

PROCEEDINGS

OF THE

Cambridge Antiquarian Society.

26 OCTOBER 1914—24 MAY 1915

WITH

Communications

MADE TO THE SOCIETY

MICHAELMAS TERM, 1914, AND
LENT AND EASTER TERMS 1915.

No. LXVII.

BEING THE NINETEENTH VOLUME.

(THIRTEENTH VOLUME OF THE NEW SERIES.)



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CAMBRIDGE ANTIQUARIAN SOCIETY.

RECENT PUBLICATIONS.

[A Complete Catalogue can be had on application.]

Proceedings, 1912-13. Michaelmas Term. With Communications, No. LXIV. pp. 1-70. Plates I-IV and other illustrations. 5s. net.

Coulton, G. G., M.A. Some marks and inscriptions in Mediaeval Churches (to be printed later). Hope, W. H. St John, Litt.D., The practical study of Heraldry (n. p.). Landtmann, C., Ph.D., The Religious beliefs and practices of the Kiwai-speaking Papuans (n. p.). Ogilvie, F. F., Recent discoveries at the Great Pyramids (n. p.). Palmer, W. M., M.D., The Reformation of the Cambridge Corporation, July 1662 (to be printed later). Petrie, Prof. W. M. Flinders, D.C.L., F.B.A., A Cemetery of the 1st Dynasty (n. p.). Rivers, W. H. R., M.D., F.R.S., The disappearance of Useful Arts (n. p.). Walker, Rev. F. G., M.A., Roman Pottery Kilns at Horningsea, Cambs. Report for year 1911-12.

Proceedings, 1912-13. Lent and Easter Terms. With Communications, No. LXV. pp. 71-156. Plate V and other illustrations. Price 5s. net.

Abrahams, I., M.A., The Decalogue in Art (n. p.). Bansall, W. H., M.A. (M.B. Edin.), Ely Cathedral (n. p.). Barnes, Very Rev. Monsignor, M.A., The Knights of Malta (n. p.). Benton, Rev. G. Montagu, B.A., A Damask Linen Cloth woven with Sacred Designs and dated 1631. Brindley, H. H., M.A., Mediaeval and Sixteenth Century Ships in English Churches. Bushe-Fox, J. B., Excavations on the Site of the Roman City at Wroxeter in 1912 (n. p.). Duckworth, W. L. H., M.D., Sc.D., Gibraltar in Historic and Prehistoric Times (n. p.). Fletcher, W. M., M.D., Sc.D., More Old Playing Cards found in Cambridge (to be printed later). Forster, R. H., M.A., Excavations at Corstopitum during 1912 (n. p.). Ridgeway, Prof. W. Sc.D., F.B.A., The Image that fell down from Jupiter (n. p.). Valentine-Richards, Rev. A. V., M.A., The History of the Foundress' Cup of Christ's College (n. p.).

Proceedings, 1913-14. Michaelmas, Lent and Easter Terms. With Communications, No. LXVI. pp. 1-78. Plates I-VI. Price 7s. 6d. net.

Abrahams, I., M.A., Les Neuf Preux, or the Nine Worthies (n. p.). Benton, Rev. G. Montagu, B.A., Certain Carvings in Saffron Walden Church (n. p.). Brindley, H. H., M.A., Ships in the Cambridge "Life of the Confessor." Bushe-Fox, J. P., M.A., Excavations of the Roman City at Wroxeter in 1913 (n. p.). Fletcher, W. M., M.D., Sc.D., More Old Playing Cards found in Cambridge. Gardner, Arthur, M.A., F.S.A., Sculpture of the Gothic Renaissance in Italy (n. p.). Hall, H. R., M.A., F.S.A., Discovery and Excavation of the Temple of Mentu-hotep at Dér-el-Bahri (n. p.). Horne, Rev. Dom Ethelbert, O.S.B., Ancient Scratch Dials on English Churches (n. p.). Hughes, Prof. T. McK., M.A., F.R.S., F.S.A., Flints. Karsten, Rafael, Ph.D., Social Customs of the Chaco Indians in S. America (n. p.). Lee, A. E., M.A., Wrought Iron Gates of the 17th and 18th Centuries in Cambridge and elsewhere (n. p.). Petrie, Prof. W. M. Flinders, M.A., F.R.S., F.S.A., F.B.A., The Incoming of the Dynastic Egyptians (n. p.). Prior, Prof. E. S., M.A., F.S.A., A.R.A., The Stone of Mediaeval Building (n. p.). Roth, Georges (Agrége de l'Université de Paris), Le Roi Soleil: la Vie à la Cour de Louis XIV (n. p.). Stokes, Rev. H. P., M.A., F.S.A., Cambridge outside Barnwell Gate (to be printed in the 8vo publications). Report for the year 1912-13.

n. p. means that the Communication has not been printed in full.

PROCEEDINGS

OF THE

Cambridge Antiquarian Society;

WITH

COMMUNICATIONS MADE TO THE SOCIETY

26 OCTOBER, 1914—24 MAY, 1915.

REPORT OF THE COUNCIL, 1913-14.

Thirteen new Members and two Associate Members have been elected. Twenty-nine Members and Associates have resigned or lapsed, and eight Members have been lost by death. Our Society now numbers 14 Honorary, 385 Ordinary, and 31 Associate Members, making a total of 430.

Among those removed by death was Mr Alderman Kett, who was formerly an active member of the Society. He acted several times as Auditor, and his artistic skill was often in request for the illustration of the Proceedings.

The Council regrets to have to record the resignation of the Excursion Secretaryship by Mr J. Archibald Venn, and desires to express its high appreciation of the services which he rendered in that office, his excellent arrangements and his business capacity.

As an acknowledgment of the gratitude of the Society to its late Secretary, the Rev. F. G. Walker, a sum amounting to £52. 7s. was subscribed by many members, and was forwarded to Mr Walker in December last.

Fourteen meetings have been held. The attendance at Prof. Flinders Petrie's lecture was about 375; at the other meetings the average attendance was 59.

The following communications were made:

- Abrahams, I., "Les Neuf Preux or The Nine Worthies." Nov. 17, 1913.
- Benton, Rev. G. Montagu, "Certain Carvings in Saffron Walden Church." Feb. 23, 1914.
- Brindley, H. H., "Ships in the Cambridge *Life of the Confessor*." Feb. 23, 1914.
- Bushe-Fox, J. P., "Excavations of the Roman city at Wroxeter in 1913." May 11, 1914.
- Gardner, Arthur, F.S.A., "The Sculpture of the Gothic Renaissance in Italy." Jan. 26, 1914.
- Hall, H. R., F.S.A., "The Discovery and Excavation of the Temple of Mentu-hotep at Dêr-el-Bahri." May 4, 1914.
- Horne, Rev. Dom Ethelbert, "Ancient Scratch Dials on English Churches." Feb. 16, 1914.
- Hughes, Prof. T. McKenny, F.R.S., "Flints." Oct. 27, 1913.
- Karsten, Dr Rafael, "Social Customs of the Chaco Indians in South America." Nov. 10, 1913.
- Lee, A. E., "Wrought Iron Gates of the 17th and 18th Centuries in Cambridge and elsewhere." Feb. 2, 1914.
- Petrie, Prof. W. M. Flinders, F.R.S., F.S.A., F.B.A., "The Incoming of the Dynastic Egyptians." Nov. 3, 1913.
- Prior, Prof. E. S., "The Stone of Mediaeval Building." Nov. 24, 1913.
- Roth, Georges (Agrégé de l'Université de Paris), "Le Roi Soleil : la Vie à la Cour de Louis XIV." Feb. 9, 1914.
- Stokes, Rev. H. P., LL.D., F.S.A., "Cambridge outside Barnwell Gate." May 25, 1914.

No. LXV of the Society's Proceedings and Communications, Lent and Easter Terms, 1913, has been published. The *Vetus Liber Archidiaconi Eliensis*, edited by the Rev. Dr Feltoe, is now in the press, and its publication may be expected shortly.

On Thursday afternoon the 12th of March, by kind permission of the respective authorities, a party of the Society's members visited Peterhouse, the Church of St Mary the Less, and Pembroke College. The Members assembled at Peterhouse, where the Rev. Dr Walker kindly gave an account of

the College buildings. The Rev. A. J. C. Allen kindly received the party in his church and explained its history. Special attention was given to the *scratch sundial* at the S.W. corner of the church: this had been discovered by the Rev. W. Greenwood, as a result of the interest aroused by the lecture on scratch dials recently given to the Society by the Rev. Dom Ethelbert Horne.

