII. 7	Pillwell Gate, Bakewell.		"	Rifle Range, Rowlow, Youlgreave.	
"	Chelmorton Low, Chelmorton . .	A. 21-2, 96; D. 50, 105	XXVIII. 12	Two Tumuli, High Circle, Youlgreave.	
XXII. 8	Slipper Low, Tadlington . . .	A. 52; D. 71, 181	XXVIII. 13	Tumuli, Mooney Stones, Hartington	D. 40
XXII. 9	Upper Edge, Hartington . . .	D. 68	"	Brundcliff, Hartington	A. 101
XXII. 10	Brier Low, Hartington . . .	A. 61	"	Endlow, Hartington	A. 36, 45; D. 38
"	Four Tumuli, Hindlow, Hartington .	A. 61-3	"	Bolderstone, Youlgreave.	
XXII. 11	* Highstool Lane, Bakewell.		XXVIII. 14	Two Tumuli, Gratton Moor, Youlgreave	A. 77, 79
"	Nether Low, Bakewell	D. 51	"	Three Tumuli, Long Gallery, Hartington.	
"	Great Low, Hartington	D. 50	XIX. 9	Four Tumuli, Stanton Moor, Youlgreave	A. 23, 100, 116, 119; D. 84
XXII. 13	Hollins Hill, Hartington . . .	D. 81	XXXII. 8	Wolfscote Hill, Hartington . . .	A. 47
XXII. 14	Dow Low, Hartington . . .	A. 96; D. 68	XXXIII. 1	Aleck low, Hartington.	
XXIII. 1	Two Tumuli, Brushfield, Tideswell .	A. 27; D. 68	XXXIII. 5	Liffs Road, Hartington . . .	A. 41-2
"	* Two Tumuli, Brushfield, Tideswell.		XXXIII. 7	Minning Low (chambered), Bradbourne . . .	A. 39-40; D. 54, 57, 61, 82, 83
XXIII. 2	Two Tumuli, Little Longstone.				
XXVIII. 1	Ricklow Dale, Bakewell.				
"	Ricklow Dale (large, long), Bakewell .				
XXVIII. 3	Conksbury, Youlgreave	D. 44, 243			
"	Haddon Fields, Youlgreave	A. 30; D. 106			
XXVIII. 5	Cales Dale, Bakewell.				
"	Cales Dale, Youlgreave.				

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O. S. Sheets.	Name and Parish.	References.	O. S. Sheets.	Name and Parish.	References.
XXXIII. 9	Hawks Low, Par- wich	A. 47	XXXVIII. 1	*Crake Low, Tis- sington.	
”	Nettly Knowe, Ash- bourne	A. 68; D. 142, 179	”	Rose Low, Ash- bourne.	
XXXIII. 11	Blackstone Low, Bradbourne.		”	Gag Lane, Ash- bourne.	
XXXIII. 13	Moot Low, Tis- sington	A. 51; D. 57	XXXVIII. 4	*Ows Low, Cars- ington.	
XXXIII. 14	*Cat Low, Parwich.		XLVIII. 6	Bentley Carr (very large), Longford.	
XXXIV. 3	Ivet Low, Wirks- worth.		LIII. 8	Hoon Mount, Mar- ston-on-Dove.	

FORESTRY

THE chief interest pertaining to the forest lore of this county is in connection with the ancient and wild royal forest of the Peak, and the more fertile and smaller duchy forest of Duffield.¹

But there was much rich woodland in the shire apart from the districts under forest law, particularly in the south. Parks of old times, as well as of the present day, are generally associated with fine timber or well-wooded glades. Lysons drew up a list, based on Quo Warranto rolls and early records, by which he claimed that this comparatively small county had 'fifty-four deer parks' in the early part of the fourteenth century;² but leave to impark did not necessarily imply the presence of deer within the park. Several in this list were of small extent, and others only had an ephemeral existence.

THE FOREST OF THE HIGH PEAK

The king's forest of the High Peak was a wild district that formed part of the patrimony of the Anglo-Saxon kings, and was royal demesne at the time of the great survey. The parish of Hope and other adjacent lands were granted by the Conqueror in 1068 to William Peverel, in conjunction with numerous lordships in Derbyshire, Nottinghamshire, and other counties which were known as the honour of Peverel. On Peverel's death in 1114, his vast possessions passed to his son, but in 1155 a younger Peverel was disinherited for poisoning the earl of Chester, and all his estates were forfeited to the crown. From that time until 1372, the castle and forest of the Peak were in the hands of the crown, when they were transferred to the Duchy of Lancaster, and thence returned to the crown by absorption in the following century.

At the beginning of the twelfth century the forest of the Peak included the whole of the north-west corner of the county. The Hope district embraced the seven berewicks of Aston, Edale 'Muckedswell,' half of Offerton, Shatton, Stoke, and Tideswell; whilst Longdendale included the whole of the wide-spreading parish of Glossop, and much that was extra parochial. According to somewhat later parochial divisions, the forest comprised the whole of the parishes of Glossop, Chapel-en-le-Frith, Castleton, and Hope, with most of Tideswell, considerable portions of Bakewell, and part of Hathersage. It formed altogether an area of 40½ square miles.

From the time when Longdendale was added to the honor of Peverel, in the days of Henry I., the Peak forest was divided into three districts, each having its own set of foresters, but all under one chief official. These three districts were known as Campana (*i.e.* the Champagne or open country) on the south and south-west, Longdendale on the north and north-west, and Hopedale on the east. It is hardly necessary to mention that the old term 'forest' had nothing in itself to do with trees or woodlands, but merely implied etymologically a waste, and was used historically for an open district reserved by the king for the purposes of sport.

The bounds of the forest as set forth in the Forest Pleas held in 1286 were (translated into English) as follows:—'The metes and bounds of the forest of the Peak begin on the south at the new place of Goyt, and thence by the river Goyt as far as the river Etherow; and so by the river Etherow to Langley Croft at Longdenhead; thence by a certain footpath to the head of Derwent; and from the head of Derwent to a place called Mythomstede Bridge; and from

¹ The amount of unused material illustrative of the history of these two forests is very great. These stores are chiefly to be found at the Public Record Office and British Museum, but there is a fair amount in private hands, and certain gleanings at Lambeth Palace Library and the College of Arms. All that can now be attempted is to give a few of the hitherto unchronicled features of the forests.

² Lysons, *Derbyshire* (1817), clxix.

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Mythom Bridge to the river Bradwell ; and from the river Bradwell as far as a certain place called Hucklow ; and from Hucklow to the great dell of Hazelbache ; and from that dell as far as Little Hucklow ; and from Hucklow to the brook of Tideswell, and so to the river Wye ; and from the Wye ascending up to Buxton, and so on to the new place of Goyt.'

In the case of a considerable number of forests there was much variation in their bounds subsequent to 1300 ; but the limits of Peak forest remained to its close the same as they were in the thirteenth century, as is shown by a boundary statement, *circa* 1600.

The forest area was not co-terminous with that of the hundred of the High Peak, for the latter included the parishes of Darley Dale, Edensor, Eyam, Hathersage, and Youlgreave, in addition to the forest proper.

The Pipe Rolls of Henry II.'s reign supply a brief amount of definite information as to this forest. Year after year from 1158 to 1172, like entries occur of £4 'in wasto foresti,' and of the payment of £6 5s. to eight foresters, and one warrener. Two payments made in this reign are highly significant of the devastation then caused by Derbyshire wolves. In 1160-1, 25s. was paid to the forest wolf-hunters ('in lupariis') as an extra fee. In 1167-8, so great a value was set on the skill and experience of the Peak wolf-trappers ('pedicatores'), that Henry II. paid 10s. for the travelling expenses of two of them to cross the seas to take wolves in Normandy.¹

Forest law was the same, broadly speaking, throughout all the royal forests of England, and was identical in its chief administrators ; but the local ministers and local administration were much diversified. They differed, for instance, considerably in Derbyshire's two forests, those of the Peak and Duffield Frith. In 1238 the forest administration of England was definitely divided into two provinces, separated by the Trent, with a justice appointed for each. But before that date forest justices had been selected for groups of counties ; thus in 1229 Brian de l'Isle was appointed for a large group of counties, mainly in the north, of which Derbyshire was one. Their chief duties were to release on bail prisoners in custody for venison trespass, or for knowingly receiving venison, and to hold special inquisitions as to proposed grants of liberties in case of grave trespass, as well as to exercise a general supervision over forest administration.

The place where the forest justice held his inquisitions was usually termed the Justice Seat. This justice seat was occasionally held in different localities, or even in a temporary booth or tent, as in the great Northamptonshire forest of Rockingham ; but the justice seat for the Peak forest was about the centre of the district, in an extra-parochial part about equal distance from Castleton, Tideswell, and Bowden. Here stood a forestry residence and hall, termed 'Camera in foresta regia Pecci,' or 'Camera in Campana,' with a chapel attached. This chapel was of earlier date than the large chapel built by the foresters and keepers at Bowden about 1225, and which place was henceforth usually known as Chapel-en-le-Frith. The chamber of the Peak was not so important a place as the central lodge of many other forests, because the keepership of Peak forest being usually associated with the custody of the castle, the residence of the chief local official was at Castleton. The prison was at the castle of the Peak, and the bailey of the castle was sometimes made to serve as a great pound for illegally pastured sheep ; but there is no instance of the justice seat or even of a swainmote being held at Castleton.

Though the term 'justice seat' was sometimes used for the place where the forest pleas were held, particularly in the fifteenth and sixteenth centuries, this important court or eyre was not necessarily held within the forest jurisdiction. Thus the earlier pleas for Rockingham were held in the borough of Northampton, and in the same manner the pleas of Peak forest were held at Derby. As a rule the regular forest justice was included in the commission nominated by the king from time to time to hear forest pleas, but not of necessity. Justices of the forest were commissioned, at the king's pleasure, to hear and determine pleas of the forest for a particular county or group of counties. Forest offenders on bail or detained in prison were committed till the hearing of these pleas. In the working of this it often happened that these earlier pleas, though relating to the county, were for special forests, either through the county having only one forest, or because of some exceptional circumstance or instance applying to certain forests. Thus in Derbyshire, the small but important forest of Duffield Frith, in the forest eyres of Henry III. and the first three Edwards, was not summoned to Derby, because it was part of the earldom of Lancaster and honour of Tutbury, and hence the Duffield pleas were heard at Tutbury.

¹ Pipe R., *passim*.

FORESTRY

Every three years a thorough inspection not only of the woods but also of every part of the forest was expected to be made, which was termed the Regard. The duty of the twelve or more knights who were called the Regarders was to draw up answers to a long set of interrogatories termed the Chapter, which covered almost every possible particular as to the condition of the forest demesnes, even as to wild honey; but the most important function the Regarders discharged were with regard to enclosures of waste with or without warrant, and to encroachments made by the building of houses or the like. In practice, the full formal regard with its complete roll of answers was usually only made shortly before the holding of each eyre, when the sheriff, as was the case in Derbyshire, was ordered by the crown to see to the regard being duly held.

The swainmote proper, about which Manwood is much mistaken,¹ was practically the same as the attachment court; the two terms 'swainmote' and 'attachment' (and occasionally 'woodmote') are used interchangeably in various local forest proceedings of which full records remain, as is the case with Sherwood, Windsor, Clarendon, and Duffield Frith. These courts if regularly kept, as was often the case, met every forty-two days in each of the several bailiwicks or wards into which a forest was divided, but on different days of the week. There are, unfortunately, too few records left of the smaller forest courts of the Peak to speak with confidence as to the regular holding of the frequent swainmotes in all the bailiwicks for any long period; but there are sufficient incidental references to show that such swainmotes were held in the thirteenth and early fourteenth centuries for Campana at the Chamber of the Forest, for Longdendale at Chapel-en-le-Frith, and for Hopedale at Hope. Subsequently the great courts of attachment, as well as the occasional smaller courts or swainmotes, were held at Tideswell and at Chapel-en-le-Frith, though sometimes at Campana lodge or Chamber of the Forest instead of at Tideswell.

The jurisdiction of the true swainmote was but small, and was chiefly concerned with minor vert offences, as will be seen under Duffield.

The chief local authority over a forest was the keeper or warden (*custos*), who was also variously known as steward, bailiff, and chief or master-forester. In no two forests were the terms for the various ministers exactly similar, and the nomenclature often varied for the same forest at different periods. Some forests were ruled by hereditary wardens or keepers, as were those of Cheshire, but they were more usually appointed by the crown, during pleasure, under letters patent. The Peak was an instance of the latter class, and the title usually given to the chief administrator was bailiff. For the most part he held this office in conjunction with that of keeper of the castle. Generally speaking, as in Peak forest, the bailiff or keeper was held responsible for the annual accounts rendered to the crown or duchy.

The verderers were other forest officers directly responsible to the crown. Like coroners they were elected by the freeholders in the county court on a writ addressed to the sheriff. They held office, as a rule, for life, but could be removed by the crown for incapacity for their duties, or for lack of due property qualification within the forest. In the Peak forest, however, the verderers were for a time hereditary, which was a highly exceptional, if not unique, usage. The verderers were always men of some position and frequently knights; there was no salary and usually no perquisites attached to the office. The number varied; in smaller forests there were only two, but four, as in the Peak, was the usual number; there were six for Sherwood. It was the verderer's duty to view, receive, and enroll all manner of attachments for vert or venison trespass; and he had to attend all forest courts and to take the leading part, under the steward or keeper, at the swainmotes. In the swainmotes the verderers were the judges in all vert cases of the value of 2*d.* or under, which was afterwards raised to 4*d.* The verderer's symbol of office was an axe; at a later period, in several forests, as in the Peak and Duffield, there was a chief verderer, styled the axe-bearer, appointed directly by the crown, and the recipient of certain perquisites.

Foresters were officers sworn to preserve the vert and venison in the forest in their own divisions or walks or wards, usually termed bailiwicks in Peak forest. They had to attach offenders and present them at the forest courts. The legal term 'attachment' (differing from 'arrest,' which only applied to the body) had a threefold operation in the forest as at common law; a man might be attached by (1) his goods and chattels, or (2) by pledges and mainprize, or (3) by his body. The usual proceeding was that if the foresters found a man trespassing on the vert they might attach him by his body, and cause him to find two pledges or bail to appear at the next attachment court. On his appearance at that

¹ Turner, *Select Pleas of the Forest* (Selden Soc.), xxviii-xxx.

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court he was mainprized (that is, set at liberty under bail) until the next eyre of the justices. If offending for a second time, four pledges were held necessary; if a third time, eight pledges; and for a fourth time, imprisonment until the eyre.

If, however, a man was taken killing a deer or carrying it away—which was called being taken with the manner, or *mainour*, an overt sign such as blood on the hands or clothes—he could be attached at once by his body, and imprisoned until delivered on bail by the king or the justice of the particular forest to appear at the next eyre.

There was often a general or itinerant forester for the whole area, who had a higher rate of pay, and as he was mounted was frequently called the riding forester. Sometimes the crown appointed several such foresters, as did Edward I. for Peak forest at the beginning of his reign, calling them 'forestarii equitii'¹ and in the next century there is a record of a crown appointment, cited below, of a chief forester at the very high wage of 12*d.* a day. Such an officer as this was at a later period known in various forests, as was the case in Peak forest, under the name of Bow-bearer, from having the right to always carry a bow personally or at the hands of his attendant.