Afterwards the party was met at Pembroke College by the President of the Society, and was conducted over the College by him. The College plate, manuscripts, and Gray autographs were on view, and by the hospitality of the Master and Fellows the visitors were entertained to tea.

On Thursday afternoon the 4th of June, by the kind invitation of our late President, W. B. Redfern, Esq., J.P., D.L., and Mrs Redfern, a party of Members visited Milton Hall. Mr Redfern's magnificent collections of armour, weapons and objects of domestic and personal use were exhibited, including the authenticated gloves of King Charles I and Oliver Cromwell and others of the Stuart Period, keys, historic weapons, medals and other antiquities. The house has features of the R. and J. Adam period; and the grounds and gardens with their many choice trees, shrubs, bamboo clumps, &c., were open to members.

The Church of All Saints, which contains much of interest, was kindly shown and described by the Rector, the Rev. Canon G. W. Evans. The house once occupied by Cole, the antiquary, was also seen.

Mr and Mrs Redfern very kindly provided tea and refreshments on the lawn.

An Excursion was made to Balsham, Hildersham and Abington on Thursday the 16th of July, under the leadership of Dr Palmer and the President. A motor omnibus left the Senate House at 2 p.m., arriving at Balsham at 2.45. The Rector, the Rev. H. J. E. Burrell, described the fine church, with its notable brasses, good rood-loft, screen, and stalls with misericords, also Tudor tombs in the churchyard. Two scratch dials were noted on a buttress of the S. aisle. Some members visited the remains of fish ponds near the site of the former palace of the Bishops of Ely.

In driving from Balsham to Hildersham the party crossed the Wool or Worsted Street, and passed near the Furze Hills, well known for rare plants. The Rector of Hildersham, the Rev. P. R. Phillips, gave an account of the church, which contains brasses of an unusual type, belonging to the Paris family, and two wooden effigies, a rare form of monument.

At Great Abington Lodge Mrs Mortlock very kindly provided tea; and both the garden and the choice articles of furniture in the house were of great interest to the visitors. After tea the two churches were visited by invitation of the Vicar, the Rev. F. B. B. Whittington. The Saxon work in Little Abington church was specially noticed.

The weather being brilliantly clear, the views from the hills in the course of the drive were seen to great advantage.

The remains of the Roman Villa at Litlington were excavated during several weeks in the spring, under the direction of Mr Charles W. Long, A.R.I.B.A., and with the co-operation of Mr McLaren, on whose farm the remains are mostly situated; also with kind permission of Mr Percy Foster the land-owner, and of Christ's College which owns the adjoining land. Apart from the bath, which had been discovered in 1913, the buildings, though extensive, had been so thoroughly demolished that little remained but their foundations. Fragments of pottery were found, as usual on Roman sites.

The balance sheet, showing the Society's financial position at the end of 1913, is published at the end of this Report. The expenditure on the excavations will appear in next year's balance sheet.

The thanks of the Society are presented to the following gentlemen for gifts as mentioned:

Sir Herbert George Fordham, D.L., for his work "Hertfordshire Maps."

E. M. Beloe, Esq., F.S.A., for Reprint of Nicholas Murford's "Fragmenta Poetica," 1650.

Robert Scott, Esq. (successor to Mr Elliot Stock), for *The Antiquary*.

The Society of Architects, for the Society's *Journal*.

NEW MEMBERS ELECTED 1913-14.

1913. Oct. 20. Lancelot Harold Luddington, M.A.
Nov. 10. Miss Daisy Campbell.
Arthur Blyth.
Reginald J. Tollit.
Nov. 24. Alexander Gordon Wynch Murray, M.A.
1914. Jan. 26. Robert Edward Jacobs.
Hugh Scott, M.A.
Feb. 9. William Briggs, LL.D., D.C.L., B.Sc.
Mansfield Duval Forbes.
Walter Morley Fletcher, M.D., Sc.D.
Feb. 23. Noel Teulon Porter.
May 11. Miss Evelyn Annie Pratt.
Arthur Tuffield.

ASSOCIATE MEMBERS.

1913. Oct. 20. George Henry Garstin Anderson.
1914. Feb. 23. Mrs Beeban Mary Porter.

SUMMARY OF ACCOUNTS FOR THE YEAR ENDING 31ST DECEMBER 1913

CURRENT ACCOUNT.

	£	s.	d.		£	s.	d.
<i>Receipts.</i>							
1913							
To Balance brought forward from 1912.	191	16	9				
Subscriptions:							
Current	332	17	0				
Associate	17	17	0				
Arrears	5	5	0				
Advance (Current)	6	6	0				
" (Associate)	10	6	0				
Excavation	10	6	0				
	363	6	0				
Interest on £420 G.E.R. 4 per cent. Debenture Stock:							
January	7	18	2				
July	7	18	2				
Interest on £118. 4s. 10d. New Zealand 3½ per cent. Inscribed Stock:							
January	2	1	4				
July	2	1	4				
Sale of Publications:							
Deighton & Bell	3	6	0				
Pitt Press	2	10	4				
Sundry Publications	10	16	10				
	16	13	2				
<i>Payments.</i>							
1913							
By Publications:							
Proceedings Nos. LXII and LXIII	74	13	5				
Hunts Feet of Fines No. XXXVII	239	9	0				
Professor Skeat's Place Names of Suffolk No. XLVI	43	16	10				
Proceedings No. LXIV	50	15	1				
List of Members	18	10	6				
Index Vol. XVI	17	6	0				
	428	2	4				
Miscellaneous Printing.	27	1	11				
Books, Stationery, etc.	16	10	0				
Local Accessions	12	10	0				
Subscriptions and Donations:							
Earthworks	1	1	8				
Returned	2	2	0				
Archaeological Congress	1	0	0				
Clerical Assistance:							
Secretary	47	10	0				
Treasurer	2	2	0				
Mrs Bates, Barnwell Abbey	1	6	0				
Attendants and Lectures	11	6	6				
	106	16	11				
By Postages:	1	17	7				
Cheque Book	5	0	0				
Carriage and Sundries	3	10	2				
Catling and Son, hire of Store Room	10	0	0				
	15	12	9				
Balance.	59	5	4				
Less Cheques not presented:							
Dr Allen	13	2	5				
Catling & Son	5	0	0				
	18	2	5				
	41	2	11				
	£591	14	11				

SUMMARY OF ACCOUNTS FOR 1913

CURRENT ACCOUNT, DEPOSIT ACCOUNT.

To Balance brought forward from 1912	114 6 8	By Balance	127 16 7
„ One Life Member	10 10 0		
„ Interest allowed by Bank:			
June	1 9 8		
December	1 10 3		
	<u>2 19 11</u>		
	£127 16 7		£127 16 7

EXCAVATION ACCOUNT, CURRENT ACCOUNT.

To Balance brought forward from 1912	19 9	By Excavations:	
„ Subscriptions	15 18 0	Grimes Graves	2 2 0
		Refunded	10 0
			<u>12 2 0</u>
		„ Balance	14 5 9
	£16 17 9		£16 17 9

EXCAVATION ACCOUNT, DEPOSIT ACCOUNT.

To Balance brought forward from 1912	16 0 0	By Balance	16 7 6
„ Interest allowed by Bank:			
June	3 9		
December	3 9		
	<u>7 6</u>		
	£16 7 6		£16 7 6

The Capital of the Society consists of the following Investments:

£420 Great Eastern Railway 4 per cent. Debenture Stock.
 £118. 4s. 10d. New Zealand 3½ per cent. Inscribed Stock.

Audited and found to agree with the Bank Pass Books and Vouchers showing Balances as follows:

	£	s	d.	£	s	d.
On Current Account				59	5	4
Less Cheques not presented:						
Dr Allen	13	2	5			
Cathing & Son	5	0	0			
				18	2	5
				41	2	11
Current Account, Deposit Account				127	16	7
Excavation Account, Current Account				14	5	9
Excavation Account, Deposit Account				16	7	6
				£199	12	9

J. B. PEACE }
 G. BRIMLEY BOWES } Auditors.

28 January 1914.

ORDINARY MEETINGS.

Monday, 26 October, 1914.

Mr E. H. MINNS, President, in the Chair.

Professor W. M. FLINDERS PETRIE, F.R.S., F.S.A., F.B.A.,
gave a lecture, illustrated with lantern slides, on

THE TREASURE OF LAHUN.

Not printed.

Monday, 2 November, 1914.

Mr E. H. MINNS, President, in the Chair.

SAMUEL GARDNER, Esq., gave a lecture, illustrated with
lantern slides, on

MISERICORDS AND BESTIARIES.

Not printed.

Monday, 9 November, 1914.

Mr E. H. MINNS, President, in the Chair.

FRANCIS P. MARCHANT, Esq., gave a lecture, illustrated
with lantern slides, on

BOHEMIA AND ITS PEOPLE.

Not printed.

Monday, 16 November, 1914.

Mr E. H. MINNS, President, in the Chair.

F. F. OGILVIE, Esq., Hon. Sec. of the American Egypt Exploration Fund, gave a lecture, illustrated with pictures and lantern slides, on

PHILAE: A SACRIFICE TO UTILITARIANISM.

Not printed.

Monday, 23 November, 1914.

Mr E. H. MINNS, President, in the Chair.

F. ST JOHN BULLEN, Esq., M.R.C.S., read a paper, illustrated with lantern slides, on

THE CHURCHES OF LINCOLNSHIRE.

Not printed.

Monday, 30 November, 1914.

Mr E. H. MINNS, President, in the Chair.

The Report of the Council for 1913-1914, was adopted.

Prof. T. MCK. HUGHES, M.A., F.R.S., F.S.A., read a paper (printed at page 16), on

SOME RECENT EXCAVATIONS AT THE KING'S DITCH.

The objects found in excavating were exhibited.

J. R. WARDALE, M.A., read a paper (printed at page 28), on

THE MAKER OF THE IRON GATES AT CLARE COLLEGE.

Monday, 1 February, 1915.

Mr E. H. MINNS, President, in the Chair.

Miss CATHERINE E. PARSONS read a paper on

CAMBRIDGESHIRE WITCHCRAFT.

Printed at page 31.

Monday, 8 February, 1915.

Mr E. H. MINNS, President, in the Chair.

R. H. EDLESTON, M.A., F.S.A., F.R.G.S., sent a paper, read
by proxy, on

THE MONUMENTAL BRASSES OF SPAIN.

The paper was illustrated with three rubbings of brasses in
Spain.

Printed at page 50.

G. G. COULTON, M.A., read a paper, illustrated with lantern
slides, on

SOME MORE DRAWINGS AND SCRIBBLES FROM
MEDIÆVAL BUILDINGS.

Printed at p. 53.

Monday, 15 February, 1915.

Mr E. H. MINNS, President, in the Chair.

J. SINCLAIR HOLDEN, M.D., exhibited and described a
collection of

PALÆOLITHIC FIGURE-STONES FROM THE STOUR
VALLEY AT SUDBURY.

Not printed.

Prof. T. McK. HUGHES, M.A., F.R.S., F.S.A., read a paper, illustrated with specimens of pottery, on

ACOUSTIC VASES IN ANCIENT BUILDINGS.

Printed at page 63.

Monday, 1 March, 1914.

Mr E. H. MINNS, President, in the Chair.

E. J. DENT, M.A., Mus.Bac., gave a lecture on

ENGLISH MUSICAL DRAMA DURING THE
COMMONWEALTH.

The lecture was illustrated with a performance of several scenes from James Shirley's masque "Cupid and Death," with music by Matthew Locke and Christopher Gibbons. The original MS. is in the British Museum, and Mr Dent had copied it with his own hand, filling in the instrumental accompaniments in those parts where they were only indicated by a figured bass. The extracts from the play were rendered in costume, but without scenery; and the performers consisted of soloists, chorus, and orchestra of strings and piano.

Not printed.

Monday, 8 March, 1915.

Mr E. H. MINNS, President, in the Chair.

E. C. QUIGGIN, M.A., gave a lecture, illustrated with lantern views, on

THE HIGH PLACES OF IRELAND.

Not printed.

Monday, 3 May, 1915.

Mr E. H. MINNS, President, in the Chair.

M. C. BURKITT, B.A., gave a lecture, illustrated with tracings, photographs, and lantern slides, on

ROCK-ENGRAVINGS IN RUSSIA, AND THE SCANDINAVIAN
SERIES OF DRAWINGS.

Not printed.

Monday, 10 May, 1915.

Mr E. H. MINNS, President, in the Chair.

AYMER VALLANCE, M.A., F.S.A., gave a lecture, illustrated with lantern photographs, on

THE CATHEDRAL OF REIMS.

Not printed.

Monday, 17 May, 1915.

Mr E. H. MINNS, President, in the Chair.

The Rev. H. P. STOKES, LL.D., F.S.A., read papers, illustrated with lantern slides and old prints, on the following subjects:

- (1) WAYSIDE CROSSES IN CAMBRIDGE.
- (2) CAMBRIDGE BELL-MEN.

To be printed later.

SEVENTY-FIFTH ANNUAL GENERAL MEETING.

Monday, 24 May, 1915.

Mr E. H. MINNS, President, in the Chair.

The Officers of the Society were elected for the ensuing year. (See list on next page.)

Many objects of antiquarian interest were exhibited and described by several members of the Society. (Open Meeting.)

OFFICERS FOR 1915-1916,

ELECTED 24 MAY, 1915.

PRESIDENT.

HAROLD HULME BRINDLEY, M.A., St John's College.

VICE-PRESIDENT.

THOMAS MCKENNY HUGHES, M.A., F.R.S., F.S.A., Clare College,
Woodwardian Professor.

MEMBERS OF COUNCIL.

Alderman W. P. SPALDING, J.P.
ELLIS HOVELL MINNS, M.A., Pembroke College.
HUGH SCOTT, M.A., Trinity College.
MANSFIELD DUVAL FORBES, M.A., Clare College.

TREASURER.

HERBERT FLACK BIRD, 30, *Panton Street.*

SECRETARY AND EDITOR OF PUBLICATIONS.

FRANK JAMES ALLEN, M.D., St John's College. 8, *Halifax Road.*

EXCURSION SECRETARY.

MANSFIELD DUVAL FORBES, M.A., Clare College.

For complete list of officers, see next page.

LIST OF OFFICERS, 1915-1916.

PRESIDENT.

HAROLD HULME BRINDLEY, M.A., St John's College.

VICE-PRESIDENTS.

Rev. HENRY PAINE STOKES, LL.D., F.S.A., Corpus Christi College.

WILLIAM RIDGEWAY, Sc.D., F.B.A., Gonville and Caius College,
Disney Professor of Archaeology.

THOMAS MCKENNY HUGHES, M.A., F.R.S., F.S.A., Clare College,
Woodwardian Professor.

ORDINARY MEMBERS OF COUNCIL.

GEORGE GORDON COULTON, M.A., St Catharine's College.

WILLIAM MORTLOCK PALMER, M.D., *Linton, Cambs.*

WILLIAM BEALES REDFERN, D.L., J.P., *Milton Hall, Cambs.*

ARTHUR GRAY, M.A., Master of Jesus College.

JOHN VENN, Sc.D., F.R.S., F.S.A., Gonville and Caius College.

EDWARD SCHROEDER PRIOR, M.A., F.S.A., A.R.A., Gonville and
Caius College, *Stade Professor.*

ALFRED CORT HADDON, Sc.D., F.R.S., Christ's College.

WYNFRID LAURENCE HENRY DUCKWORTH, M.D., Sc.D., Jesus
College.

Alderman W. P. SPALDING, J.P.

ELLIS HOVELL MINNS, M.A., Pembroke College.

HUGH SCOTT, M.A., Trinity College.

MANSFIELD DUVAL FORBES, M.A., Clare College.

TREASURER.

HERBERT FLACK BIRD, 30, *Panton Street.*

SECRETARY AND EDITOR OF PUBLICATIONS.

FRANK JAMES ALLEN, M.D., St John's College. 8, *Halifax Road.*

AUDITORS.

JAMES BENNET PEACE, M.A., Emmanuel College.

GEORGE BRIMLEY BOWES, M.A., Emmanuel College.

EXCURSION SECRETARY.

MANSFIELD DUVAL FORBES, M.A., Clare College.

ON SOME OBJECTS FOUND IN THE KING'S DITCH UNDER
THE MASONIC HALL.

By Professor T. MCKENNY HUGHES, M.A., F.R.S., F.S.A.

(Read November 30, 1914.)

When we examine the plans of fortified towns in such a country as the Netherlands, for instance, we cannot fail to be struck by the great number of watercourses and ditches, natural and artificial, by which they are surrounded and intersected. The towns were often built on the banks of a river so as to command an important ford or bridge, sometimes in a loop of the river so as to be almost surrounded by it. Old channels and artificial cuts or lodes, facilitated the carriage of goods to the town and even up to hithes and wharves within it, and smaller ditches separated and protected properties and provided drainage. Old plans of Ghent and Sas van Ghent, of Brisac and Fort Louis on the Rhine, of Strasburg, Arras, and Valenciennes show the use made of water boundaries.