In several of the larger forests, and notably in Peak forest, there were hereditary foresters of fee. In this case, when the question of their origin came up at forest pleas, they always claimed to date back to the times of William Peverel. There were a certain number, originally four, though afterwards subdivided, for each of the three great bailiwicks of the Peak forest, who held certain bovates of land in serjeanty, discharging their obligations in one case by the hunting of wolves, and in the others by some amount of forest supervision. In two of the three bailiwicks they had sworn grooms or servants under them. This kind of forestership could be held by women and by clerks, but the duties had then to be discharged by deputy. The foresters of fee were bound to attend all courts, even the frequent swainmotes of their bailiwick, in person or by authorised sworn deputy.

The position of the woodward of a forest as distinguished from a forester is often misunderstood. The woodward, though primarily responsible for the actual timber or underwood, as the name implies, was also, as a rule, a forester, that is he was responsible also for the venison. To understand their position, it must be remembered that all the lands within a king's forest were never entirely royal demesne. They were so to a greater extent in Peak forest than in most other English forests, but even here there were various woods which were private property save that they were subject to general forest jurisdiction, such as the free ingress and egress of the king's game; nor could the owners, without the king's licence, do anything therein, such as clearing away timber for cultivation, building houses or sheds, establishing forges, or burning charcoal that might be held to do damage or cause annoyance to the deer. To look after their rights, such wood owners were allowed, nay, were required to have officials termed woodwards, to guard against wood trespass; but these officials were also utilised by the forest officials to guard the king's venison, and therefore they were not allowed to act save as sworn servants, taking oath to serve the king in the matter of venison, and having power to attach and present. The symbol of the woodward was a small hatchet or bill-hook.

Agisters were the officers who were chiefly concerned with the collection of money for the agistment or feeding of cattle and pigs in the demesne woods or lands of the forest. Each forest had its own peculiarities. Horse-breeding establishments or stud farms were an early institution in the Peak forest. Sheep were usually specially restricted. Goats were at all times peculiarly disliked by deer and very rarely permitted. The encroachments of sheep and cattle on the deer in the later history of this forest is of special interest.

Rangers were officials that are not heard of till towards the end of the fourteenth century; their duties were originally confined to seeing that forest law was duly observed in the outlands or purlieus of the forest. In the fifteenth and sixteenth centuries mention is made of a ranger of the Hopedale section of this forest.

The abundance of deer in the forest in Norman days seems to have been something astonishing. Giraldus Cambrensis tells us that in his days (*nostris diebus*) the number of the deer was so great in the Peak district that they trampled both dogs and men to death in the impetuosity of their flight.²

Every forest in England had certain liberties or grants assigned to neighbouring religious houses, and in several cases there were abbeys or priories within the bounds. The latter was not

¹ The author of *Feudal Hist. of Derbyshire* has mistranslated this as 'knightly foresters.'

² *Descriptio Kambriae*, cap. viii. written about 1184.

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the case with the Peak forest ; but in proportion to its area, the number and variety of such grants were greater than in any other English forest. The nature, date, and extent of such grants are noted elsewhere ; it will here suffice just to name the houses chiefly concerned :—Basingwerk abbey, Flint ; Roche abbey, Yorks ; Welbeck abbey and Lenton priory, Notts ; the abbeys of Dernhall and Vale Royal, Cheshire ; Leicester abbey and Launde priory, Leicestershire ; Deulacres abbey, Staffordshire ; Lilleshull, Salop ; Merivale, Warwickshire ; and Beauchief and Darley abbeys, and Kingsmead priory, Derbyshire.

The accounts rendered by Robert de Ashbourn, bailiff of the forest and castle of the Peak for the year 1235–6, are of much interest. The receipts amounted to £201 2s. 10½d., whilst the expenses were £184 12s. 7d. In this year the king visited Peak Castle, when Bailiff Ashbourn, as lord of the jurisdiction, presented him with four wild boars,¹ and forty-two geese, charging 16s. 3½d. for the same in his accounts. The castle that year underwent considerable repairs. £10 1s. 8d., fees from the pleas of the hundred or wapentake court, were among the receipts, and we suppose that the sums of £6 19s. 4d. and £39 19s. 6d., from the two respective itineraries made through the demesnes and forests, represent the fines, etc., accruing respectively from the manorial and the swainmote courts.²

The forest justices held their eyre for the Peak in 1216. This was followed by an interval of thirty-five years, for the next pleas were not held until 1251. Of these pleas, held before Geoffrey Langley and other justices, very full records are extant.³

The following were the bailiffs of the honour of the Peak during the period covered by this eyre. William Ferrers, earl of Derby, 1216–1222 : Brian de Insula, 1222–1228 : Robert de Lexington, 1228–1233 : Ralph FitzNicholas, 1233–1234 : John Goband, 1234–1237 : Thomas de Furnival, 1237 (for six months) : Warner Engaine, 1237–1242 : John de Grey, 1242–1248 : and William de Horsenden, 1249. They were appointed by crown patents.

The presentments of venison trespasses were made by the hereditary foresters and the verderers. This roll is headed by the wholesale charge made against William de Ferrers, earl of Derby (who had died in 1246), in conjunction with Ralph de Beaufof of Trusley, William May, the earl's huntsman, Richard Curzon of Chaddesden, and Henry de Elton, of having taken in the king's forest of the Peak during the six years when the earl was bailiff (1216–1222) upwards of 2,000 head of game (deer). Ralph, Robert, and Henry appeared and on conviction were imprisoned : but they were released on paying heavy fines and finding twelve mainpernors for their good conduct. Robert Curzon was fined £40 ; the first of his twelve mainpernors was William Curzon of Croxall. Ralph Beaufof was fined £10 ; the first of his mainpernors was Sir William de Meysam. May, the huntsman, did not appear ; it was reported he was in Norfolk, and the justices ordered him to be attached. If the full actual pleadings were extant, there can be no doubt, judging from the customs of other forests, that the companions of the earl would have been able to show that a considerable percentage of the deer taken when he held office were fee deer to which he was entitled by usage for himself and his deputies, and that many others were the usual and recognised gifts to the country gentlemen of the district to secure their good-will towards the king's forest. It must be remembered, too, that it was always customary at these eyres to present lists of all the deer killed, including those taken by express warrant or custom. Nevertheless there was obviously something quite unwarrantable in the amount taken during that period (over 300 a year), as is shown by the heavy fines imposed upon the hunting comrades of the deceased earl.

Many of the other offenders were men of considerable position, such as Thomas Gresley, Alan his brother, Ralph Hamilton, the earl of Arundel, Geoffrey de Nottingham, Ralph Bigod (brother of the earl of Norfolk), Thomas de Furnival, and Robert le Breton, who was fined £20. Four or five of these charges, which exceeded one hundred in number, related to secular clergy.

¹ 'Porcis' : this is the term used for the wild boar in various early forest accounts, and it probably here represents the wild and not the domestic pig.

² Exch. Q. R. Accounts, Forests, 1281.

³ Duchy of Lanc. Forest Proc. 36 Hen. III. English abstracts of most of the rolls of this eyre have been given by the writer of the *Feudal Hist. of Derbyshire*, vol. iii ; but there are many wrong renderings, as well as important omissions ; e.g., 'the monks of Derby' proves to be *moniales*, the nuns, i.e., of Kingsmead ; the Latin terms for the red and fallow deer are confused ; whilst the unhappy blunder is repeated several times of translating *capreolus*, the roebuck, as 'wildgoat.' *Feton*, a fawn, is rendered *seton* throughout, and the origin of the latter imaginary term is freely discussed !

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Matthew de Hathersage, a baron, who had considerably increased his power in the county by marrying the heiress of Musard, was presented for having a buckstall in his great wood at Hathersage, which was distant barely two bowshots from the king's forest. The baron contended that his ancestors had always had a buckstall in their wood, and that formerly it was still nearer the bounds of the Peak forest. The upshot of the matter was that the decision was against Matthew, who had to pay a fine of 20 marks.¹

The fines imposed for venison trespasses varied at this eyre from £100 to 13s. 4d. and seem to have been proportioned in accordance with the position of the offender as well as the comparative gravity of the offence. The long intervals between the eyres and the frequent changes of the forest custodian, together with the wildness of the country, seem to have led to the Peak forest being hunted with a certain amount of impunity by not a few of the nobility and gentry of Derbyshire and of the adjacent parts of Yorkshire and Cheshire. The game at this period was entirely red deer, save for the single instance of a presentment against Robert de Wurth for killing a roebuck, for which offence a huge fine of £100 was imposed. The amount of this fine had nothing to do with the nature of the game, but was caused by the non-appearance of the accused, accompanied probably by some aggravating circumstances not recorded on the brief entry on the plea rolls.

When the justices at the 1251 pleas came to the consideration of vert offences and encroachments various particulars were missing. Matthew de Langesdon and Adam de Stanton, hereditary verderers, were each fined 20s. for not producing their fathers' rolls. There seems to have been much carelessness among the various officials in the keeping of their respective yearly lists of offences. Peter del Hurst, regarnder of one section of the Peak forest, was fined 10s. for the non-presentment of assarts and purprestures in his rolls. A considerable number of agisters were at the same time declared in mercy for not producing their agistment rolls according to the custom and assize of the forest. There is, however, a fairly long list of vert offences (about 60) that had accrued within the crown demesnes since 1218, the damage done being in most cases valued at 6d. The majority of the offenders—the offences were probably trifling—had simply to find pledges for their future observance of the forest assize. Heirs were held responsible for their fathers' offences in two or three cases. Many of these vert trespassers were of good position. The worst case at this eyre was that of Roger Foljambe, who was fined the large sum of twenty marks for many transgressions: his pledges were John Foljambe and Walter Cotereil.

The question of assarts was always an important one at forest pleas, particularly as licences and offences relative thereto yielded a considerable revenue. Assart rolls were presented to the justices at this eyre from the days when William, Earl Ferrers, was bailiff, at the beginning of the reign, down to the current year. The word 'assart' signifies the reduction of waste or woodland to a condition of cultivation. The punishment for a trespass of this kind was a fine at the next eyre, and a further sum per acre for the crops sown on it. This latter payment was usually 1s. per acre for every crop of winter corn and 6d. an acre for spring corn. The tenant of an assart was as a rule allowed to retain it, but he had to account for the crops at the next eyre. But there was considerable diversity of practice and custom on this question. In most forests, as in the Peak, assarts were resumed by the crown whenever the pleas were held, save in those cases where there had been a licence by the bailiff or keeper, or (in some cases) by a forester of fee. Thus in the first roll of assarts presented at this Peak eyre, on which twenty-two cases are entered, two of these assarts that had been made without warrant many years before were taken into the king's hands; and in one case, where William the smith (deceased) had made an assart of three acres without warrant in the liberty of the abbot of Basingwerk, in the days of Robert de Lexington (1228-33), the then abbot was allowed to retain it as tenant. The abbot of Basingwerk, in the time of John de Grey, was reported as having assarted 1½ acres at Whitfield without the demesne, and enclosed it so as to prevent the free roving of the deer and their fawns, and this without warrant; at the time when the justices were sitting the fence had been removed, and it was declared in the hands of the king. The usual custom in the Peak, at this time, seems to have been for the tenant

¹ A buckstall was an extended trap or toil for deer of which nets usually formed a component part: but the definition generally given—'a net for taking deer'—is not sufficient. Earth ramparts and wattled work were also used in its construction: it was a kind of cunning enclosure wherein the deer could be taken alive, as is implied in the term deerhay: a 'buckstalle vel derehay' is named in presentments of Clarendon forest, Wilts. Under later legislation the maintaining a buckstall anywhere save in a private park was forbidden under a penalty of £40.

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of an assart to pay 4*d.* an acre to the crown, and at the time of the assart being made to pay a fine to the bailiff for the warrant. In a list of assarts allowed by Warner Engaine at 4*d.* an acre, the following are the proportions and the fines in six consecutive cases:—1 acre, 2*s.* fine; 4 acres, 6*s.* fine; 1 acre, 2*s.* 8*d.* fine; 3 acres, 6*s.* fine; 2 acres, 4*s.* fine; and 3 acres, 3*s.* fine. When the tenants of Peak forest assarts died, their heirs paid double rent for the first year, and the king had also the second best beast, the first going to the Church. These Peak assarts, which were very numerous at this date, were for the most part small, averaging about 5 or 6 acres; they varied from 60 acres to $\frac{1}{2}$ acre.

Another form of forest encroachment was termed *purpresture*, a term difficult to define because it was somewhat differently applied in different forests. More usually, as was the case at this eyre, it signified the building of a house or homestead within the forest bounds. The *purprestures* presented at this eyre were the rolls of new houses built since the last pleas of 1216. One hundred and thirty-one persons had built new houses without warrant, and were therefore in mercy, and were liable to fines. In almost a like number of cases, namely, one hundred and twenty-seven, new houses had been raised within the king's demesnes with the licence of the bailiff. An average increase of eight new houses a year during the first thirty-five years of Henry III.'s reign speaks well as to the degree of prosperity then enjoyed by the forest of the Peak. The mineral and turbarry rights of this forest also came under review at this eyre. Under turbarry it is mentioned that the townships of Hucklow, Tideswell, Wormhill, Toftes, Buxton, Bowden, Aston, and Thornhill took turves without requiring licence.

Another source of profit to the bailiffs was on escaped cattle; under this head Earl Ferrers took £12.

The thirty-six jurors also made a return as to the rights of the foresters of fee. For Campana, Robert le Archer, Richard Daniel, William de Wormhill, Roger Fitz Adam, and Thomas Foljame, whose ancestors had been enfeoffed by William Peverel, were the foresters. The following rights were admitted—that when the bailiff allotted pasture in any of their bailiwicks to anyone, that then in the same place the foresters' oxen or cattle had free pasture; that their swine were quit of pannage fees; that they were entitled to wood for the repair of their houses and hedges; that they took one pig, at their choice, at the time of masting of those the king had in agistment; and that if important business took them from their bailiwick they might during absence appoint a deputy. Entry is also made of the foresters of the two other wards.

The foresters of Campana and Longdendale had the right to have a servant under them who was suffered to make oath concerning vert and venison; but this right was not possessed by the foresters of Hopedale. From the fragments of a roll concerning the marriages of the foresters of fee, it appears that on the death of a forester who left daughters and no sons, only the eldest daughter could succeed to the fee.

The accounts of Gervase de Bernake, bailiff of the Peak for 1255–6, are of special value, as they contain almost the only specific entries that have yet been found among the stores of the Public Record Office of damage done to stock by wolves. Mention is made therein of a colt ('pullum masculum') strangled by a wolf in Edale. In a list of waifs that accrued to the lord, there is reference to two sheep which were also strangled by wolves.¹

Bailiff Bernake's accounts are also interesting because of the gifts that he made to the Campana lodge or Chamber of the Forest. To the chapel he gave a sufficient vestment, an albe, an amice, a sufficient rochet, a super-altar, an altar cloth made out of an old chasuble, a silver chalice gilded inside, and an old missal and a gradual. To the hall he gave five tables, six old small shields, and a chessboard; also two tuns of wine, one full and the other having a depth of 12 inches. He also presented various utensils to the kitchen.

The Close Rolls of the beginning of the reign of Edward I. supply several particulars with regard to the forest. Roger Lestrangle is mentioned as keeper of the castle and forest in June, 1274, and again in May, 1275.² At the latter date Lestrangle was directed by the crown to permit Nicholas de Lenn to have, during good behaviour and until otherwise

¹ Ministers' Accounts, 1099. The reference, thirty years later, to the trapping of wolves, proves that they were fairly frequent in the forest at the time of the eyre in 1286. There is another thirteenth-century reference to Derbyshire forest wolves, which seems to have escaped the notice of county and other writers. The Hundred Rolls of the beginning of Edward I.'s reign record that Roger Savage was asked by what right he maintained dogs to take foxes, hares, wild cats, and wolves, and replied that he was the successor of William Walkelin, who had a royal grant to that effect.

² Close, 2 Edw. I. m. 7; 3 Edw. I. m. 15.