Cambridge was a town in a low country and on a meandering river, so that it was not difficult to turn water into it from the river above it and let it out again below the town. There were spurs and outliers of gravel and, in the depressions between these, ditches were easily dug around all dry sites suitable for building on. The ditches in the Backs are examples of enclosing water-boundaries taken sometimes along still recognisable old river courses, as behind Queens' and St John's, and modified and straightened, or even joined by new cuts, as behind King's, Clare, Trinity Hall and Trinity.

I have already¹ drawn attention to the occurrence of numerous ditches in Cambridge within that commonly called the King's Ditch and referred to the time of Henry III. But all that he did was to order that the great Ditch of the Town

¹ *Proc. Camb. Ant. Soc.*, Vol. viii, Jan. 25, 1892, p. 32; ib. Oct. 23, 1893, p. 255; ib. Feb. 1897; Vol. ix, 1893, p. 370.

should be cleaned and the associated watercourses should be reopened, which implies that they were in existence before his time. Moreover we read that King John commanded the Barons of the Exchequer to allow the Bailiffs of Cambridge the costs they had incurred in enclosing the town, which, in the absence of any evidence of walls or fortifications, we may safely infer was by means of a moat or ditch.

Within this enclosing ditch there must have been many pre-existing moats and drains around monastic, municipal, and private buildings. Before the town had grown to its present size, with the inevitable accompaniment of over-crowded buildings covering the central parts, converted watercourses and artificial ditches prevailed everywhere, and, where there was no access to these, cesspools and rubbish pits took their place for sanitary purposes. We find all these wherever excavations are carried on in the older part of the town, but from the nature of the case the remains found in them are of all ages from the time when they were first opened to the time when they were finally closed.

Most of these old ditches have long been filled up and built over, though some were still open within the memory of man. But every now and then in the course of cutting drains, digging foundations and similar operations we are given opportunities of collecting all the odds and ends buried in the mud which accumulated in them. From these we can learn much of the domestic life of Cambridge from soon after the Conquest to the present day.

In the first-named communication (footnote, p. 16) I gave a reproduction of Lynes' plan of the ditch in 1572 and of a portion of the ordnance map showing the position of the principal ditches, and pointed out that the King's Ditch was taken along ground that lent itself to the work, because it was low and for part of its course was the natural outfall of the water issuing from the gravel beds on the east of the town.

In those earlier papers I have also given such full descriptions and illustrations of the objects discovered that it is not necessary to do more now than refer to them in such terms as will enable anyone to examine the types.

There are however generally some new points of interest and objects of new type in every new excavation.

The ditches were nearer to the houses in one place than in another and were cleaned out oftener in one place than another and the class of building was different on different sites. Therefore we find different kinds of things in different ditches and different parts of the same ditch, and we cannot expect to find and we do not find everywhere exactly the same succession of objects to which we can assign a date.

Our difficulties are increased by the fact that, when these ditches were cleaned out, the mud was spread over the margin, especially where there were gardens, and the infilling began anew. There are therefore near these ditches layers containing all sorts of mediæval objects, those first thrown out being of course the newest. They are however generally mixed and confused and often the succession is reversed, while many a fragment lying on the surface or dug out in earlier times is thrown into the ditch in later times. Experience however soon teaches us to detect these sources of error.

I have already¹ described the gradual extension of the area available for building and the dispersal of objects over the sites.

We must bear these cautions in mind when we are examining any part of the King's Ditch, as this appears to have been the principal outfall for all the ditches in the ancient town. The first precise mention we have of it is, as shown above, that Henry III ordered it to be cleaned. We have another in the Cambridge Town Treasurer's Accounts for 1515 (?)² where there is mention of "The costs and charges of the Klensyng of the Kyngs ditche in Cambrigge and the ditche by Pembroke Halle and other ditches belongyng to the Towne." It is also described as "the ditche ageinst Pembrokehale."

This is especially interesting in examining the portion now brought under the notice of the Society, as this is within a stone's throw of Pembroke and explains what struck us in examining the excavation, namely, that it appeared to have been

¹ *Proc. Camb. Ant. Soc.*, Vol. xi, p. 393.

² Bowtell ms., Downing Coll.

dug into more than once and never to have been completely cleared out to the bottom.

The portion of the ditch now described was exposed in digging the foundations for the Masonic Hall extension in the early part of 1914.

I take the opportunity of acknowledging the courtesy of the Architect, Mr Macalister, and the builders, Messrs Negus, and their foreman in giving me every opportunity for observing and collecting.

The site is on the east of Slaughter, or Slaughter House, Lane, and the portion of the ditch exposed is in immediate continuation of that which we have already had opportunities of examining as it crossed the old Physic Garden. Buildings had not encroached upon the area through which the ditch here ran until quite late times, as shown by the recent character of the foundations exposed in the excavation, and here or hereabouts it must have received the body of water still running out of Downing Grounds but recently diverted further and further west by the erection of large buildings over that area.

A deep ditch was found under the north-west corner of the Archaeological Museum. It was between eleven and twelve feet in depth and the same in width and was filled with black mud in which were bones of horses and other domestic animals. In fact it was very like the King's Ditch in every respect; and along its continuation, that is along some watercourse that ran from the Downing Grounds, I take it the King's Ditch was carried. When we follow the King's Ditch beyond the area thickly covered with houses where it was straightened, as is clearly shown in Lynes' plan, it winds about like a natural stream, confirming the suggestion that the artificial ditch cut through a bank from the King's Mill to Pembroke College, and beyond that was taken along low marshy ground with a stream running through it from Pascal Close (Downing) to the river.

In wet weather the water used to rise through the gravel and I have often seen a small lake on the west side of Downing Grounds beyond where the School of Agriculture now stands. The last place where I saw a large body of water flowing north

out of that area was at a depth of more than 12 feet under the School of Chemistry, immediately west of the entrance archway.

It seems pretty clear that there was a constant supply of water running into the King's Ditch from these sources, and also exceptional means of flushing it by turning in a larger body of water from the Nine Wells and from the river at Grantchester and Newnham.

I exhibit specimens of current sorted material and fresh-water shells from the ditch. The oysters, mussels and cockles were obviously thrown in with the household rubbish.

There do not seem to have been any buildings of importance near that part of the ditch from which the remains to which I now call your attention could have been procured. The Augustinian Friary was some distance off on the west and north, and there did not appear to be any accumulation suggestive of a slaughter-house; indeed I do not know what could remain in such a case, as the solid parts of the animals slaughtered would be carried away to be consumed elsewhere.

There were however some things in connection with the relative numbers and characters of the bones which require explanation. There was an extraordinary number of horses' heads, considering the small area from which they were procured. I counted over thirty heads. I examined the more perfect to see whether I could detect how they were killed but only in one case could I find anything to make it probable that they had been poll-axed; and we are left to suggest that they were bled to death, as animals intended for food should be. As I have often pointed out before, all the excavations I have seen force the inference upon me that horses were commonly used for food down to quite recent times: their bones were broken in just the same way as those of oxen and sheep, and were scattered in the kitchen refuse just as they were.

There was very little variety in the breed. They all belonged to a small fine-boned breed with a small muzzle, and seemed to me to resemble in size and form the small Normandy horses now improved almost off the face of the earth by being

crossed with larger animals chiefly for military purposes. They were quite unlike the strong cart-horse of to-day.

They bear however a close resemblance to some of the small breeds found in the alluvium of our district, and I exhibit one from 15 feet down in the alluvium near Ely which bears this out.

They were generally young healthy animals.

There are however among the bones some vertebrae anchylosed and covered deep with osseous overgrowth, whether traumatic or rheumatic I leave to others to decide.

In the Sedgwick Museum I have a similarly diseased bone which I exhibited to the Society on a former occasion, and which then so greatly interested Sir George Humphry. Near it may be seen the paddle of a Plesiosaurus which had been affected in the same way. One ox also had suffered from disease or injury as shown by the exostosis which covers the bone.

The remains of ox are less numerous than those of horse, and all belong to that mixed and unstable breed which was originally the result of the cross of the small native short-horn with the larger animal with up-turned horns brought over by the Romans.

In later times they were locally modified by the large and long-horned breeds introduced from Sleswig-Holstein and elsewhere on the continent.

Oxen were in those days more commonly used for draft and general agricultural work, and in quite recent times the best beef was supposed to be that of oxen which had been worked up to the age of five years or so.

There were a few dogs thrown in, most of them of a powerful breed like a mastiff, and one or two of a small breed with a protuberant brow like a King Charles' Spaniel, only larger.

The sheep were almost all horned and of the same size and type as the cross-breeds now seen in the north and west of the island.

As they are found with kitchen rubbish we are of course not likely to find the remains of old animals, and therefore have no example of the horns of a full grown ram.

We often find the sheep's heads split indicating that they

had provided that very tasty dish "Sheep's head," as we know it.

But in this case the heads were whole with the horns sawn off, which suggests a different method of dressing. In this the head was cooked in its skin, the wool being first clipped and then singed off, as is done in feathering a duck. I cannot help connecting the common occurrence of small shears with kitchen rubbish to this process (see p. 26).

We learn from Walter Scott¹ that this method of dressing a sheep's head prevailed in Scotland long after it had been given up in Cambridge.

When Bailie Jarvie invites Frank Osbaldistone "to come back and take part o' his family-chack" where "there wad be a leg o' mutton, and it might be a tup's head, for they were in season." The delicacy however as there cooked was not so highly appreciated by the Bailie's guests as might have been expected, for we read that "Mr Jarvie presided with great glee and hospitality, compelling however Owen and myself to do rather more justice to the Scottish dainties with which his board was charged, than was quite agreeable to our southern palates. I escaped pretty well, from having those habits of society which enable one to elude this species of well-meant persecution. But it was ridiculous enough to see Owen, whose ideas of politeness were more rigorous and formal; and who was willing in all acts of lawful compliance, to evince his respect for the friend of the firm, eating, with rueful complaisance, mouthful after mouthful of singed wool, and pronouncing it excellent in a tone in which disgust almost overpowered civility." And further on in the encounter at the clachan of Aberfoil, when Bailie Jarvie defended himself with a red hot coulter used as a poker and burned the plaid of the Highlander opposed to him, he exclaims, "figh, she smells like a singit sheep's head." And we get a further insight into the process where Rob Roy exclaims, "The curse of Cromwell on me, if I wad hae wished better sport than to see Cousin Nicol Jarvie singe Inverach's plaid, like a sheep's head between a pair of

¹ *Rob Roy*, Chapters xxiv, xxvi, xxxiv.

tongs," tup's head and sheep's head being apparently indifferently used.

There was not a large quantity of pottery, but what was found was of diverse age and character. There was very little that could be referred to a date so remote as thirteenth or fourteenth century, and there were none of the globose vessels in dark grey earthenware with the rim strongly bent back and, as I have already pointed out, otherwise modified and showing every stage in the gradual change from the Roman type¹.

If this part of the ditch ran through cultivated land such as gardens or allotments it might well be that then as now the cleanings of ditches, not only close by but further afield also, were carried on to the area to raise and enrich the soil, and thus objects of much greater antiquity and belonging to different conditions might be picked off the beds and thrown into the ditch. We shall see by and by other reasons for suspecting this.

Of later earthenware there were many fragments, but little that could be restored. It all seemed as if it had been much knocked about and the pieces far separated.

There are numerous fragments of the rough crock or pot which had the round base, due to sagging, cured by a pinch given to the margin here and there or even a sort of calkin added to it, and there are the more finished well-baked vessels in which the pinched base seems to have been unnecessary for use but was continued by way of ornament.

There are fragments of various cooking utensils, stewing pots on feet, frying pans, and chafing dishes, all of earthenware.

Of table ware there was a larger assortment. Jugs and mugs of black or brown glazed ware often with a yellow slip pattern; a good many tall, two handled, drinking vessels and some small three handled cups (tigs). Some larger vessels show clearly the development of the rose pattern which was originally merely a method of attaching separate pieces such as spouts or handles or stands, by pinching them on. The hollow cylinders seen attached to some were merely a lightened

¹ "The early Potters' Art in Britain," *Archaeological Journal*, Vol. LIX, 1902, No. 235, p. 219.

handle and not intended for use as a spout, and some do not run through into the interior of the vessel.

One short hollow stand in red earthenware with the bottom of the upper compartment knocked out may have been a salt-cellar or a lamp.

There is a great variety of white, blue, yellow, combed, splashed, and spotted, stone ware. Some resembles crackly china perhaps only in the case of vessels kept on or by the fire.

It is interesting to see the persistence of the old wheel-with-spokes stamp on some of the coarse red earthen glazed pottery of quite the more recent types, as also on the brass plate.

The most curious piece I have found is a fragment of a large vessel in grey coarse ware with a number of stems of tobacco pipes lying side by side in it obliquely to the rim, as if intended to hold it up while being fired. The stems resemble those of the pipes found here and there in the upper part of the deposits, and do not any of them appear to be earlier than the second half of the seventeenth century. (Plate I.)

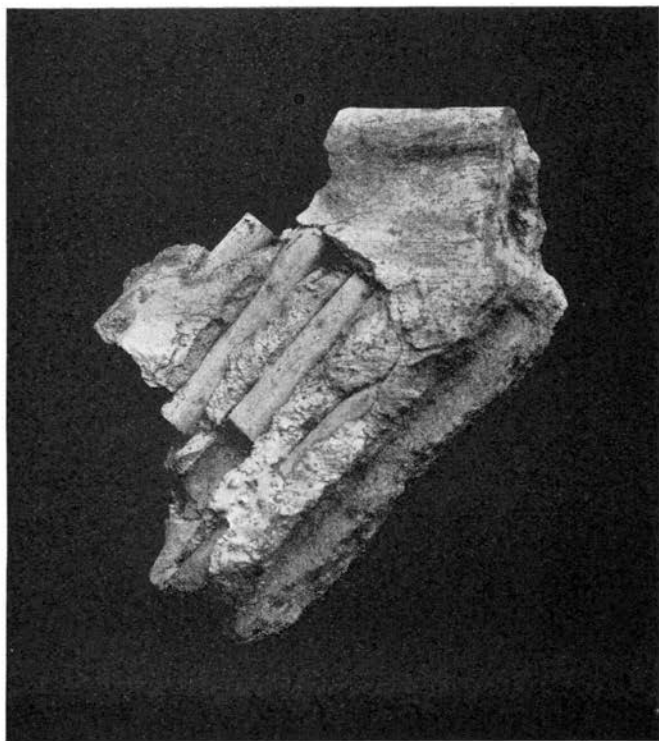
There is a considerable quantity of Cologne ware or grey-beards.

There are many small pieces of stained glass, mostly having the colour brushed on and burnt in, but some few bits being whole-coloured glass. If this was far from any buildings of importance it confirms the suggestion that rubbish from other areas was laid on the ground and fragments of all kinds picked off the land and thrown into the ditch—the nearest probable source being the Augustinian Monastery or the Church of St Bene't.

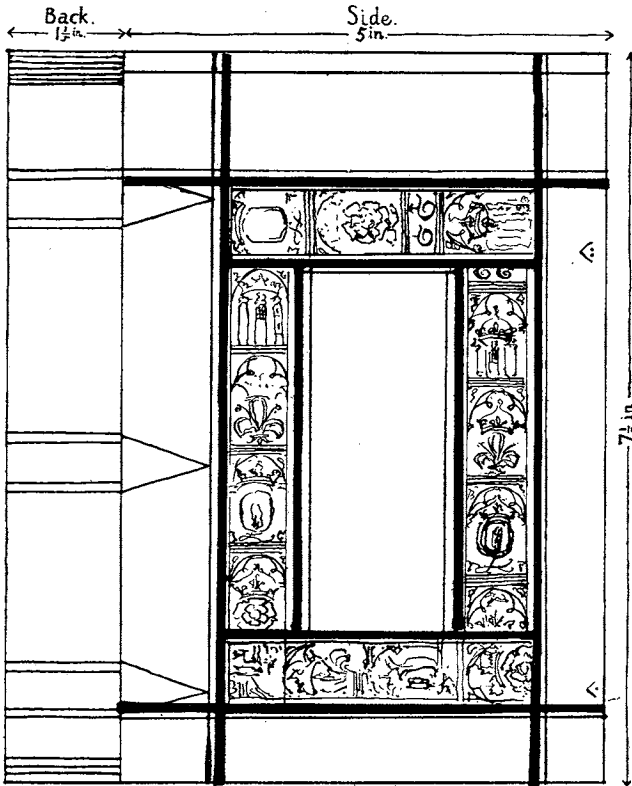
Some look as if the window had been destroyed by fire. A large number of bits of thin greenish window glass were iridescent and opaque owing to the destruction of the surface by ammonia and other alkalis. One larger piece of similar glass was preserved by having the centre of the spinning disk in it.