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ordered, the bailiwick that he had in the forest at the king's pleasure, to be held as before. In the following year there is another case of crown interference with hereditary forestership.

On 12 July, 1285, the sheriff of Derbyshire was ordered to cause a regard to be taken of the Peak forest before Michaelmas, preparatory to the holding of the forest pleas; and on 1 August he was further instructed to issue summons of an eyre for forest pleas to be held at Derby to all concerned, save Brother William de Henley, prior of the Hospitallers, and Edmund the king's brother, who were excused attendance.¹

Thirty-four years had passed by since the last eyre. The pleas of the forest were held at Derby on 30 September, 1285, before Roger Lestrangle, Peter de Leach, and John FitzNigel, justices of the forest. The full rolls of this eyre are also extant at the Public Record Office.²

From the rolls then produced the list of bailiffs from the time of the last eyre can be continued:—William de Horsenden, 1251; Ralph Bugg, 1252; Ivo de Elynton, 1253; Richard de Vernon, 1254; Gervase de Bernake, 1255; Thomas de Orreby, 1256; Richard le Ragged, 1257; William de Findern, 1258; Thomas de Furnival, 1264; Roger Lestrangle, 1274; Thomas Foljambe, 1277; Thomas de Normanville, 1277; Thomas de Furnival, 1279; Thomas le Ragged, 1280; Thomas Foljambe, 1281;³ and Robert Bovon, 1283.

The jurors of 1285 confirmed the privileges of the foresters of fee as accepted in 1251.

The Campana foresters of fee of that date were John Daniel; Thomas le Archer; Thomas, son of Thomas Foljambe, a minor in the custody of Thomas de Gretton; Nicholas Foljambe, who had been a minor in the custody of Henry de Medue, but was then of full age; and Adam Gombrey; and of these foresters Adam Gombrey and Thomas Foljambe held jointly the same bovate, which had formerly been divided between two brothers. Also Thomas Foljambe and John le Wolfhunte held another bovate in the same way, John holding his half by hereditary descent, whilst Thomas Foljambe, sen., had acquired his half by marriage with Katherine, daughter of Hugh de Mirhaud. This subdivision of serjeanties became burdensome to the district, as each forester of fee endeavoured to have a servant maintained at the expense of the tenants; but the jurors confirmed a decision of the hundred court of 1275 to the effect that there could be only four such servants or officers, according to ancient custom, for the Campana bailiwick.

The bovate of land held by Wolfhunte and Foljambe was a serjeanty assigned for taking of wolves in the forest. On the jurors being asked what were the duties pertaining to that service, the following was the highly interesting reply:—'Each year, in March and September, they ought to go through the midst of the forest to set traps to take the wolves in the places where they had been found by the hounds; and if the scent was not good because of the upturned earth, then they should go at other times in the summer (as on St. Barnabas' day, 11 June), when the wolves had whelps (catulos), to take and destroy them, but at no other times; and they might take with them a sworn servant to carry the traps (ingenia); they were to carry a bill-hook and spear, and hunting-knife at their belt, but neither bows nor arrows; and they were to have with them an unawed mastiff trained to the work. All this they were to do at their own charges, but they had no other duties to discharge in the forest.'⁴ The names of the foresters of the two other wards are also set forth.

¹ Close, 13 Edw. I. m. 5d.

² Duchy of Lanc. For. Proc. $\frac{1}{8}$, $\frac{1}{6}$, $\frac{1}{11}$, a good abstract of part of this eyre was given by Rev. C. Kerry, in vol. xv. of *Derb. Arch. Journ.* (1893).

³ The total receipts of Thomas Foljambe for this year as bailiff or steward of the High Peak and constable of the castle amounted to £260. Duchy of Lanc. Mins. Accts. $\frac{1089}{119}$.

⁴ There are two slightly different versions of this interesting account of the trapping of wolves to be found on Nos. 3 and 11 of Forest Proceedings, Duchy of Lanc. bundle i. Nos. 3, 5, and 11 of this bundle all relate to the pleas of 1251, the two last being transcripts, apparently by the pleas clerk, from the rolls supplied by the different officials. In $\frac{1}{11}$ the expression is 'ad ponendam peditas ad lupos capiendos,' but in $\frac{1}{8}$ 'peyas' takes the place of 'peditas.' It has been thought that *peyas* means pitch, and that the wolves were to be caught on the same principle as fowling with bird-lime. But wolves, with their keen smell, could not be thus taken, and 'peyas' is probably only a wrong rendering of 'peditas' or gins. The sentence is not grammatical in either roll, and the meaning of the 'terram fossam' interfering with the scent at the more usual time for this wolf hunting can scarcely refer to new ploughed or dug land, of which there was scarcely any in the forest; but the more probable meaning is that the wolves themselves might detect the soil disturbed for setting the traps. The abundance of wolves throughout England in pre-Norman days is borne witness to by the Saxon name for January, namely, the Wolf-month. There was probably no part of England where the wolves had surer or more prolonged retreats than amid the wilds of the Peak forest and its borders. The last places in this country where

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Although a considerable proportion of the offenders were dead before the eyre was held, the rolls of venison and vert trespassers show no fewer than 517 separate charges extending over the thirty-four years since the last pleas.

The gravest charge at this eyre, as at the last, was against an earl of Derby. Robert Earl Ferrers was presented for having in 1264, with a great company of knights and others, hunted in the Campana forest on 7 July and taken forty head of deer and drove another forty out of the forest; and on 1 August took fifty and drove away about seventy; and again on 29 September took forty and drove away a like number. This hunting was planned on a wholesale scale, for thirty-eight are named in the presentment, and there were many others, as well as the earl himself, who were dead before the eyre was held, and others not summoned as they were mere servants of the earl. Eight out of the thirty-eight were knights, and one, Master Nicholas de Marnham, rector of Doddington, Lincoln, was in holy orders. Of those in the earl's train during these three forest affrays hardly any bore Derbyshire names, but came from the counties of Warwick, Leicestershire, Lancashire, York, Cambridge, etc. It has been strangely enough remarked by the only writer who has hitherto cited these presentments (Mr. Yeatman) that 'these tremendous charges,' made long after the earl was dead, 'are utterly incomprehensible,' adding that it seems impossible to suppose that the earl had not full license from the crown to indulge in hunting in the royal forest! But this writer had clearly forgotten the date of these forest invasions of the young and impetuous Earl Ferrers. It was in 1264, in the very thick of the baronial civil war under Simon de Montfort, of whose cause Robert Ferrers was a hot partisan. On 12 May was fought the battle of Lewes, when the king's forces under Prince Edward (Edward I.) were defeated by those of the barons. For two or three years from that date, as an old chronicler has it, 'there was grievous perturbation in the centre of the realm,' in which Derbyshire pre-eminently shared. There can be no doubt whatever that the three incursions made into the Peak forest in July, August, and September, following the battle of Lewes, were undertaken by Robert Ferrers and his allies (issuing from his great manor house of Hartington) much more to show contempt for the king's forest and preserves and to get booty, than for any purposes of sport. These presentments, if they did nothing else, were a strong protest against the lawlessness of such action. In April of this year Henry III. had come into Derbyshire and lodged for a time at the castle of the Peak after the subjection of Nottingham, and it was from here that he proceeded into Kent and Sussex.

The king's sojourn here before the battle of Lewes is expressly named in another presentment against Thomas de Furnival, the great lord of Sheffield. Thomas, who was that year bailiff of the Peak, entertained the king at the castle and tarried there until Whitsuntide. On this occasion, after the king had left, the bailiff entered the forest and killed twelve beasts. On various subsequent occasions, both in the reign of Henry III. and Edward I., venison was killed in this forest and taken to Thomas de Furnival's castle at Sheffield. Thomas appeared before the justices and was convicted and imprisoned, but was subsequently released at the king's pleasure for a fine of 200 marks.

they tarried were the Peak, the Lancashire forests of Blackburnshire and Bowland, and the wolds of Yorkshire. It has been confidently asserted (Blaine, *Encyclopædia of Rural Sports* [1858], p. 105) that entries of payment for the destruction of wolves appear in the account books of certain parishes of the East Riding, presumably of the sixteenth or seventeenth century date, but this on examination proves to be an error. They were abundant in Dean forest in the time of Edward I., and tenures of land in the forests of Rockingham and Shirewood on the service of wolf-hunting were renewed in the fifteenth century. The best authorities consider that wolves did not die out in England until the time of Henry VII., 1485-1509. Harting, *Extinct Brit. Animals*, 115, 205; Lydekker, *Brit. Mammalia*, 95-8; Strutt, *Sports and Pastimes* (1903 ed.), 12, 13. Place and field names afford remarkably abundant evidence of the considerable presence of wolves in North Derbyshire. Woolow (formerly spelt Wolfflow), Wolfhope, and Wolfscote, are well known examples. Wolfscote Dale, though not often used, is still the map-name for the upper stretch of Dovedale, and Wolfscote Grange, and Wolfscote Hill are close to the forest border. On the opposite side of the Dove, in Staffordshire, is the ridge termed Wolfedge. The village boys of Hartington and Berisford Dale used to play at wolves and wolf-hunting in the 'forties' of last century, apparently a traditionary game as stated by the late Mr. Beresford Hope. Five cases of wolf in the field names of enclosures within the bounds of the old forest have been found, whilst Wolfpit occurs as a boundary of Priestcliffe common, and Wolfstone of Chinley common in enclosure commissions, *temp.* Charles I. Among the evidences at St. Mary's College, Spink Hill, is a charter of Robert Ferrers, earl of Derby (who died in 1139), granting lands at Heage, which he held from the king on the service of driving the wolves out of his lordship of Belper, within Duffield Chase, which afterwards became a royal forest.

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The offences both of vert and venison trespass and of agistment, proved against the majority of the hereditary foresters of fee, and against so many of those of the highest position in the district and county, show that there was very little moral stigma attached at that time to forest transgressions in the Peak. In no other forest district does there seem to have been quite so much laxity. This exceptionally bad feature of the Peak forest probably arose from the long-continued state of turmoil of so much of the period between the two eyres of 1250 and 1286 throughout this district, which brought about great laxity of administration. After these foresters had been duly convicted and fined for many transgressions, their respective bailiwicks, because of their poverty, were not forfeited, but taken into the king's hands to be replevied at his will when the required fine had been paid. The justices were authorized to reinstate them in their offices during the king's pleasure, whilst the fines were being paid, if they saw just cause, and in several cases the penalties were reduced.

As examples of instances of convictions of men of considerable position the following may be mentioned:—Peter de Gresley, who had to pay £20 for the single offence of killing a doe in 1268; John, lord of Queenbury, Yorks, £20; and John, lord of Shipley, 40s. Other offenders were Sir Stephen le Waleys, William Bagshawe, and Thomas, Henry, and William Foljambe.

A few of the secular clergy were among the delinquents, including the rectors of Manchester, Denbigh (Wales), Tankersley (Yorks), the vicar of Sheffield, and Augustine the chaplain of Penniston, but mostly for the venial offence of receiving venison. William de Bradshawe, a parson, charged with killing a doe at Kinder in 1280, appealed to the spiritual court at York. Peter, the prior of Ecclesfield, is the only religious charged with a venison offence throughout all these years; he was bailed by the abbot of Welbeck and others; his offence was merely that of harbouring a poacher.

There were of course various venison offences committed by men in humbler positions, but these seem to have been quite the exception. Michael, son of Adam de Wormhill, was presented for having killed fawns (of red-deer) in the forest, and sold their skins in the open market. The justices at this eyre were merciful, and had regard to poverty in other besides the foresters of fee. Thus Richard de Baslow and Hebbe the fisherman were in the company of Richard de Vernon when he was bailiff at the taking of venison for the king, and appropriated five head of game to themselves. Baslow was fined 20s., but Hebbe, who admitted the offence, was afterwards pardoned through the king's mercy because he was poor.

There were five cases at this eyre of presentments for killing roebuck. In one case of stag-killing, it is mentioned that the offender also took two otters in the waters of the Derwent.

The vert charges of this eyre, particularly those that deal with the wholesale damage of the king's woods, are of special interest as enabling us to see that the woodlands were then fairly numerous, although by far the largest portion of the forest area was always clear of every kind of timber.

The inhabitants of Bowden and its hamlets, since the last eyre, had done damage to the woods of oak and whitethorn (horewhyt) to the value of 30s., and a hundred oaks had been destroyed. The wood of Hope, which was common to the inhabitants of Hope, had only suffered to the extent of a mark; it was ordered that they henceforth take nothing save their estovers, and that only on view and with permission of the foresters. The king's underwood ('repleta') of Monkdale and Cowdale had suffered to the value of 10s. at the hands of the inhabitants of Tideswell and Wormhill. The inhabitants of Bradwell had damaged the wood of Pyndale to the extent of 5s.; those of Thornhill and Aston their woods to the extent of 6s. 8d.; and those of Fairfield and Buxton the wood of Boseworth to a like extent.

The king's wood of Longendale had been injured by successive abbots of Basingwerk, since the last eyre, to the amount of 50s. In that wood the abbot had a timber house or shed 100 feet long and 15 feet wide, built by his predecessors. The abbot, who attended the pleas personally, argued that he had a right to hold this shed, for the pasturage and herbage of the wood were his, and the wood was also outside the regard of the forest from the days of William Peverel. Thereupon an inquest was held as to the bounds of the forest and of the liberty of the abbey of Basingwerk. The limits were set forth, and the jury declared that the wood called Longedon, 10 leagues ('leucas'¹) long and 1 broad, which the abbot claimed was part of the royal demesne, and had been so held by the abbey since it was enfeoffed by

¹ The 'leuca' seems to have been about a mile and a half.

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Henry II., and so held through his reign and those of Richard, John, and Henry III. The wood was well furnished with very beautiful oaks and underwood.¹

Full lists of assarts and purprestures that had occurred since 1251, under the respective bailiffs, were also presented at the 1286 pleas.

As to horses, it was presented that the Queen Consort had a stud of 115 mares and their foals in Campana to the great injury of the forest, but that several others had horses and mares in Campana under cover of their belonging to the queen.

The accounts of Gilbert de Yoxhall, bailiff of the Peak, for 1314-15 give full particulars, supplied by William, son of Matilda and William del Grene, the herdsmen (*instauratores de Pecco*). As to the farmstock, etc., £5 14s. was realised by the sale of 3 oxen, a bull and 6 cows; £16 1s. 5d. for 41 wethers, 58 sheep with their fleeces, and 180 shorn wethers; 46s. 6d. for milk of 17 cows and of 4 cows with calves; 56s. 5d. for the skins and horns of 2 oxen, 9 cows, 9 heifers, and 18 steers that died of the murrain; £11 os. 1d. for 470 skins of sheep with fleeces, 93 sheepskins, and 1,077 lambskins, together with the flesh of certain sheep (*bidentes*) that died in the summer; 12s. for 18 stone of locket wool; £6 17s. 4d. for the milk of 424 sheep; and 49s. for 34 quarters of oats.

Among the expenses were 16d. in food and wages for a shepherd who had charge of the rams; 27s. 10d. in food and wages for eight servants (*pagetorum*) at lambing time for 13 weeks; 52s. 8½d. for rebuilding a sheepfold at Harlegh and surrounding it with a stone wall; and 37s. 6d. for repairing other sheepfolds. There were further expenses relative to sheep-shearing, and the collecting of wool (16d. being paid for the gathering of locks of wool out of the water), castrating, hemp for wicks for the candles required at lambing time, and other items.

There are various references to the milking of ewes in the Peak accounts. It is often forgotten how almost universal throughout England—but more especially in Essex and the eastern counties—was the custom of cheese-making from sheep's milk from the time of Domesday to the days of Elizabeth.² It lingered to a far later date in some districts. The milk of ten ewes was considered equivalent to that of one cow. The bailiff of the Peak was allowed within the forest limits to keep a limited number of sheep in certain defined places, and one or two herds of cattle kept as a rule within enclosures, and only occasionally pastured in the open. In later days, as will be presently seen, when the pasturage was farmed out, it became a great temptation to the farmers to increase their stocks to the serious detriment of the deer. Temporary booths or sheds were erected on the great pasture grounds of the forest for the occasional use of the herdsmen of the *vaccaries*. Particularly was this the case about Edale. This is the explanation of the term 'Booth' not infrequently found on the Ordinance Survey maps. Near Edale may be noticed Booth, Barber's Booth, and Upper Booth; above Hollinsclough is another Booth; and elsewhere occur Grindsbrook Booth, Otterbrook Booth, and Netherbrook Booth. Contrariwise, Oxhey and Cowhey on Ronsley Moor, Cowheys near Ludworth, and Oxhey near Eyam, speak of definite enclosures for cattle.

A mandate of the crown in the next reign shows that the appointment of *verderers* was then proceeding in the ordinary way. The sheriff of Derbyshire was instructed in October, 1331, to cause *verderers* to be elected in the place of William de Grattan and Robert le Ragged, who were both deceased.³

In the registers of John duke of Lancaster are to be found entries of appointments in the forest, beginning with the first year in which the Peak became annexed to the Duchy.⁴

The Ministers Accounts of the Duchy of Lancaster, from the reign of Richard II. onwards, supply various interesting particulars as to receipts and expenditure in administering the affairs of the forest and bailiwick of the High Peak. The accounts for 1391-2, when Thomas de Wednesley was receiver and bailiff, supply the following as the chief receipts: £132 5s. 10¾d. in rents from the towns of Litton and Wardlow, and from the wastes of Bradwell, Ollerset, Chapel-en-le-Frith, etc.; £6 10s. 8d. for winter herbage at Edale, Castleton, Thornhill, Hope, etc.; £64 17s. 4d. for summer herbage at Fairfield, Wormhill, Maynstonfield, Tideswell, Wheston, Edale, Coombs, etc.; £10 13s. from the mills of Castleton, Maynstonfield, Tunstead, Hayfield, Chisworth, and Beard, with their fisheries;

¹ 'Et boscus ille vestitus fuit pulcherrimo querceto et husseto.'

² *V. C. H. Essex*, i. 368-373.

³ Close, 5 Edw. III. pt. i. m. 5.

⁴ Duchy of Lanc. Misc. Bks. Nos. 13 and 14. Lack of space forbids citations.

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£30 13s. 4d. for lead ore; £6 13s. 4d. for passage and stallage and toll for cows at Chapel-en-le-Frith; 25s. for pannage of pigs; and 37s. 6d. for agistment.¹

The extant court documents of this period are irregular in occurrence, but it would seem from one or two at the Public Record Office, and others among the Belvoir MSS., that two chief forest courts of general inquiry were held yearly in addition to the smaller and more frequent swainmotes. At such courts there were presentments of every kind of forest offence, but there was no power of final adjudication, such being reserved for the eyres or forest pleas of justices.

A court ('turnus') was held at Tideswell on 1 August, 1398, under Sir John Cokayne as chief steward, when the jury made presentments as to lands of the abbeys of Basingwerk and Lilleshall and the priory of Lenton. John de Sale, boothman (herdsman) of Edale, was presented for receiving 2 marks for the sale of wood. Other charges were the inclosing of a piece of waste at Whitehall Bridge, and the making a weir at Rydale. The foresters also presented several cases of venison trespass.²

The main items of the accounts for 1404-5 closely approximate to the previous ones just cited, but there is a fresh sub-heading, namely 'new herbage,' for which £30 was received. This must refer to some extensive new clearing or assart; it was at Stokehill, in the Hopedale ward of the forest, and is described as formerly pertaining to Welbeck abbey, but then to the nuns of Derby. This year the perquisites or fines from the various courts amounted to £56 11s. 2d.

The expenses and salaries of this year amounted to £319 5s. 10½d., which left a balance by £66 12s. 11¾d. A heavy item in the expenses was the building of a new mill at Maynstonfield, £12 4s. 1d. There were also repairs of the mills at Hayfield and Castleton, whilst a pair of millstones for Beard cost 10s. A small item of some interest is 2d. for a key to the door of the toll-booth at Chapel-en-le-Frith.

Sir Philip Leche appears as bailiff and receiver in the accounts of 1416-17.³ He had just succeeded his father, Sir Roger Leche, who had held the like offices for six years. The chief items of receipt are much the same as in the previously cited statements: the 'new herbage' again appears at £30. The court fees came to £40 12s. 2d. Sir Philip, in addition to being bailiff and receiver of the High Peak, is described as constable of the castle and Master Forester, for which he received £18 5s. a year.

The accounts for 1435-6 include rents for lands called 'Wynlandes' (spelt 'Wynnelands' and 'Wenlandes' in other accounts).⁴ From this and subsequent statements it appears that the payments or rents for these 'Wynlands' came from places such as Monyash, Chelmorton, Overhaddon, Bakewell, Ashover, etc., which were on the verge of the forest, and sometimes in other hundreds (Wirksworth and Scarsdale) outside the limits of the High Peak. The word naturally suggests, to forest students, the Venlands (possibly fen lands) of Dartmoor, which were the parts adjacent to the moor proper. The Venland parishes paid a composition to the Duchy of Cornwall to cover the straying of their cattle and stock over the bounds into Dartmoor Forest. In like manner these Wynland or Venland districts round the Peak Forest appear to have at this time paid some due or assigned some rents for a like reason to the Duchy of Lancaster. In 1439-40 Sir Richard Vernon (who had been appointed bailiff of the High Peak and Master Forester in 1422) enters on the back of his accounts proper, his receipts as bailiff of the land called Wynnelandes, which amounted that year to £88 1s.⁵ At a later date these outlands were termed 'Wydelands,' 'Widlands,' and 'Widelandes,' which may be taken to mean lands wide of the forest centre.

In 1440-41, 300 shingles were provided at a cost of 16s. 6d. and shingle nails at 18d. for re-roofing the 'Camera in campana,' or Chamber in the Forest. In the following year the large sum of £7 0s. 11d. was spent on repairing with specially cut piles the great pond (stagnum) of the Campana,⁶ which still remains.

A single appointment was made by Henry VII. in March, 1503, to the joint offices of bailiff, receiver, collector, and barmaster of the High Peak. The person appointed was Thomas Savage, archbishop of York; the patent gives him authority to discharge his duties by deputy in the same way as had been done by his predecessor Thurstin Allen. At the

¹ Mins. Accts. Duchy of Lanc. xxii. 373.

² Duchy of Lanc. Ct. R. 1511. In the *Feudal Hist. of Derbyshire* this and some Belvoir MSS. records, temp. Hen. IV. and Hen. VI. are erroneously cited as 'Forest Pleas.'

³ Duchy of Lanc. Misc. Bks. xxii. 375.

⁴ *Ibid.* xxii. 377.

⁵ *Ibid.* xxii. 378.

⁶ *Ibid.* xxii. 380.

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same time Sir Richard Savage was appointed constable of Peak, master forester of Peak Forest, and steward of both castle and forest, at a salary of £18 18s. 4d. a year, to be paid him by his kinsman the archbishop as receiver.¹ In the following year Thomas Babington was appointed sub-steward.²

Three years later the different offices were again reassorted and to some extent amalgamated, for Sir Henry Vernon in November, 1507, was appointed steward, bailiff, and master forester. In the following January, James Worsley was appointed 'Boweberer infra forestam de Peke' during pleasure.³

Among the Belvoir MSS. is the roll of a swainmote held at Chapel-en-le-Frith in October, 1497. The foresters made various presentments of venison trespass. In six cases the offenders were charged with killing a 'cornilu.'⁴

Two other undated complaints, *temp.* Henry VII., addressed to the chancellor of the Duchy, are also of much interest (but far too long to quote), as showing the power of the deputy-steward of the Peak and the use made of the castle as a prison.⁵

During the reign of Henry VIII. two great courts of attachment for the whole forest were held yearly at Tideswell in August and October, as well as various smaller courts of which many records are extant. At the great courts all the foresters of fee of the three wards had to be present personally or by deputy. At a great court of attachment held in October, 1515, twelve offenders were fined for lopping trees in the woods of Ashop and Edale; one of these, John Marshall, was fined the heavy sum of 6s. 8d., and another, Edward Barbour, 13s. 4d. The entries are very brief, and the aggravating circumstances concerning these two transgressions are not named.⁶

Smaller courts for the Campana ward were held at Tideswell on 30 November, 1518, and on 27 March, 1519. At the former there were no presentations; at the latter, four vert transgressors were fined for lopping in the aggregate sum of 14d.⁷

(The names of the foresters attending a great court of attachment for the whole forest, held at Tideswell in October, 1524, are given in full.) Among the foresters of Longendale was the abbot of Basingwerk; he appeared through Thomas Johnson his deputy. At this court ten persons were fined in sums varying from 6d. to 2d. as common transgressors for lopping green wood. Among the transgressors were the vicars of Hope and Castleton.⁸

Another great court of attachment was held at Tideswell on 1 August, 1525, when the large number of seventy-four vert offenders were fined in sums varying from 12d. to 2d. yielding a total of 34s. 2d.

In the midst of this reign, the evil results of letting out or leasing the herbage of the district, to be farmed by those who were not forest ministers, became apparent, so far as the interests of maintaining a deer forest were concerned. The king, in July, 1526, issued a commission to Sir Thomas Cokayne and three others to inquire into the overstocking of 'our Forest of the Champion in the High Peak' more than was ever wont with numbers of 'capilles bestes and shepe' by Henry Parker, the farmer of the herbage, and his deputies, insomuch that there was no grass left in the forest 'for our game of dere,' and that thereby many of the deer are likely to perish in the coming winter through lack of meat. The commissioners were to inquire what number of cattle and sheep the forest could maintain, and whether Parker had more than previous farmers; also as to the number of the deer and whether they had decreased under Parker. The commissioners met at the chamber within the forest

¹ Duchy of Lanc. Misc. Bks. xxxii. f. 12, 13.

² *Ibid.* f. 20, Thomas Savage, consecrated bishop of Rochester, 1493, bishop of London, 1494, and archbishop of York, 1503, was the second of the nine sons of Sir John Savage of Stainsby. His mother was a Leake of Sutton Scarsdale, in which church there used to be a memorial window in his honour. After all, his appointment to these Peak Forest offices was not incongruous with his life, for it is said of this archbishop that his chief delight was 'in the sound of the huntsman's horn and the baying of his hounds.'

³ Duchy of Lanc. Misc. Bks., xxxii. f. 106; also Misc. Bks. xxxix. 99.

⁴ See Yeatman's *Feud. Hist.* iii. 384-5, What is a 'cornilu?' This word, though the assistance of some of our ablest philologists has been asked and courteously given, remains uncertain in its meaning. The probabilities on the whole favour the idea that it was a local name for some kind of horned deer. Possibly it may have been the roebuck. Compare *leucoryx*, the name for a white antelope.

⁵ Duchy Depos. I. H. 10 and 10d.

⁷ *Ibid.* 41/3.

⁶ Duchy of Lanc. Mins. Accts. 41/3.

⁸ *Ibid.* 41/7.

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on 15 September and heard the following witnesses: Hugh Fretham, thirty, deposed that there were five herds of cattle within the forest, whereas aforetime there were but two; that the five herds numbered 903 beasts last St. Thomas's Day; and that at the same time there were 4,000 sheep and 16 score 'capilles.' Roger Wryght, deputy to George Barlowe, one of the foresters of fee, said that there used to be but two herds, and now five, and in all other respects confirmed the previous witness. William Bagshawe, thirty-four, Thomas Bewell, forty-six, Thomas Bagshawe, twenty-six, also confirmed the statements of the first witness.

The commissioners further reported that they walked through the forest, and saw that same day eighteen score of red deer including calves; that many of the deer were in very poor condition and scarcely likely to live over the coming winter; that the grass was much trampled and poor, and that there was no competent sustenance for them; that it would be well if sheep were kept out of the champagne of the forest as they used to be (for so they were assured by many persons); and that such action, if enjoined on the farmer and those under him, would be of the greatest service to the deer.¹

The attempts made by the chief forest ministers to keep down the sheep in the interests of the deer brought them into various conflicts with the tenants, the bolder of whom ventured to appeal to the chancellor of the Duchy.

In 1529 Allen Sutton of Overhaddon lodged a complaint, as one of the duchy tenants, that on 22 June, about midnight, one Richard Knolls and William Pycroft, with other evilly-disposed persons, servants of Richard Savage, steward of Peak Castle, came to a little croft adjoining his house, and drove away 70 of his sheep and also three of his neighbours, and kept them to 'this day' within the castle; and that he could get no redress from the steward, who maintained these sheep and declined to restore them. To this bill William Pycroft, bailiff of the High Peak, replied that the matter contained therein was 'but feigned and only intended to put him to vexation and trouble'; and that if it were true, instead of being false, Sutton has his remedy at the common law of the land. To this reply Sutton rejoined that his bill of complaint was good and true in every point, and again prayed for restitution of his goods.²

Henry VIII., on 4th March 1531, commissioned Sir Ralph Longford, John Fitzherbert, Thomas Babington, John Agard, and Ralph Agard to inquire into divers complaints made against Thomas Brown, William Pycroft, Robert Folowe, and Allen Sutton for very heinous and seditious matters. Against Robert Folowe it was alleged that he was outlawed for murder, as maintained by the archbishop of York and others, but yet dwelt in the High Peak; that felons and murderers were taken by Folowe and set in the castle of the Peak and then for a bribe let go again, of which sixteen examples were given; that in two of these cases he received as much as 60 sheep apiece from two prisoners; and that he found treasure trove to the value of 100 marks and appropriated it. Robert Folowe in reply to this bill filed an answer to the effect that he could make no reply to the charge of outlawry, for it was not stated whom he had murdered, nor at what time or place; and that he denied *seriatim* every one of the charges of releasing prisoners from Peak Castle for bribes, appealing to God and his country.

In his answer to the bill of articles against him William Pycroft denies felling the king's woods in Edale, Ashop, or any other place, or lopping the same for his cattle or fire, or killing the king's deer in the forest of the High Peak. He further stated that he had for some time held the office of bow bearer of the forest, and through the due discharge of his office had incurred the malice of certain persons, and he explicitly denied that he had ever set under him any who had destroyed the king's woods, or hurt the king's deer.

Robert Folowe was at this time bailiff of the hundred of the High Peak and acted as deputy to Richard Savage the steward of Peak Castle under Sir George Savage, the custodian. Another charge against Folowe was that he had 'withdrawyn and taken out of the Castell' and appropriated to his own use much furniture, such as tables, forms, bedsteads, lead and iron vessels, and even 'iiij wyndoose.' Some of the evidence taken on behalf of Pycroft before the commission is extant, but the finding of the commissioners is lacking.³

On 8 December 1547, Robert Palmer was appointed bailiff and receiver of the Peak by Edward VI.; and in 1554 Robert Eyre succeeded to those appointments on the nomina-

¹ Duchy of Lanc. Depos. vol. xviii. R. I. 'Capille,' 'capulle,' or 'capul' is an old English term for a horse, chiefly north country. It is used in *Piers Ploughman* and the *Canterbury Tales*.

² Duchy of Lanc. Depos. vol. xxiv. S. 3.

³ Duchy of Lanc. Depos., vol. xxiii. R. 5.