There is a globular green glass flask and some old fashioned wine bottles with the base projecting a little beyond the sides.

Some bits of coloured glass vessels occur scattered through the earth.



Fragment of Earthenware with Tobacco-pipe Stems imbedded.

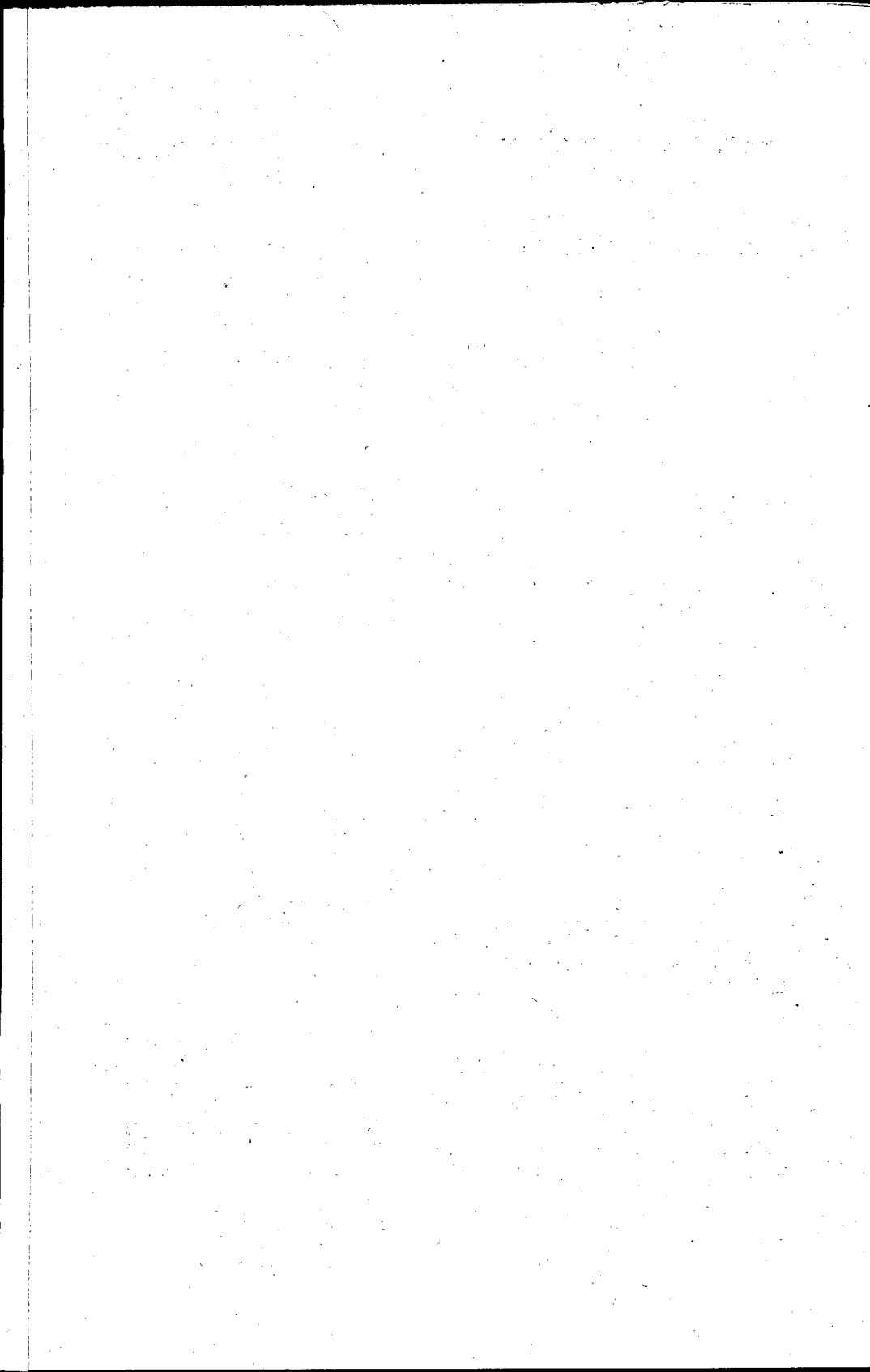


Half-size Diagram of Binding by Garrett Godfrey, and Roll (full size) decorating the same, the latter reproduced by kind permission of the author from Mr G. J. Gray's "The Earlier Cambridge Stationers," Pl. xxvi. No. III.

The roll is thus described by Mr Gray, p. 37 :

"Roll III, of four compartments: a turreted gateway, a fleur-de-lys, a pomegranate, a Tudor rose, each surmounted by a royal crown, in canopied compartments, while the binder's initials G. G. are in a small panel between the rose and the turreted gateway." The gateway is the castle of Castile, the pomegranate the personal badge of Catharine of Aragon.

The disposition of the ornament is not quite like any other example of Godfrey's work. The other fragmentary binding was very similar, but the outer frame was, as it were, mitred instead of the fillets running straight through. The leather of both was originally black. E. H. M.



Of leather objects there is a large quantity, chiefly boots and shoes in which the threads have entirely perished, so that the pieces of leather have fallen apart and show the holes made by the stitches.

There is a considerable difference in form and size, some being small and pointed, others broad and rounded. I have on a former occasion gone very fully into this question¹, so I will not dwell upon it any longer now, except to notice a curious form in which a sole having much the form of a flat-iron but with the margin turned up all round suggests that the sole was thickened by the inclusion of something between two pieces of leather, perhaps wood, forming a leather-covered clog. One example of a short leather gaiter was found.

But perhaps the most interesting things found in this part of the ditch were two book covers (Plate II, reproduced from a drawing by our President), one nearly perfect, the other only a small fragment. In the case of the shoes everything but the leather has perished, and therefore we could not expect the paper and stitching to have survived in the book if it had been thrown in whole, but there is reason for suspecting that these leather covers were torn off and used for some other purpose because, as pointed out by Mr Murray of the Trinity Library, the margin of even the larger specimen has been cut off as if to make it fit a different object, so that some of the edge which would have been turned over within the cover is gone. The tooling on the leather has been identified by the Librarian and Mr Sayle, as well as by Mr Murray, and the trade mark (two G's and an arrow) of Garrett Godfrey has been recognized in the rolls. The date must therefore be somewhere between 1503 and 1539, and is probably about 1525 to 1530. Of course they may have been thrown in at any subsequent period, but they were found in the lowest black clay in which the oldest of the other objects occurred.

I shall place them in the University Library.

Among the metal objects are two white metal spoons of which the handles are in both cases broken off. Mr Redfern refers these to the seventeenth century.

¹ *Proc. Camb. Ant. Soc.*, Vol. VIII, Oct. 23, 1893, p. 275.

There are a few instruments, such as pot-hooks and hangers and various fragments of iron; a carving knife, and a smaller one with a wooden handle, also a very small one with a notched back, and a small clasp knife; a crushed metal handle, perhaps of a large fork, and one blade of a pair of shears. It is not at all uncommon to find shears in ancient household rubbish in Cambridge, but it is not likely that they indicate sheep shearing as an ordinary agricultural operation. They are often—I may say generally—of smaller size than those used for sheep shearing, and were probably used in some kitchen operation, perhaps the preparation of the sheep's head referred to above, p. 22, by clipping the more prominent wool before singeing. There is one old key; a bronze brooch-like ornament and a bone lace-bobbin.

There is a brass plate with repoussé star-shaped ornament. The most curious point about it is its gold colour which made me take it to the Chemical Laboratory where I was assured that it was only a copper alloy.

Other odds and ends of some interest are the small broken hone, apparently as much used for pointing skewers and forks as for sharpening knives; a brick $1\frac{3}{4}$ inches thick; fragments of tiles perforated for attachment, and of a sandstone flag. Some flints showing little trace of surface weathering and a glacially striated block of hard chalk, suggest transport from a considerable distance.

The point of an oak pile carries us back to the time when the ditch was being encroached upon, or perhaps to the still earlier period when a footbridge was thrown across the water-course which became the ditch. The outside rough plank first sawn off the tree trunk may belong to the same time. A piece of a handmill of Niedermendig lava suggests much but tells little, and the piece of chalk with a hole in it much like that produced by a gate-post, still sometimes seen, swinging on a supporting stone.