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tion of Philip and Mary. In February 1562, Elizabeth appointed John Haward to act as Robert Eyre's deputy.¹

A great court of attachment and swainmote for the High Peak was held at Tideswell on 30 October 1559. Hugh Needham, Edward Eyre, and George Woodruff, were the foresters who appeared in person; the rest all sent deputies. Twenty-four offenders were fined for lopping trees and carrying off undergrowth in Ashop wood: the first two names were Robert and Laurence Pursglove.² At another like court held at the same place on 2 May 1567, twenty-one persons were fined for similar offences.³

The disputes as to the respective rights of deer and sheep grew more intensified during the reign of Elizabeth. In 1561 Stephen Bagott of Hilton, Staffordshire, gentleman, occupier of the 'Champyon of the Quenes majesties forest of the Peak,' by lease under Edward Lord Hastings of Loughborough, the queen's farmer, complained to the chancellor (Sir Ambrose Cave) that George Blackwell, Thomas Bagshaw, and other servants of George, earl of Shrewsbury, claimed as foresters to have rights of herbage, pasture, turbary, and feeding for deer over the champyon which was a part of the forest 'a very barren country of wood or tynsell,'⁴ contrary to all ancient usage. Blackwell and the other foresters, with their servants to the number of nineteen persons, were definitely charged with having on Monday in Easter week, 4 and 5 Philip and Mary, violently and by force of arms taken 400 wethers and 400 ewes, some with lambs feeding on the champyon, and impounded them within the castle of the Peak and kept them there till the following Friday without either meat or water, by reason of which impounding divers of the wethers, ewes, and lambs died, causing damage to Bagott of £20 or more.

A further petition of the same Stephen Bagott, complained that in spite of the orders of the court the foresters continued to molest the horses, mares, colts, and sheep feeding on the champyon and to impound them in Peak Castle, especially last Easter, with the result of the loss of 500 sheep in addition to the payment of heavy impounding fees.

The defendants filed a reply to the effect that they were the servants of the earl of Shrewsbury, justice in Eyre, and high steward of the honour of Tutbury, of which the champagne of Peak Forest was a parcel: that this champagne was 'the principall parte of the seid forest wherein the quenes majesties deer hath their onlye feedinge and sustenance': that the earl riding through the forest on the last 4 of March, perceived a great number of sheep depasturing on the champagne, 'wherebye the feedinge for the seid dere is utterlye consumed, and thereby also the seid deare forced to flee out of the seid forest for their relyfe whereas they be killed and destroyed,' commanded Robert Eyre to drive these sheep to the castle of the Peak; that this order was carried out without killing, destroying, or hurting any of the sheep: that the sheep were only impounded for half an hour, by which time Bagott's shepherd and the other owners claimed the same, paying, according to ancient custom a penny for every score.⁵

Humphrey Barley, William Needham, Thomas Bagshawe, and William Bagshawe, yeomen and foresters of fee, who had 'charge, custody, and looking unto of all the quenes majesties games of warren and especially hir game of redd deare within the same forrest, and to answeere for the defaults and negilent keepinge of the same game of deare yf the same should be ympeyned and destroyed,' reported in 1527—'that the game of redd deare in this the forest hath been much decayed about twoe yeares last past by reason of two extreme wynters in the same yeares, and that through the extremeties of the wether, specyallye frost and snowe, having no browse to help the same dere for that ytt ys a champion and playne place wherein no wood groweth, manye of the said deare be dead and many of them be strayed into other foorests and places adjoynyng and are not herto returned nor to be recovered, so that there remayneth not of rede deere in the said forrest of all sortes eyther fallow male or rascall above the number of xxx. dere in all.' In consequence of this, the foresters sent in this statement lest they should be accused of negligence, and pray the chancellor (Sir Ralph Sadler) that a restraint may be had in hunting or slaying the game by any warrant whatsoever for six years until the red deer be replenished to their former number, which was about 360, and to signify the same restraint to the earl of Shrewsbury the queen's master of the game of Peak forest.⁶

¹ Duchy of Lanc. Misc. Books, xxiii. ff. 22, 110, 240.

² Duchy of Lanc. Mins. Accts. 42-442.

³ Ibid. 42-444.

⁴ 'Tynsell' or 'tinsel,' small dry wood, such as was collected for heating ovens.

⁵ Duchy of Lanc. Pleadings, vol. xlvi. B. 19.

⁶ Duchy of Lanc. Pleadings, vol. lxx. B. 30.

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At an inquiry held at the chamber of the Peak, in 1584, as to the driving off and killing of the deer, one witness testified that the deer had been reduced in his time from 18 score to 5 score.¹

At a great court of attachment held at Chapel en le Frith, in October 1589, twenty-one transgressors were fined for lopping the trees in sums varying from 2*d.* to 6*d.*²

It was about this time that George earl of Shrewsbury (he had been taken again into favour by the queen in his old age in 1587, and died in 1590) was permitted to purchase part of the Longdendale district of the Peak forest, which was formally disafforested for the purpose. At this date a large quaint map of the whole forest was prepared, showing great parallelograms, painted vermilion where there were pasturage rights, and outline pictures of the towns. This big map was at some unknown date cut up into sections; the three portions are preserved at the Public Record Office.³ On the Ashop and Edale section of the forest five contiguous great patches of vermilion are shown, and by them is written 'the queenes maj farmes are divided into five vacaries.' Near Glossop, it is stated on the map that the greater part of the forest there was then held by the earl of Shrewsbury. A rectangular patch more to the west of Longdendale division is inscribed: 'The herbage of Chynley, otherwise called Maidstonville, God. Bradshawe and other farmes.'

Gilbert, seventh earl of Shrewsbury, was appointed chief-justice in eyre of the forests north of the Trent, by James I. in 1603, an office that gave him an oversight of the game. The earl, writing to his uncle, Sir John Manners, from Sheffield Lodge, on 4 July, 1609, says: 'I have sent you a note to Mr. Tunstead for a stag in the Peak Forest, but I doubt if there are any fat enough so early in the year.'⁴ In June 1610, the council sent a letter to the earl, as justice in eyre beyond Trent, to prohibit the inhabitants and borderers of the forest of the Peak from destroying more fowl and heath poults.⁵

Among memoranda of business to be submitted to the council in June 1626 occurs a petition from Francis Tunsted, who held a pension of £50 per annum as bow-bearer in the High Peak and keeper of the moor game; but the pension had not been paid for the last year, and he sought the king's order for its payment and continuance.⁶

On 20 February 1639, a warrant was issued to the chancellor of the duchy to appoint fit persons to treat and compound with the freeholders, tenants, and commoners of wastes, and commons belonging to the hundred and forest of High Peak, for granting the king's right and interest of soil.⁷ Just a year later a further warrant was issued to the chancellor to compound for disafforesting all lands of the king's within the honour and forest of the Peak.⁸

A large proportion of the duchy documents of the latter half of Charles I.'s reign are missing, but from a much later document we are fortunately able to give the true account of this disafforesting process for the first time, and thus to correct a variety of contradictory and erroneous statements that have hitherto been put forth on the subject.

In 1772 an inquiry was made as to the state of the king's title to timber, mines, and coal within the disafforested forest of the High Peak. The outline history of the forest is correctly given in the report.⁹

In 1635 the landowners and inhabitants within the forest petitioned the king, complaining of the severity, trouble, and rigour of the forest laws, and praying that the deer (which were in sufficient numbers to do considerable damage to crops in the forest and its purlieu) might be destroyed, and asking to be allowed to compound by inclosing and improving the same. Thereupon the king issued a commission of inquiry under the Duchy seal, and directed that two juries should be impannelled, appointing a surveyor to assist them. The first jury viewed the whole forest and its purlieu, and presented that the king might improve and inclose one moiety in consideration of his rights, and that the other moiety should be inclosed by the tenants, commoners, and freeholders. The other jury was impannelled to consider the question of the towns within the purlieu, and they presented that the king in view of the largeness of the commons belonging to the towns of Chelmorton, Flagg, Teddington, and Priestcliffe might reasonably have for improvement and inclosure one-third, and the remaining

¹ Duchy Surveys and Commissions, No. 1285.

² Duchy Court Rolls, 42-455.

³ Duchy of Lancs. Maps and Plans, Nos. 7, 37, and 44.

⁴ *Hist. MSS. Com. Rep.* Belvoir MSS. i. 417.

⁵ S. P. Dom. Jas. I. lv.

⁶ S. P. Dom. Chas. I. cccccxiv. 46.

⁷ *Ibid.* ccccxlvi.

⁸ *Ibid.* ccccxlvi. 60.

⁹ Duchy of Lanc. Pleadings, v. 9. The particulars given of the time of Charles I. were taken from a decree made in the Duchy Court on 17 May, 1686, but which had become almost totally illegible in 1772.

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two-thirds for the commoners and freeholders. Both crown and inhabitants were well pleased with the result. The commons were measured, and surveys made that divided the lands into three sorts, Best, Middle, and Worst, and the king's share was staked, and maps showing the results were drafted. The surveys were not completed until 1640, and all the preliminaries having been adjusted the king caused all the deer to be destroyed or removed, and since that date the report expressly states that there were never any deer whatever within the High Peak forest. The extirpation of the deer was almost immediately followed by the beginning of 'the troublous times' that preceded the actual outbreak of the Civil War, and hence further proceedings came for a time to an end.

Throughout the Commonwealth, though it had lost its deer, and though the forest laws were upset, the Peak Forest remained as hitherto, and no inclosures were carried out.

It was not until 1674 that the project for disafforesting the Peak Forest and enclosing the cultivatable or good pasturing portions was completed. The commissioners appointed for the purpose were Sir John Cassy, Sir John Gell, and fifteen others, including such well-known Peak names as Bagshaw, Eyre, and Shalcross. They reported, *inter alia*, that there were 7331a. 3r. 16p. of barren and waste land.

It must have been a great assistance to their labours to find that the maps of 16 Charles I., showing the exact measurements and the three sorts of land had escaped the various destructions of the troublous times; and it is of no small interest to know that these maps, rude as compared with later surveying, but remarkably good of their kind for that date, are still to be seen at the Record Office.¹ In several of them the 'Forest Wall' is marked, which encircled the chase of Campana or Champion, and which was so constructed that it would keep cattle off the great tract specially reserved for the deer, whilst the deer themselves could leap it, to wander at their pleasure, over the rest of the forest and its purlieus. This wall can still be traced throughout most of its circuit. The whole circuit was surveyed in 1904-5 by the writer of this article. There are small rudely drawn and coloured pictures of churches and houses on most of these maps. Occasionally they are sufficient to give some notion of the building, as in the gabled three-storied late Tudor house of Ridge Hall. The upstanding boundary and other crosses are of frequent occurrence, and various remarkable stones or groups of stones are also shown, and many can still be traced.²

DUFFIELD FRITH

Duffield Frith, or forest, was the name of a considerable expanse of land a few miles to the north of the county town. Though one of the smaller of the royal forests, it had a circuit of somewhat over thirty miles even in the days of Queen Elizabeth, when it had undergone considerable reduction. This forest took its name from Duffield, which formed the centre of the great territory of the Ferrers property in the Midlands; but though two of the four wards of this forest, Duffield (afterwards called Chevin) and Belper, were wholly in the extensive parish of that name, much of Hulland ward was in Mugginton parish, and almost all of Colebrook ward was in the parish of Wirksworth.

Henry de Ferrers, one of the chief favourites of the Conqueror, held no fewer than 114 manors or lordships in Derbyshire at the time of the Domesday Survey, as well as many others on the borders of the shire. Duffield, on the Derwent, at the entrance of the valley that gave access to the lead mines of Wirksworth, made an admirable centre for the controlling government of the great Norman baron. Here, on a site formerly used both by Romans and Saxons, he erected a most massive fortress. The story of the successive occupation of Duffield Castle by several generations of the Ferrers, and of its demolition in the time of Henry VIII., in consequence of the rebellion of Robert Earl Ferrers, will be told elsewhere;³ suffice it here to say that from the time when the forfeited Ferrers estates were conferred by the crown on Edmund earl of Lancaster, Duffield and Duffield Frith became part

¹ Duchy of Lanc. Maps and Plans, No. 10. The following are the maps of 16 Charles I. or thereabouts:—13, Teddington and Priestcliffe; 14, 17, 22, and 72, Bowden Middlecale, etc.; 15, Castleton Commons; 18, Wormhill Commons; 19 and 107, Bradwell; 20, Mellor Moor and Commons; 23 and 79, Bowden Chapel; 38, Fairfield; 39, Hope; 40, Monyash; and 89, Flagg and Chelmorton. There are also three of Charles II. date, viz.:—16, Wastes and Commons of Hope; 75, Taddington; and 83, Bowden Middlecale.

² See *Athenæum*, 9 July, 1904, and 24 June, 1905.

³ The foundations of the immense keep of Duffield Castle were uncovered in 1886-7. See *Derb. Arch. Journ.* ix. 118-178, 'Duffield Castle and the Ferrers,' by Dr. Cox.

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of the honour of Tutbury, and formed a valuable section of the property of the earldom, afterwards parcel of the Duchy of Lancaster. The frith was not a true royal forest until Henry duke of Lancaster came to the throne as Henry IV. in 1399. It had, however, been technically ruled as a royal forest for more than a century before that date, for Edward I. at the beginning of his reign, granted his brother Edmund the right of having justices of the forest, whenever the king appointed them for his own forests, and also granted him and his heirs of the earldom the fines and ransoms that might accrue from the holding of the eyre. After the destruction of Duffield Castle, the castle of Tutbury became the centre of the forest jurisdiction of Duffield Frith and the prison for venison trespassers.

Such history as can be given of this forest is very meagre for the earlier period; but at a later date, when the earlier forest legislation was in many respects falling into desuetude, the records of the swainmote courts—almost invariably termed woodmote courts in this forest—as well as particulars as to its customs are unusually full and interesting. They offer considerable contrast in many respects to that which has been already given respecting Peak Forest. In one particular the game of Duffield differed absolutely from that of the north of the county. In the Peak the deer, save for a few fallow 'chance' deer or strays, and some roe-deer in its earlier days, was exclusively red; in Duffield Frith, on the other hand, the deer were exclusively fallow. In the wild Peak district the bounds of the forest were only known from encircling rivers or streams, or from boundary stones and crosses; and there was but one kind of park, namely, the great stone enclosure of Champion or Campana. Contrariwise, Duffield Forest had pales all round it, which the adjacent tenants were bound to keep in repair, and it abounded in a number of separately paled and specially preserved parks.

The Peak Forest, as has been already seen, was never in any way wooded throughout by far the larger part of its area; but Duffield was most likely wooded almost everywhere, when first it came into the hands of the Ferrers. Nevertheless, in the stonier stretches of parts of Duffield and Colebrook wards there must have been much that was always thinly covered with undergrowth; whilst a very considerable part of the area had no resemblance to what is now understood as forest by the time that it became part of the earldom of Lancaster.

The singularly full accounts of the opening years of Edward II. show that Duffield Frith not only included within its area a great number of parks which were the special homes of the deer—though the park fences, whilst excluding cattle, etc., permitted them to wander at will through other parts of the forest—but also cow pastures, small sheep walks, coal mines, and iron forges.