Now to make a guess at the age of the deposit. The buildings extending over the edge of the ditch do not appear to be more than a century or a century and a half old, while the ditch itself, if it is part of the boundary made by the Town

Bailiffs in the time of King John, gives the twelfth century as a back limit.

The red earthenware glazed pans have been in use for a long time. Let us refer those in the ditch to the eighteenth century.

The tobacco pipes, the painted stone ware, the Cologne ware, and the thin bricks may belong to the second half of the seventeenth century.

The book covers are early sixteenth century.

The glass may belong to the fifteenth and sixteenth centuries and the shoes to about the same time.

The slip ware, tigs and drinking cups to the fifteenth century, and the oldest of the knives to the same.

But there is none of the ware and other objects which I found in Petty Cury and thereabouts, and which I referred to the thirteenth and fourteenth centuries.

THE MAKER OF THE IRON GATES AT CLARE COLLEGE.

By J. R. WARDALE, M.A., Clare College.

(Read November 30, 1914.)

The earlier buildings of Clare College ran level with the street at the East end of the Chapel. When the present East range was erected in 1638, the original East range was of course removed as soon as practicable, but a wall along the street was still left standing with a temporary Porter's Lodge (see Cole's sketch) at the East end of the old Chapel, which occupied practically the same site as the present one. This Lodge is alluded to in the Building Account Book (p. 93) in 1656 as "the Low Chamber at the East end of the Chapel where the Porter *now* lodges."

In 1673 this old street wall was pulled down, and preparations were made for a new (*viz.* the present) entrance. On April 22 Robert Grumbold was paid £25 for "worke about ye Pillars next ye streete," and, on January 24, 1674, £4. 1s. 4d. was paid for "timber for ye streete gate."

The original gate, then, was of wood; the other gates, at the bridge and at the end of the avenue, were of the same material. They had been, of course, required as soon as the bridge was completed in 1638. On March 4, 1638, Richard Chamberlayne received £60 "in pt of a bargaine for the gates and bridges into and out of K. Coll. But Close," and on February 20, 1640, Francis Wright was paid 15s. "for hewing of timber and maken a gate in ye Fields." Loggan's print (about 1689) shows clearly the old wooden gate on the West side of the bridge.

That fifty years later they required to be renewed need not surprise us: on December 9, 1691, William Newlin was paid £8. 5s. 4d. "for Timber and work for ye new Gate &c."

The practice of erecting iron gates of artistic design, however, came in soon after this time and Clare before long followed the new fashion.

In the Building Account Book (p. 205) occurs the following entry:

Warren (blacksmith) March 6, 1713 and
 May 7, 1714 in full for the Iron gate next
 the fields £35. 0. 0.

The gate next the fields is, of course, the somewhat plain gate at the head of the avenue.

The two other gates were set up soon afterwards.

On July 20, 1714, a College order was passed "that a convenient iron palisade and gates for the Garden, Gates for the Bridge Foot and entrance into the College shall be set up."

College orders of February 4, 1714, July 20, 1714, and August 24, 1714, sanctioned the payment of £76. 16s. 0d., £114. 8s. 7d., and £35. 6s. 11d. for "ironwork" and in two of the three instances Warren's name is added: these amounts were included in a gross total of £967. 4s. 0½d. paid over from the College Stock to the Building Fund. In the Building Account Book (p. 211) it is stated that "Mr Warren was paid at several times from October 26, 1714 to August 24, 1715, £326. 11. 6. for iron work." The total of the three sums specially allocated by the College orders above referred to for this purpose is £226. 11s. 6d., and it would seem as if there must have been an earlier order (before orders were systematically entered in a book) allocating £100 for this purpose. If so, the Fellows must have either contemplated far less extensive ironwork, or the probable cost must have been greatly underestimated.

The item of £8. 4s. 6d. which I communicated to Mr Starkie Gardner occurs in the ordinary College accounts, as audited at Michaelmas 1715, and must refer only to a final settlement with Warren, and, although it was a fortunate guess, I much regret that I did not make a more systematic search, which would have put the matter beyond all doubt.

I have as yet been able to discover nothing further about

Warren. His name does not occur in the index of Clark's *Architectural History*, so that I cannot ascertain whether any other college employed his services. I am inclined, however, to think that he must have been a local man living in Cambridge; for had he been a London designer, it is almost incredible that his name should not have been preserved elsewhere: further there is no indication that he was ever obliged to make a journey to Cambridge. There is no such entry in his case as in others, e.g. on April 24, 1669, "Paid to Jackson for his journey hither to survey ye building, by consent £1. 0. 0." Lastly, if he were working in Cambridge, one can readily understand why he should be employed to set up gates at Exning House and Cheveley Rectory (see J. Starkie Gardner, *English Ironwork in the Seventeenth and Eighteenth Centuries*, p. 84).

NOTES ON CAMBRIDGESHIRE WITCHCRAFT.

By CATHERINE E. PARSONS.

(Read February 1, 1915.)

When collecting these few local notes on witchcraft, possibly the only witches of my acquaintance were the witch of Endor and those who mixed such a medley of ingredients in Shakespeare's boiling caldron. Yet, I did not allow myself the privilege of reading a single book on the subject, knowing that a slight knowledge on my part might destroy the local colour. But when I had been told many extraordinary stories and began to wonder the why and the wherefore of their origin, it seemed only natural to turn to such a source as the *Gaol Delivery Rolls* at Ely, to see how this craft was exercised in Cambridgeshire years ago, and the notes from these rolls just give a few early examples by way of explaining witchcraft as it unfortunately exists to-day, in one small parish in this county. In order to avoid any personality, I am not using my informants' interesting names, some of which have survived in the parish over six hundred years.

The antiquity of witchcraft is well known. Its establishment in England by the middle of the fourteenth century, the legislation it necessitated, the influence of Continental opinion upon it—brought home by the Marian exiles, how the craft increased when the country was occupied by the Civil War, the leniency with which it was treated under Cromwell's government, and the literary war it occasioned, which Francis Hutchinson practically ended by his *Essay on Witchcraft*, in 1718, are points of interest beyond the scope of these notes.

In Horseheath witchcraft is by no means a lost art. In this parish we have ghosts as real as ever they were, superstition is rife, the wise woman is fresh in our memory, we have

our folklore, certain interesting customs, and cures for almost every ill. The parishioners tell us that there always were witches, and that there always will be, because they are mentioned in the Book. Unfortunately, it is the biblical references to demonopathy which seem to make this particular phase of superstition hard to die. One is told that the chief difference between a witch and an ordinary woman is, that if the latter wishes her neighbour misfortune, her wish has no effect, but the same wish in the mind of a witch has effect, because the witch is believed to be in league with the devil, she having made a contract to sell her soul to him in return for the power to do evil.

At Horseheath we are informed that, in making these contracts, the devil usually appeared to some person or other in the shape of an animal, such as a rat, mouse or toad. Perhaps this is why if either a toad or newt is found in a house at Horseheath, the creature must at once be put upon the fire, or it is supposed the inmates of the house would have bad luck. Many contracts, said to have been made between the devil and Cambridgeshire men and women, are recorded in the *Gaol Delivery Rolls* in the Diocesan Registry at Ely. For example, on the twenty-sixth of May, 1647, when John Bonham¹ was hedging in Stacie's cherry yard in Sutton the devil is said to have come to him in the form of a mole, and demanded Bonham's soul, which, at first, Bonham refused to surrender. "But," said the mole, "if you will not let me have your soul, will you not let me have two drops of your blood? and I will hereafter be at your command." And to this bargain Bonham agreed. So with his hatchet he cut his finger and gave it to the mole to suck, and he named the spirit mole or imp, John, and at once sent it to kill some horses, which we are told it did. Then he sent the spirit to bewitch the baker's cattle, and later, to bewitch the bullocks that belonged to Charles Freeman, the thatcher, because they had broken down some of Bonham's newly-made fences.

In this same year, on the first of June, Adam Sabie², of

¹ Ely, *Gaol Delivery Rolls*, E, 5, 1606-36.

² *Id.*

Haddenham, was brought before the justices at Ely, and declared that he had a spirit in the likeness of a child, which came to him in a flame of fire in Somersham wood, and said to him, "Fear not Sabie, I am thy god." Then it is stated there appeared a sudden darkness, it being about noonday. The spirit told Sabie to go to the house of Lady Sandys, from whom, he informed the justices, he received the sum of twenty pounds, but we are not told why. This lady would be residing at the Rectory at Wilburton, which parish adjoins Haddenham. The Rectory had been appropriated to the Archdeacons of Ely, and was once their country seat, but in 1632¹ was rented to Sir Miles Sandys. This case of witchcraft shows how both rich and poor alike were made to suffer under this craft.