As to the parks, they were thus distributed in the time of Edward I., and remained so (save for the speedily extinguished Champagne Park) until the seventeenth century. Ravensdale (where was the central lodge or manor house of the whole forest) and Mansell parks in Hulland ward; Champagne, Postern, and part of Shottle park, in Colebrook ward; and Lady or Little Belper and Morley parks, in Belper ward.¹

Some scanty particulars can be gleaned from a few thirteenth century ministers' accounts and court rolls of Duffield Frith district that are among the stores of the Public Record Office. In an account of Belper ward for 1272-3 occurs the earliest known mention of the chapel adjoining the Belper manor house, which was expressly founded for the use of the foresters. John, the chaplain, who celebrated at that chapel, held 7 acres and 1 rood of demesne land in Fishyard, in lieu of rent of nine cottages built on 3 acres of land that had been previously granted to the Belper chaplain.²

The accounts of Duffield Forest, as returned to the Duchy of Lancaster receiver-general, from Michaelmas 1313 to Michaelmas 1314 are exceptionally detailed for each ward.³

¹ The wards and parks of Duffield Frith can still be readily traced by those who know the district well. 'Hulland Ward' is yet the name of a particular township, whilst Morley Park and Ravensdale Park, though long ago ceasing to be in any way parks, are well known and marked large on maps. The outlines of the small park of Postern and the large one of Shottle can be fairly readily identified both on good maps and by the contour and fences of the country. 'Palerow Lane' and 'Pale-fence Farm' show the north boundary of Shottle Park. Farmsteads that still bear the name of 'Mansell Park,' to the west of Hulland Ward, and 'Champion' (Champagne Park), about a mile to the west of Duffield village, are to be found on the Ordnance maps. Colebrook, a name almost quite forgotten in the district, is still the name of a small farmstead in the fields between Alport Stone and Alderwasley.

² Mins. Accts. Duchy of Lanc. $\frac{3}{8} \frac{6}{1} \frac{7}{2}$.

³ Mins. Accts. Duchy of Lanc. $\frac{3}{8}$. Colebrook Ward supplied maple wood for making mazers. Space cannot be found for the separate ward accounts, but each has its own special points of interest.

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Under the head of *Venatio de Duffeld frith* full particulars are given of all the venison taken in the forest and its disposal. The grand total for the year was: 1 hart, 96 bucks, and 25 does. Of these—in addition to those salted and those sent for the earl's use at Donnington, Kenilworth and Melburne—6 bucks and 4 does went as tithe to the prior of Tutbury; 2 bucks and 2 does to John de Swynnerton, 2 bucks and 4 does to Roger FitzNigel; 1 buck and 2 does to Roger de Okeovor; 1 doe to John Purchaz; 3 does to Lady Matilda de Holand; 1 buck to the lord of Crick; 1 buck to Geoffrey Dettrick; 1 buck to Edmund de Sprotton; 1 buck to Lord Henry de Percy; 1 buck to Peter de Raban; 1 buck to Henry de Bradburne; 1 buck to Roger de Mounteney; 1 buck to the prior of Norton; 1 buck to Richard le Foun; and 1 buck to Lord Peter de Lymesey, all through the letters of the earl and of Lord Robert de Holand. Also 9 does for Lord Robert de Holand through his own letter.

Under the heading *Quercus*, the master forester also made a list of the trees felled through divers orders of the earl. They are summed up as 16 oaks (*quercus*) and 6 robora.¹ The list of those to whom these trees were given distinguish the two sorts, and in some cases style it *lignum*, which may be taken to mean a beam of timber or the mere bole of the tree. Thomas de Ashburne, 2 oaks; Cecilia, relict of Adam de Beaurepeir, 1 robur; Nicholas Hubert, 2 robora; Peter de Chapman, 1 lignum; Alexander de Ripley, 1 lignum; Ralph Bertram, 1 robur; William de Bentley, 1 robur; Alexander de Ireton, 3 oaks; Alice, wife of John le Claver, 1 lignum; John Purchaz, 3 oaks; Robert le Turner, 1 lignum; Roger de Okeover, 2 ligna; John Bradburne, chaplain, 1 robur, and John Purchaz, 1 oak; through the letter of Lord Robert de Holand.

The stock of the forest is next set forth under the heading 'Instaur de Duffeld.' The account is rendered by Robert Frely and Nicholas FitzGiles, the stockmen (*instauratores*) of Duffield. The receipts, including about £14 of arrears, amounted to £61 7s. 8½d. The sale of 32 of the lord's oxen realized £23 3s. 4d., an exceptionally good price. A bull and 16 cows in calf sold for £9 13s. The skins and flesh of 4 cows, the skins of 6 cows, the skins and flesh of 4 steers, and the skins of 27 calves sold for 44s. 9d. The milk of 88 cows brought in £9 2s. 6d. There were but few sheep on the outskirts of the forest; the ewes were milked, but the sheep accounts were annexed to that of Hartington. The rest of the receipts came from mowing and carrying the hay of two tenants.

The payments included 30s. 2d. in wages for those who looked after the cattle and calves in Postern park; 36s. 4d. for mowing, and 18s. 2d. for haymaking and carrying the hay of 87 acres in the same park; and 21s. 6d. for carrying 105 loads of hay from Longley meadows, Postern park, Morley park and Bullsmoor to the cowhouses of Postern and Belper. The sum of 3s. 8d. was paid for stubbing up two acres of waste and hedging it in for the sustenance of calves and colts, and 3s. 2d. for two quarters of oats for sowing the same. The dairy at Postern had 16s. 8d. expended on its various buildings and 4s. 9d. was spent on mending the road by the Ecclesburn to permit of the carriage of timber for the work. The sum of 16s. 8½d. was spent on hedges and ditches round 'Maxenclif' and 'Mareclos' in the same park, and 4s. in repairing the fence of Bullsmoor. The expenses of Richard de Holand and three youths at Ashburne when selling stock came to 18d. and the cost of driving oxen and cows to different markets for sale cost 2s. 4d. A shilling was expended on drugs for sickly cattle, and 10d. on a crib and a hamper for calves.

The full return of the stock of Duffield Frith for that year was 38 oxen, 157 cows, 5 bulls, 33 heifers, 51 steers, and 73 cows. Of these there were sold, consumed or died in the course of the year, 30 oxen, 51 cows, 2 bulls, 4 steers and 34 calves.

The ministers' accounts of 1326-7 yield, *inter alia*, many particulars as to the repairs of the royal lodge of Ravensdale;² those of 1327-8 the repairs of the knight's lodge

¹ The precise meaning of *robur* and in what it differed from *quercus* is by no means easy to ascertain. The two terms appear side by side in almost every old forest account throughout England. There is a dissertation on this in Turner's *Pleas of the Forest* (147-8) citing many uses of the word *robur*; it is there considered that it is equivalent to pollarded trees of oak or any other kind of tree. A wider range of references, and especially those of a later date than the thirteenth century, would probably qualify much that is there stated. Probably it may usually mean an oak that has been pollarded; but is it not possible that *quercus* and *robur*, in at all events some forest rolls, may refer to the two indigenous varieties of oak—*sessiliflora* and *pedunculata*? The old foresters could not possibly have failed to notice the difference of their appearance, and particularly the decided difference of texture in their timber.

² Mins. Accts. Duchy of Lanc. 6124.

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(camera victitum) and the chapel at Belper ;¹ and those of 1377-8 exceptionally full details as to deer-browse, and park pales.²

During the same period woodmote rolls record the various penalties and attachments for venison and herb trespass.³

The registers of John duke of Lancaster covering the close of the reign of Edward III. and the beginning of that of Richard II., contain various references to Duffield Frith.⁴ We know that John of Gaunt sojourned at the great lodge or manor house in Ravensdale park during August, 1372, and August, 1374, because of his dating official papers from that residence, and he was probably there on various other occasions. In June, 1372, the duke issued instructions to John de Bradshaw, chief forester of Duffield Frith, to supply Thomas de Wombwell with two 'roers' (robora) for the repair of houses out of Shottle park. In the winter of the same year the chief forester was ordered to supply Wombwell with a doe, and Godfrey Foljambe with two does out of the forest. In August, 1372, when the duke was at Ravensdale, he pardoned Thomas de Rykstok of a venison trespass in this forest, and at the same time ordered six oaks fit for timber to be delivered to Edward Fauconer. On 14 November he instructed John de Bradshaw to deliver to his tenants two oaks for the repair of the bridge over the Derwent. On 10 February, 1373, the duke wrote to the steward and keeper of the forest desiring that care should be taken to prevent trees that had been blown down being abstracted by strangers without payment. Three months later the duke authorized John de Bradshaw to have all the small wood blown down in Postern park. In September, 1374, Robert de Swythyngton was appointed chief forester in the place of John de Bradshaw.

The chief forester received the duke's orders, on 19 May, 1381, to assign six oaks for timber to the Friars Minor of Nottingham.

There are various records of woodmotes extant in the time of Richard II. The most interesting are those of 1387, 1395, and 1402.⁵

The ministers' accounts of Duffield and Duffield Forest for 1398 contain an entry of some interest. Under the head of honey and wax (from wild bees) in Duffield ward there is no return, because, says the scribe, they pertain to the chapel of the chantry within the manor of Belper. There are several entries for this year in connexion with Postern, such as the making of a new gate to the park to be called Cowhouse gate, whilst 400 laths, 1,000 lath nails, 100 spikes, shingles, etc., were supplied for the lodge.⁶

The accounts for 1401, when John de Abruggecourt was master forester and Henry del Strete was reeve of Belper, continue the mention of a small boat that was kept at Hopping Mill, apparently for ferrying purposes.⁷ John Atte Barre was the collector for Duffield ward; his receipts therefrom were 13s. 6d. for 108 hens, 3s. for pannage, 8s. for Derwent fishery, and 12d. for Ecclesbourne fishery, £16 10s. for agistment and pannage of Postern park, 7s. 12d. from woodmote perquisites, giving a total of £18 3s.⁸

When Henry duke of Lancaster, the son of John of Gaunt, came to the throne in 1399, Duffield Forest and the rest of the Duchy merged in the crown. In September, 1405, the king (Henry IV.) ordered the chief forester to supply twelve timber oaks towards the repair of Duffield church.⁹ Henry V. almost immediately on his coming to the throne in 1413, made a complete change in the *personnel* of the chief officials of this forest. Sir Philip Leche was appointed master forester, and fresh appointments were also made to the keeperships of all the parks, as well as deputy foresters.

Among the Harley MSS. of the British Museum are two transcripts of the customary of the Honor of Tutbury, including Duffield Frith and the High Peak, with elaborate accounts of the duties and authorities of the different officers. This customary, which dates from the end of Henry V. or beginning of Henry VI., is chiefly concerned with Tutbury and Needwood Forest. The portions that specially relate to Duffield Frith or forest have

¹ Mins. Accts. Duchy of Lanc. 6125.

² *Ibid.* 6139.

³ See Court Rolls, Duchy of Lanc. $\frac{33}{280}$, $\frac{33}{310}$, etc.

⁴ Duchy of Lanc. Misc. Bks. vols. xiii. and xiv.

⁵ Duchy of Lanc. Court Rolls, $\frac{33}{323}$, $\frac{34}{328}$, $\frac{34}{330}$.

⁶ Mins. Accts. Duchy of Lanc. 368-6152.

⁷ This boat, styled variously *badell*, *batell*, and *battell*, occurs several times in the reigns of Edward III. and Richard II.

⁸ Mins. Accts. Duchy of Lanc. 368-6155.

⁹ Misc. Bks. Duchy of Lanc. vol. xv. fol. 70b.

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already been printed; space can only be found for the opening clauses relating to the duties of the Woodmaster or master forester.¹

The Woodmaster (or master forester) of Duffield Frith had a fee of 8 marks. He could make a deputy or lieutenant, but at his own charge. His duty was to oversee the king's game and woods, to serve warrants directed to them, to order the game in time of hunting, to correct forest offences, to see that there be no rejectors ('saltries,' in oldest version, or deer-leaps) or buckstalls set upon the borders, and to send to the steward if there be cause. The Woodmaster had to swear the keepers at the woodmotes, and to prevent concealments by the keepers, and to 'take hunters and men suspected of hunting that bee bloody-handed, back-bearing, or bee at the death-place, or in such like suspicion causes finding them in such forme and fashion.'

Also the Woodmaster, with the surveyor and deputy-steward, had to oversee the agistement of the king's parks, and with four of the king's tenants appraise the deer, the fallen wood, and the 'spilding' (dry boughs) wood. Also the Woodmaster, surveyor, and keepers towards the end of March were to view the deer in every office (ward) and see that the murrain deer were burnt, and indent the number with the keepers; and to see that the woods were not wasted, and 'that the sprinkes (saplings) bee saved where woodsales have byn made, and that the lodge paile and border be repaired.'

The Woodmaster was entitled by old custom to have grazing in every closed ground for a stoned horse; and a deer in summer and another in winter from every old-established park; a key of every gate to pasture ground or park; a stubb of wood or three loads of wood for fuel in every place where wood is, both in parks and wards; and 'all trees that are broken with the wind that his deputy may reach the breaking with his bow houlding it by middest,' being one load of wood and not above two nor breaking the earth. If it break earth, that is 'rootfallen,' or be above two load it is the king's, and all small wind-fallen wood is the king's tenants; but if it be half a load or a load and not above 'it is the keeper's of the ground.'

On 4 February 1424 Henry VI appointed Sir Henry Pierpoint master forester of Duffield Chase; in December 1427 Sir John Cokayne succeeded to that office, being also termed surveyor.² Humphrey, earl of Stafford, and Sir John Cokayne were appointed joint master foresters of Duffield on 13 August 1437.³

The woodmote of 14 May 1466 was held at Belper. In addition to a variety of 2d. fines for small vert offences several of the tenants in Hulland ward were fined a similar sum for not repairing the border fences according to their tenure. The parkers of Ravensdale and Mansell, as well as Postern had nothing to present. The foresters of Chevin ward (an *alias* for Duffield ward) presented that Ralph Sacheverell, lately of Snitterton, came into the ward on 6 March and without any licence cut down six oaks called 'spyres' for repair of two houses. Various other enquiries were presented at this court. John Kniveton, son of R. Kniveton of Mercaston, killed a fawn without warrant in Shottle Park; and in the same park William Cook of Bradley, John Vernon of Haddon, and John Bradburne of Heage each killed a doe, and three others a fawn. In Morley Park John Fynedun (also an *armiger*) killed a doe. Thomas Gresley, who was deputy lieutenant of Duffield Frith, presented William, son of the vicar of Wirksworth,⁴ and two others for entering the forest on several occasions with four greyhounds.

The explanation of these outbreaks on the part of the county gentlemen is not far to seek, and they were common at this period throughout the forests of England. It was in the midst of the Wars of the Roses. Advantage was taken of this period of civil commotion; those who favoured York or Lancaster, as the case might be, seem to have readily persuaded themselves that they were entitled to make a raid on the forests of the one or the other whom they chose to regard as a pseudo-king.

The records are preserved of several appointments of officials of this forest during the reign of Henry VII. In 1485 Ralph Langford had the comprehensive appointments bestowed on him of lieutenant of Duffield Frith and steward of the same and parker of all the parks;

¹ Harl. MSS. 568, 5138; they are respectively of sixteenth and seventeenth century dates, but are both taken from some Cowcher book of the Honor temp. Hen. V. or early Hen. VI. A certain amount of this has been printed in Appendix 2 of Sir Oswald Mosley's *Hist. of Tutbury*, and parts also from another version in *Derb. Arch. Journ.* xv. 95-8.

² Misc. Bks. Duchy of Lanc. vol. xvii. f. 60.

³ *Ibid.* vol. xviii. f. 59.

⁴ Thomas Eytton was at that time vicar of Wirksworth. Cox, *Churches of Derbyshire*, iv. 521.

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but about a month later Nicholas Kniveton was made parker of Ravensdale. Richard Salford was made parker of Belper, and Sir Charles Somerset, 'Captain of our guard,' parker of Postern in 1487. In 1491 Nicholas Kniveton became parker of Shottle, and in 1493 Humphrey Bradburne became parker of Mansell.¹ In 1503 Roger Vernon was appointed to the custody of Shottle Park. In 1504, on the death of John Stafford, Thomas Day, 'a valet of our chamber,' was made custodian of Morley Park.²

There are interesting full returns as to the venison of Duffield Frith killed in the different wards, both legitimately and illegitimately, for the year 1498, as presented at a woodmote held at Cowhouse. The names include families of position, such as Talbot, Willoughby, Sacheverell, Foljambe, Gresley, Vernon, Langford, Kniveton, etc.³

By the time that great sportsman Henry VIII. came to the throne, the stock of fallow deer had materially decreased throughout this forest, and the disafforesting of most of Colebrook ward, through the king granting so large a part of it to Anthony Lowe, deprived the forest deer of much of their wildest runs. Nevertheless, they must have been fairly abundant in parts as late as 1541; for the earl of Shrewsbury, the chief forester, wrote to the earl of Southampton on 6 July, hoping that the king at his coming to Nottingham would visit his poor house at Wingfield and hunt in Duffield Frith; but before the end of the month the earl was dead.⁴

In 1540 a special commission was appointed, under the direction of Sir George Gresley, to take evidence and report as to the waste of wood in this forest during the three previous years.⁵ The presentment of the jury has been set forth *in extenso* in the *Derbyshire Archaeological Journal*.⁶ The sum total of all the woods felled during the three years came to '1,032 trees and loads of wood.' The commissioners also took evidence as to the different parks and wards and 'what wodde may be solde to the king's most grasiouse proffitt.' *Shettell Parke* had a compass of seven miles, and 'only Thornes olde Rennylls and Rampckes.' *Postern Parke*, three miles compass, mostly fair oak and ash. *Maunsyl Parke*, three miles compass, all hollies and hazel. *Morley Parke*, three miles compass, much fair oak. *Belpere Parke*, a mile in compass, all birch. *Raunsdayll Parke*, three miles compass, 'olde Rennylls and Rampckes and Ollers' (alders).

There are various records extant of woodmote and special pannage courts of this forest of sixteenth-century date,⁷ and also numerous crown appointments by patent as parkers of the different parks by Henry VIII. and Edward VI.⁸

The leases of the parks of Shottle and Postern, including rights over the deer, show how steadily the old forest customs were deteriorating. At the beginning of Elizabeth's reign the question was raised whether such leases were not equivalent to disafforesting.

In 1560 a most elaborate survey was taken of the nature and extent of the timber in Duffield Frith.⁹ The large trees were entirely oak; there is a single mention of an oak and an elm. The underwood included whitethorn, blackthorn, hazel, holly, maple, crab, alder, and birch. There were 59,412 large oaks, 32,820 small oaks, and 19,736 oaks in more or less state of decay and only suitable for fuel. Those who were entitled to yearly fee trees were:—Thomas Ireton, bow-bearer of the Frith under Lord Shrewsbury, to a tree out of each of the wards of Duffield and Belper, and of the parks of Ravensdale and Maunsell; Thomas Ireton, for 'keeping the queen's axe,' trees out of Belper ward, Belper park, and Ravensdale park; John Ireton, deputy bow-bearer, a tree out of Hulland ward; Richard Holland, the ranger, trees out of Duffield ward, Belper ward, Ravensdale park, and Maunsell park; and others to keepers of particular wards.

The destruction of timber throughout Duffield forest was excessive during the whole of Elizabeth's reign. The contrast between this survey of 1560, and another that was taken in 1587 is extraordinary. There were at the later date only 2,764 large oaks, and 3,032 small oaks; they were set forth in detail with their estimated worth. The total value of the whole wood was somewhat under £2,000.¹⁰

¹ Misc. Bks. Duchy of Lanc. vol. xxi. *passim*.

³ *Stemmata Shiriana*, pp. 408–9.

⁵ Rentals and Surveys, Duchy of Lanc. $\frac{1}{4}$.

⁷ Ct. R. Duchy of Lanc. $\frac{5}{367}$, etc.

⁹ *Derb. Arch. Journ.* xxv. 188–198, where it is given *in extenso*. The original of this has got mislaid at the P. R. O., so no other reference can be given; the old reference was D. of Lanc. class xix. no. 8.

¹⁰ Misc. Bks. Duchy of Lanc. cxiv. pp. 63–5. This survey is also printed in full in the *Derb. Arch. Journ.* for 1903.

² *Ibid.* vol. xxxviii. ff. 6, 62.

⁴ L. and P. Hen. VIII.

⁶ *Derb. Arch. Journ.* Vol. xxv. (1903), ff. 184–188.

⁸ Duchy of Lanc. Misc. Bks. xxii. xxiii.

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The commissions relative to this forest during Elizabeth's reign were frequent. In 1581 Edward Stanhope, William Agard, and Simon Arden were commissioned to view and report on Duffield Frith. They called before them the woodwards and collectors of the three wards (for the Colebrook ward had now disappeared, through the appropriation to the Lowe family, and Shottle park was wholly in Duffield ward), as well as divers of the tenants and freeholders, and by their information and perambulations arrived at the following among other conclusions:—That there is a woodward and collector or forester in fee in each ward; that these wards were 'till of late years replenished with game of fallow deare and had divers other officers and ministers of chase as foresters-in-fee, Bowbearer, and such like'; that as 'the said game is utterlie destroyed,' they did not call for sight of any such grants; that the tenants of the frith and the copyholders bordering on the same have every third year reasonable hedgehote out of the woods to hedge their common corn fields, and in winter to lop hollies and other undergrowth for relief of the queen's game when there were deer and for their own cattle and sheep; that all borderers and strangers taking away any fuel wood or browse (other than what may be sold by the collectors) are amerced at the woodmote courts; that all tenants in the precincts of the frith claim and use common of sheep and cattle; that small benefit would accrue to the crown from the encoping of the woods, and that it would be prejudicial to the tenants, who are mainly poor and dependent on the relief of pasturage in the frith; that the aptest places for setting up 'any bloweng mill for the melting of lead ower' (the same intended to be a water mill) 'is in the Hulland ward, at a little brook called Hulland brook, and in Chevin or Duffield ward at Blackbrook, 'so that there may be one small overshot mill at eache of them, and will have water to furnish worke one day at thone and an other day at the other onless it be in the drowght of somer'; that near Hulland brook are 'one or two great and auncient heapes of iron slag or cinders whereby it should seem there hath ben some water worke there for melting of iron stone'; and that the same preferment for lead ore should be charged in the manors of the frith as in the wapentake of Wirksworth, namely a halfpenny for every load of ore, twelve loads commonly making a fother of lead.¹

In 1587, the inhabitants and borderers of Duffield Frith, numbering 509 copyholders, freeholders, and ancient cottagers and householders (forming a population of 1,800 with their wives and children) petitioned the queen not to carry out the project of leasing the underwood, as they had from time beyond memory been accustomed to crop and browse of these woods from Martinmas to the end of February for their cattle whenever the weather was severe, paying a price for the same at the end of the winter. If the leasing was carried out they considered they would be debarred from this, as well as from their customary wood rights, and that they would 'be utterly impoverished thereby, and constrayned to seek dwellings other where.' This petition was presented in September, 1587, and in June, 1588, Edward Stanhope was appointed by the council of the Duchy to enter into the grievances of these tenants. On 5 July he met seven representatives of the tenants at Nottingham, but after several adjournments they were able to come to no satisfactory compromise.²

In 1592 another commission was appointed to secure true measurements of the 'woodgrounds' of the frith; but after thrice meeting the commissioners the local jury declared that it was impossible to execute such a task, giving their reasons at length, which were chiefly because of the various barren and stony places with which the woodlands were interspersed.³

The woodmote courts continued to be held and were busily engaged in finding vert trespasses. At the court held at Cowhouse Lane in July, 1593, 15 offenders who had carried off greenwood in Duffield ward were fined in sums varying from 4*d.* to 6*d.*, 39 in Belper ward, and 64 in Hulland ward. The fines amounted to 35*s.*, a pannage court was held the same day, when a penny each was received for 109 pigs.⁴

On 19th December, 1598, another court, which was a court of attachment as well as a woodmote, was held at Chevin House before Anthony Bradshaw,⁵ as deputy steward; the

¹ Duchy of Lanc. Special Commissions, 305. Given in full in *Derb. Arch. Journ.*, 1903.

² *Ibid.*

³ *Ibid.* 404.

⁴ Ct. R., Duchy of Lanc. $\frac{3}{4}$ $\frac{7}{8}$.

⁵ Anthony Bradshaw, fourth son of William Bradshaw, of Bradshaw, the deputy steward of the forest, who did so much to sustain the privileges of the tenants of Duffield Frith, resided at Farley Hall. He was a man of some literary power, and wrote a long curious poem of fifty-four stanzas, early in the reign of James I., entitled 'A Friends due Commendacion of Duffield Frith.' He mentions therein the earl of Shrewsbury as high steward, and John Curzon as lieutenant. The six parks of Morley, Belper, Postern, Shottle, Ravensdale, and Mansell are all named, but they were all formed 'and yeald no deare at all,' save Mansell, and that 'verie small.' From these rhymes we learn that

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foresters who appeared were John Curzon, William Kniveton, and William Bradburne, esquires, and John Brockshaw, gentleman. John Brockshaw also appeared as guardian of the wards of Duffield and Colebrook, with John Roger, as guardian of Hlland, and William Beardsley, of Belper; the same gentlemen are also entered as agisters and collectors of their respective wards. As to the parks, Thomas Johnson was entered as parker of Mansell, William Kniveton of Ravensdale, John Curzon of Postern, Robert Spencer of Shottle, and Hawkins Varney of Morley. Henry Butler held the joint sinecure offices of bowbearer and axebearer, whilst Richard Clarke was the ranger. A large number of vert trespassers were fined, chiefly in sums of 4*d.* and 6*d.*; in various cases the offenders are described as taking horseloads, sleighloads, or 'les backburdens ligni.'¹

As matters ripened in Derbyshire against the arbitrary actions of Charles I. and his advisors, the crown claims over the district of Duffield Forest, more particularly in the old ward of Colebrook, were more resisted and became more difficult to establish. A singular agreement was come to between the duchy and one Richard Neville to the effect that he should have such land as by prosecution he could recover for the crown in Uttoxeter Ward, Needwood Forest, and in Colebrook Ward, Duffield Forest, at a rental of 12*d.* per acre. Neville succeeded in recovering much land in and around Colebrook ward for the crown as part of the old royal frith of Duffield. He was, however, not only put to heavy legal costs, but his attempts to enclose were naturally resisted, leading to many riots and disorders. In December, 1639, Neville petitioned the crown for an abatement of the covenanted rent, as he not only found much of the land barren, but he was still exposed to daily damage and interruption.²

On 20 February, 1640, Richard Nevill, who is described as gentleman of the bedchamber to the Prince, obtained a formal grant in fee farm of the common or waste called 'Milshay or Millmore, or Milshayward de Colebrookward,' parcel of Duffield Frith, and other lands recovered by his prosecutions, charged with a rent of £45 3*s.* per annum; but at the same time 550 acres of Millhay were assigned to Edward Potterell and others as trustees for the commoners and tenants of Alderwasley and Ashleyhay at a rent of 2*s.* an acre per annum.³ Probably the crown, in accordance with the usual disafforesting arrangements of this reign, took one-third of the common, the other two-thirds being reserved for the commoners.

The statements appended to a Parliamentary Survey of this forest give a clear insight into the action of the crown as to the commoners during this reign.

A survey of the 'Royaltye of the late disforrested Forest or Chase called Duffield Frith . . . late parcell of the possessions of Charles Stuart, late king of England,' was made in July, 1650, by order of Parliament.⁴ The chief rent due from several adjacent townships for liberty of commonage amounted to 56*s.* 4*d.*; the royalty, including waifs, strays, felons' goods, hawking, and hunting, 40*s.*; of cottages on encroachments, £24 13*s.* 2*d.*; and 'the mines delfes or pitts of coale now in use or hereafter to be digged . . . with liberty of ruckeing and stackeing of such coales . . . and of erecting of cottages for the habitacion of collyers with free passage for horses, carts, and carriages passing to and from the said coale delfes,' £30. The commissioners let the benefits of the royalties and of the coal for a year to John Mundy of Allestree and Thomas Newton of Duffield.

The report cites the grant of 4 September, 1634, when a third part of Belper ward, 561 acres, assigned to the king by the Duchy Council in the previous year, was transferred to Sir Edward Sydenham at a yearly rent of 21*s.* 8*d.* At the same time it was proposed to assign to the king a third part of Chevin ward, to be chosen by lot, the remaining two-thirds to be granted to the commoners at 2*s.* per acre for all they enclosed, being discharged of their old rent of 56*s.* 4*d.*; but only 31 commoners agreed to this proposal, upwards of 400 being opposed to it. Nevertheless a decree was passed for division in the Duchy chamber, and the king's commissioners took what part they liked best without any casting of lots, taking in all

'tacke courtes' were held in addition to the woodmote, 'at Lukes day and Martinmas,' and the tack dinner when each man had a hen in his pie was still maintained. This interesting local poem was printed in full in the *Reliquary* (Vol. xxiii. 69-74), where the date 1588 is wrongly given. Anthony Bradshaw, who was born in 1545 and died in 1614, was a benefactor to Duffield; he had two wives and twenty-three children; his remarkable monument is in Duffield church. See Cox, *Churches of Derbyshire*, iii. 1389, and *Derb. Arch. Journ.*, xxv. 30-31.

¹ *Ibid.* $\frac{37}{394}$. The records of other interesting woodmotes of a little later date will be found under number $\frac{37}{394}a$ and $\frac{38}{395}$.

² S. P. Dom. Chas. I. ccccxxxv. 30.

³ *Ibid.* cccclvi. 41.

⁴ Duchy of Lanc. Parl. Surveys, no. 4.

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the places 'where the Coale Delfes are now sunk.' In September, 1634, the king granted this third part of Chevin ward to Sir Edward Sydenham and it was enclosed, and 'the inhabitants were compelled by force and terror to submit thereunto.' Nor were the other two parts ever granted to the commoners in fee-farm although enclosed, nor were any admitted tenants of this enclosed ground save the small minority who had agreed to the enclosure. Thereupon in 1643, the inhabitants threw open all the enclosures of this ward, including the king's third part, and have since enjoyed it all in common. 'Had not the distracion by the late Warres prevented them, they had all joyned in a Bill of Reviewe to reverse the Decree made upon soe slender grounds and soe illegally without their consent.' The commissioners stated that they had had all this testified to them by a jury consisting of 'men of qualitee and sufficient abilityes in those partes and neighbours to the place'; that they were convinced that though a few private persons had been gainers by the inclosure, a far more considerable number had been 'damnified thereby,' and that therefore they considered the ward to be rightly common.

The affairs of most of Colebrook ward were settled, as we have seen, in 1639-40. Hul-land ward was divided at the same time as Belper ward, in 1633-4, the king's third, consisting of 490 acres, valued at 9s. 2d. a year, being granted to Sir Edward Sydenham. The successful opposition to enclosure only prevailed in the large ward of Duffield or Chevin, including Shottle park.

All that part of the old forest that was by violent means thrown open to the commoners in 1643 remained common until 1786, when 1,500 acres were enclosed by Act of 26 George III.

Whatever may have been the evils and disadvantages of the Forest Laws, they were at all events most useful in preserving woodlands and fine timber over large areas of England. As these laws decayed in the sixteenth century and gradually evaporated in the next century, their decay was accompanied by a general disappearance of timber throughout the dis-afforested districts. This was to a great extent the case, as has already been seen, in the forest areas of the High Peak and of Duffield Frith. Nevertheless on the banks of the upper stretches of the Derwent, in the townships of Hope-Woodlands and Derwent, there is a fringe of the Peak Forest that has probably never ceased to be woodland; whilst some of the noble trees of the parks of both Kedleston and Alderwasley rise from grounds on different margins of the old Duffield Frith where oaks flourished throughout the mediaeval days. Certain other parks, rich in oaks, in districts of the county outside forest law, have doubtless carried on a woodland tradition on a small scale through many a century. But, broadly speaking, the woodlands of Derbyshire—notwithstanding the occasional planting of firs and pines for a century and a quarter in the wilder parts—have for a long period continued to diminish.

Thomas Brown, of Luton, drew up a report on this county for the consideration of the Board of Agriculture, which was printed in 1794.¹ He divided Derbyshire into what he termed High Peak, Low Peak and Fertile, the third division being in the south. For the High Peak, Mr. Brown had nothing but contempt, 'stone walls, meagre inclosures, daring rocks, and a few miserable animals, "sitch as god sent" are the only objects presented to our view.'² As to timber, woods and plantations, he remarked that Fertile and Low Peak were wooded and well calculated for the production of timber. Kedleston Park is described as standing unrivalled in the county both for timber and plantations; he considered it 'a striking instance that even the best pasture land may be planted without diminution of the rental of a family estate.' The mines rendered every piece of timber, though insignificant in itself, truly valuable, so much being required for sprags or props, then locally termed *punchions*. The ingenuity of the natives also rendered the stub of the ash, hazel, willow and other shrubs of more value in Derbyshire than in other counties of the south, where they were chiefly used for fuel—'many parts of this county send tools made from these shrubs into counties where they (the stubs) are more plentiful.' Although the increase and improvement of the woods, by regular falls and planting, were in use on some estates, the report stated that on the whole, the quantity of timber and woods was on the decrease. Mr. Brown found everyone engaged in rooting up brambles, thorn and bushes, forgetful, as he most wisely pointed out, that such thickets were the natural guardians of the oak, the ash and the elm in their infant state.³

¹ *General View of the Agriculture of the County of Derby*, 4to., pp. 72.

² *Ibid.* 19.

³ *Ibid.* 42-3.

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In the 'Means of Improvement' with which the report concludes, Mr. Brown recommended the providing shelter in the High Peak by planting such parts as were inaccessible to the plough with larch, Scotch fir, and birch.¹

About twenty years later Mr. John Farey, mineral surveyor of Westminster, began to draw up a much more elaborate report for the Board of Agriculture on this county, which eventually filled three 8vo volumes of considerable size.² In the account of the minerals mention is made of the destruction of woods in the early mining period and the smelting of lead by fires on the hill-tops blown by the wind only. It is stated that the miners claimed the right of cutting wood and timber, not only for use in the mines, but also for smelting in any of the king's forests. 'There are people,' he adds, 'yet living (1811) at Matlock who have assisted in fetching timber, under this privilege, from Beechwood Forest, in Staffordshire, for the use of the mines in Matlock.'³

In Farey's second volume (1815) a good deal of space is given to arboriculture. The planting of orchards was generally neglected in the county, though he found cherry orchards at Derby, Fenny Bentley, and Hackenthorpe. Walnut trees were greatly on the decline, the good price for the wood having caused many to be cut down.⁴ He found copse woods bearing underwood as well as timber, which were cut at regular intervals, well distributed throughout the county, save in the Peak and coal-measure districts. A list is given of ninety-nine places where Mr. Farey noted 'ancient woods, principally of oak, but often with a mixture of ash, sycamore, elm, beech, poplar, alder, Spanish chestnuts,' and underwood. The large majority of these still remain. Particular mention is made of the fine large woods of Foremark, which had been under the attention of Mr. James Mathews from 1735 to 1755, and afterwards under his son. The props for coal pits took the greater part of the well-grown underwood, when felled (usually after 25 years' growth), the remaining underwood and tops of the larger trees were cut into cord-wood and turned into charcoal near the spot. Mention is made of the entire cutting down in 1784, by Mr. William Cox,⁵ of Culland, of 150 acres of ancient oak wood in Shirley Park, most of the trees being stunted and ill-grown, with the result that the health and thickness of the new crop had been wonderfully improved. Beech woods without undergrowth, such as abound in chalky counties, were unknown in Derbyshire. Modern plantations, chiefly of mixtures of Scotch larch, silver and spruce firs, with oak, ash, elm, sycamore, and birch are named as occurring at sixty-eight different places. Particular mention is made of the thriving plantations of Mr. Oldknow at Mellor, Mr. Strutt at Belper, and Mr. Milnes at Ashover. It is stated that the Hon. Bernard Howard planted from 50,000 to 60,000 larch, Scotch fir, and beech annually in Glossop parish, 'the Scotch intended as nurses, and to be cut away in the thinnings.' Sir Joseph Banks, in planting a large tract of poor heathy land above Ashover, in 1807-8, first planted strips or screens of Scotch firs about 40 feet broad, at a distance of 100 yards from each other, these being crossed at larger intervals by other strips at right angles; the intention being when these had grown to some height to plant the enclosed patches with larch.⁶

Mr. Farey devotes an interesting but brief section to the various sort of trees, both indigenous and otherwise, that he found growing in different parts of the county, and as to particular practices in the way of planting and pruning.⁷ Alder wood was used at Belper for turning bobbins and spindles for the mills; but at Edale and Findern the alder poles were peeled for the use of Manchester dyers, the peel fetching from £6 to £6 10s. delivered at the dye-houses. There were few cedars in the county, but there was a remarkably fine one at 'Bradby Hall' (? Bretby), the trunk at 17 feet high measuring 13 feet 2 inches in circumference, from which sprang three prodigious upright branches; it was supposed to have been planted in the year 1682. At Overton there was a grove of birch trees, tapped from time to time for the making of birch wine. Exceptionally fine Spanish chestnuts were noted in several

¹ *General View of the Agriculture of the County of Derby*, 4to, 55.

² Vol. i. (1811) is chiefly occupied with mineral returns; vol. ii. (1815) and vol. iii. (1817) relate to agriculture and a variety of incidental circumstances.

³ Farey, i. 381.

⁴ Farey, ii. 215-216.

⁵ William Cox (the great-grandfather of the writer of this section), who died in 1827, and was for 'many years an eminent agriculturist,' traced his prosperity to his common sense in felling the whole of the gnarled oak woods on his property at Shirley Park. The prices he obtained from cabinet makers for this sound, well-grained ancient timber enabled him to purchase the manor of Culland, where he afterwards thrived and became an extensive landowner.

⁶ Farey, ii. chap. 9, *passim*.

⁷ Farey, ii. 244-315.

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localities, particularly south-east of Chatsworth House, where some of them had 50 feet of clear stem without a bough. In 1808 Mr. Philip Gell planted 4,000 of these trees on the shale south of Hopton; they grew much faster in the first year than oaks or larches of the same planting.

In the same volume is a digression on the increasing scarcity of large oak timber for naval purposes. Mr. Farey considered that one of the difficulties of obtaining timber for this nautical use was the poor price and the jobbery in connexion with the naval timber yards. A hundred of the finest oaks were felled at Kedleston whilst he was making his survey, and were appropriated to the cooper and the cabinet maker instead of to the Royal Navy on national commercial lines. The 550 feet of timber of this falling realized £151 5s. at 5s. 6d. a foot; and the bark, brushwood, and roots brought up the total to £203 17s. 6d. Among other very fine oaks then standing in Kedleston Park, there was one of such a size and so sound that it was estimated to be worth more by £50 than the total just cited obtained by the sale of a hundred of its younger fellows.²

In the opening years of the nineteenth century a society was formed at Sheffield for the purchasing and planting those parts of the then desolate Derbyshire moors which lay nearest to the Yorkshire town. Rhodes in his *Peak Scenery*, writing in 1818, speaks in warm terms of this action, expecting that the wilderness of those moorland wastes would soon wear a very different aspect, 'the oak, the ash, the elm, and the pine will each contribute to enrich and ennoble the scene.'¹

Far the greater part of the woodlands of this county now serve what Mr. Nisbet has described as 'the primary purposes of ornament and of game covers; and the production of timber and underwood is consequently on most estates subordinated to game-rearing and æsthetic considerations.'³ This is certainly true of far the greater part of the woodlands of Derbyshire, particularly in the south of the county. They are not for the most part managed on business principles, so far as timber growing for commercial purposes is concerned, and therefore they cannot be discussed from that side of arboriculture.

General statements as to the condition of Derbyshire usually make mention of wood grown for mining purposes. This is true, but only to a very limited extent in the north and part of the east of the county. Every year the proportion of home grown mine-timber

¹ Farey, ii. 315-324.

² *Peak Scenery*, 1824 ed. p. 17. 'The establishment,' he states, 'consists of a limited number of shares of fifty pounds each, no person being permitted to subscribe for more than ten. The management is confided to a committee, and they annually plant a stipulated number of acres.'

³ *V. C. H. Surrey*, ii. 571. On this subject Mr. A. Payne Gallway, the Duke of Rutland's agent at Bakewell, kindly writes as follows:—'There is no doubt, whatsoever, that more attention is now being given to that branch of estate management termed forestry than ever before by land-owners and their agents. I am now, for instance, keeping a record of each wood or plantation separately, under the heads of—when planted, cost of planting, return from thinning, etc. It is now recognized that the only way to deal with woods is, when they reach maturity, after being thinned through, two or three times, to clean, cut, and replant. It is impossible to raise satisfactory plantations by under-planting. I do not suppose that on this estate any new land has been planted during the last fifty years, excepting odd corners of waste land mostly for game-preserving purposes. When I say none has been planted, I mean comparatively little, perhaps twenty acres in all. During the last seven or eight years, some ten acres a year of old wood, which has reached maturity, has been felled, and the ground replanted with a mixed crop of hard and soft woods, the idea being that the soft woods will be thinned out in from forty to fifty years, and then the hard woods will remain as the permanent crop. There are many people who say that pure woods (trees of one sort) should be planted, not mixed. There are many arguments on both sides. I believe that there is plenty of land at present, not planted, which would pay for planting, but on this estate there is a great area of old wood in which the timber has reached maturity, and it is necessary to deal with this before considering the advisability of planting fresh ground. If the same particulars of forestry had been kept for the last fifty years as are being kept now on most estates, we should know a great deal more about the subject than we do, especially as to whether timber-growing is a profitable investment or not. Of course, the great difficulties to contend with in forestry operations in most places (and they certainly exist in this district) are:—damage by ground game, and the amenities of the estate. I mean a landowner naturally thinks twice before cutting down the timber on a hillside seen from everywhere, although the timber growing there may have long since reached maturity, and be going back in value every day, and soon be worthless. It would encourage landowners to plant more if the rates and taxes on woods were less. I think it would not be an unfair thing to let woods benefit by the Agricultural Rates Act.'

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lessens, whilst that from foreign countries greatly increases. The over-sea timber used in Derbyshire mines is certainly above 90 per cent. of the total.¹

As the parks of Derbyshire are all well wooded it may be as well to offer some very brief remarks on the twelve that are sufficiently important to be deer parks.²

Alderwasley.—Part of the Colebrook ward of Duffield Frith was within the present small park, and the remainder, as well as the stretch of beautiful woods that slope down to the Derwent, was in the purlieu or outwoods of that forest. The emparked portion is 194 acres, and was enclosed as at present in 1715. It contains a herd of about eighty fallow deer, and a small flock of Faroe Isles black sheep. In addition to exceptionally fine old oaks, there are many well-grown beeches and sycamores, whilst an undergrowth of birches, with abundance of bracken and heather, gives it much the appearance that the best parts of the Frith must have borne in days of old. In Glover's *Derbyshire* (1833)³ it is stated that the timber on this estate (Alderwasley) is considered equal to any in the kingdom, and trees of great magnitude have been felled; for many years past Mr. Hurt had regularly cut down timber producing upwards of £2,000 per annum.

Alfreton.—The park round Alfreton Hall is 160 acres, and has a herd of 50 fallow deer. There was a park at Alfreton as far back as the thirteenth century, but the present one was enclosed by Mr. Rowland Morewood in 1750, when he built the Hall. Glover says of him: 'This gentleman was remarkable for his fondness of planting oak trees; which passion being inherited by his son, he saw many thousands rise into shady groves and sturdy timber.'⁴ Some of the well-grown oaks of this park show clean stems of upwards of 40 feet to the first boughs. There are also some unusually large Spanish chestnuts, one of which has a girth of 18 feet, 3 feet from the ground.

Bretby.—This park has an acreage of 450 acres, and a herd of about 200 fallow deer. Here was an ancient park, and it was nobly timbered up to the beginning of the eighteenth century. It is well watered, beautifully undulating, and fairly wooded.

Calke.—The park of Calke Abbey covers 327 acres, and contains 400 fallow deer and 30 red deer. There are many venerable oaks in this picturesque and much diversified park, and some fine elms; among the lower timber are some well-grown maples.

Chatsworth.—This noble park of 1,200 acres, shelters about 150 fallow and 60 red deer. It was enclosed on about its present lines early in the fifteenth century. The most interesting parts are the lofty rocky elevation at the Beesley and Baslow ends, on the north side of the river, where the self-planted gnarled and twisted oaks flourish amazingly amid the crags.

Drakelow.—This park of 175 acres, with 160 fallow deer and a herd of Galloway Scots, is of ancient origin; the park, as well as the immediate surroundings of this old seat of the Gresley family, is remarkably well wooded.

Hardwick.—The fine park of 700 acres contains 200 fallow and about 20 red deer. There are a large number of ancient oak trees, but many of them are dying and have their upper boughs bare. The finest of the old oaks has a girth of 35 feet, 4 feet from the ground.

Kedleston.—The reference made by Farey to the planting of this park and to the Curzon estate has been already cited. The deer park of 520 acres shelters a herd of 300 fallow deer, and includes a heronry. It was imparked on the present lines in 1760. There are many exceptionally splendid oak trees, as well as some fine horse chestnuts. Loudon mentions one, in 1838, 'the head of which had been broken to pieces by lightning soon after the family had been drinking tea under it'; the head was 62 feet in diameter, the trunk was 16 feet in circumference, and the branches touched the ground all round.⁵

¹ The Blue Book *Trade Returns* for 1904 show that England paid nearly four and half millions of pounds in the year for 'pit-prop or pit-wood' timber, which came from Russia, Sweden, France, Norway, Portugal, Spain, and Germany; the countries are stated in the order of the quantities they supplied.

² These notes are based on E. P. Shirley's *English Deer Parks* (1867), and J. Whitaker's *Deer Parks and Paddocks* (1892); as well as on personal observation and local inquiry.

³ Vol. ii. 6.

⁴ Vol. ii. 13.

⁵ Loudon's *Arboretum*, i. 466.

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Locko.—This beautifully undulating park of 300 acres, containing a herd of 200 fallow deer, is generally well wooded. Some fine Spanish chestnuts are perhaps its chief timber characteristic.

Stanton-in-Peak.—The acreage of this park is 114; it is the successor of an older park in much the same lofty situation, but was not enclosed on its present lines until 1800. It contains a herd of 70 black fallow deer from Chartley.

Sudbury.—This park of 615 acres was enclosed on its present lines in 1614. It stands on the confines of old Needwood forest on the other side of the Dove, and is well wooded throughout. It gives shelter to fallow deer, Shetland ponies, and St. Kilda sheep.

Sutton Scarsdale.—It was imparked as it now stands in the seventeenth century. The 260 acres contain about 100 fallow deer, and some black sheep from the Faroe Isles. There are several fine old oaks, and a good avenue of elm and limes.

The total number of acres of wood and plantation in the county of Derby, according to the return of 4 June, 1895, is 25,760.¹

¹ *Agricultural Statistics, 1904, p. 34.*

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