The possession of imps or spirits having been obtained, they were supposed to live upon the body of their respective owners and assist them in their varied evil practices, and were handed down from one generation to another. Unless given plenty of work to do they are said to be a terrible torment to their owners.

The history of the Horseheath imps is happily—and naturally—veiled in mystery. Their present owner, who came from Castle Camps, received them from her sister D. We are told that when this poor creature was dying, no one could stay in the room with her on account of the sulphur which came from her nose and mouth. Such is the imagination of Castle Camps folk. But it was said that D. would never have died when she did had it not been for the woman who was nursing her, whom D. had cautioned not to open a certain hutch in her room, or she would die, but the old nurse turned a deaf ear to the caution, being overcome by curiosity to examine a certain red underskirt kept in the hutch, in which imps had been wrapt. It is said that our imps were brought to Horseheath in a box, upon which their owner sat during the journey. Although the box was securely corded no one was allowed to touch it, not even in assisting to lift the box in or out of the cart, for imps are curious creatures, and no cords

¹ Lysons' *Cambridgeshire*.

or even iron bars can keep them in bounds unless they are solely under the control of their owner.

We think the names of the Horseheath imps, five in number, are interesting: Bonnie, Blue Cap, Red Cap, Jupiter and Venus. As to their appearance opinions differ, but they are generally said to be something like white mice. Mrs B. has described one sitting on the top of a salt box in old Mrs C.'s chimney corner, as being something like a mouse, with very large eyes, which kept getting large, then small, though she had but a poor view of the creature owing to the curtain which hung across the chimney shelf. In fact she scarcely had time to realize what it was, before the imp turned quickly round and scuttled up the chimney calling out "Wee, wee, wee." But, as it turned she did notice that "it had a little mite of a tail about two inches long." It was believed that this particular imp had been sent down the chimney to see what was going on in the cottage, in order to report any item of interest to the witch, for it is useless trying to conceal anything from a witch. What one does not choose to tell, can always be discovered by the parish witch or wizard with the aid of an imp.

We have heard how Mr E., the late rag and bone man of Horseheath, was asked one day by the witch where he was going, and how he told the old lady to mind her own business. Before this man got half a mile from his house, he heard something coming along in the hedge behind him, and on looking to see what it was, he discovered an imp had been sent by the witch to watch his movements. Mr E. chased the imp back and tried to catch it, but the faster he ran the faster the imp ran, till at last it reached its owner, who, standing in the doorway of her cottage, quickly caught the creature up and put it in her bosom. Here, or in the armpit, witches are said to carry their imps in safety. We are told, that it is in this way their owners take them to church to attend the Communion Service, the witch keeping the bread in her mouth to give the imp when the service is over.

In olden days, not only the possession of imps, but a mark on the body of a supposed witch or wizard, said to be caused

by the sucking of imps, was sufficient evidence of witchcraft for the witchfinder, so that many an innocent creature must have suffered injustice, through perhaps a small tumour, mole, wart or even a pimple on the body, and other tests to which these unfortunate people had to submit were equally fraudulent. It is an extraordinary fact that these poor people frequently did plead guilty to such fraudulent charges.

Here is a specimen of the evidence given against Ellen Garrison¹, a supposed witch at Upwell in 1645, by a witchfinder who was working under the direction of that celebrated conspirator, Mathew Hopkins, who for two years surpassed any record of prosecutions in England for witchcraft. His life is recorded in Seccombe's *Twelve Bad Men*. It was said that Ellen had been a witch for a long time, and her mother before her, that she had caused much harm and damage amongst her neighbours, and had had differences with them. So Mathew Hopkins' witchfinders tell the justices that they had watched Ellen in her house at Upwell, where they saw a thing in the likeness of a beetle running in the room where they watched, and it ran round about the chair where the woman sat, and under her feet, and immediately after it went under her table. Then, what became of it they did not know, but it went much faster than ever they saw any such thing before, so these men were of the opinion that the beetle was an imp. We must remember that they did not profess to be naturalists.

Some of the early depositions by reputed witches and wizards make deplorable reading, and one grieves for the unfortunate person, who, perhaps innocently enough, incurred the displeasure of a neighbour, an offence whereby the accusation of witchcraft was made, and the offender was brought into court to plead in vain, "not guilty," against evidence collected by such a man as Mathew Hopkins. Energetic as he was, alone he could never have caused the suffering he did. He found an accomplice in John Stearn, and here is some of this man's evidence, given on the twenty-fourth July, 1647, against Thomas Pie², of Ely. John Stearn said that there were "two

¹ Ely, *Gaol Delivery Rolls*, E, 3, 1640-52.

² *Id.* E, 5, 1606-36.

marks upon the body of Thomas Pie, sucked or drawn by evil or familiar spirits called imps, and by the experience he hath found in searching of others, who have confessed themselves guilty, whose marks, being compared, are alike." Elizabeth Foot¹, of Stretham, when accused of witchcraft in this same court cried, "Woe, woe, was the time that ever I was born of such accursed mother, for my mother is but a dotard woman gammer." This Elizabeth also said, "that she never hurt any person, or any man's cattle, and saith if she is a witch, it is more than she knows." When Joan Slater² was accused of being in possession of imps, she told the justices that the marks she had upon her body were "not the marks of a witch, but came as it pleased God."

Such cases as these are common enough. Many cases are pathetic, some are almost too nauseating for perusal, whilst others are amusing and incredible, as for instance in the case of a girl, who was sent by her mother to fetch water from a particular pond. The girl however went to some other pond, where a black horse, which the girl "believed to be the devil in the likeness of a horse, did lay down till she did get upon its back," and the horse carried her through the air upon his back to her own door, and there set her down³.

There is a curious mention of horses in a case in 1647, in which Jeremiah Biggs⁴ accuses his mother-in-law of witchcraft. This man said that he had great losses amongst his cattle seven years since, especially amongst his horses, divers of which suddenly died, they being well over night, and being found dead the next morning: Other of his horses would lie in a most strange manner, beating their heads against the ground, until they died.

When any cattle died, it appears to have been quite the usual thing to do, to send for a farrier to pronounce upon the cause of death. When John Scrimshaw⁵, of Wisbeach, was called up to give evidence about some horses that had died, belonging to John Cuthbert, of Wisbeach, he told the justices that, being a proper farrier, he was sent for to know what the

¹ Ely, *Gaol Delivery Rolls*, E, 5, 1606-36.

² *Id.*

³ *Id.*

⁴ *Id.*

⁵ *Id.*

horses died of, and to the best of his knowledge he could find no disease that they should die of, for they were very sound in their bodies. And so, the theory of witchcraft received support.

These people were supposed by the professional witchfinders to have been very dependent upon imps in the execution of their craft. At Horseheath it is believed that, if an ordinary toad be put into a tin pierced with holes and buried in an ant-hill until the ants have devoured all the toad's flesh, and the bones be taken out of the tin at twelve o'clock at night and thrown into a running stream, the bones which float up the stream can be used for witching purposes.

Although no longer a crime in our penal code, no self-respecting person in Horseheath now cares to admit any knowledge of witchcraft, and I experienced considerable difficulty in collecting the belief that remains, owing to the dread, even to this day, of offending the parish witch, to whom every one must be extremely courteous. One must not even pass her without some pleasant remark or other. Particulars concerning the ceremonial of witches, when magic circles are made, have been most difficult to collect; they appear to be altogether too mystical for our ears. But we are told that a circle is drawn on the ground, with perhaps a piece of chalk, and that the Lord's Prayer is said backwards, and the devil suddenly appears within the circle, perhaps in the form of a cockerel, but all kinds of things are said to suddenly spring out of the ground. And if the person standing within the circle becomes so frightened that he steps out of the circle, we are told the devil would fly away with him. We have heard how naughty boys at Horseheath have been severely chastised for mimicking some such practice as this.

This kind of ceremonial has perhaps survived from the day when Robert Barker¹, of Babraham, sought all too dearly to make himself rich on an outlay of two pounds six shillings and eightpence, in the year 1465, when he was found to be in possession of a book, and a roll of black art containing characters, circles, exorcisms and conjurations, a hexagonal

¹ *Bp Gray's Register*, f. 133.

sheet with strange figures, six metal plates with divers characters engraved, a chart with hexagonal and pentagonal figures and characters, and a gilded wand. When this Robert Barker was brought before the Bishop, in the Lady Chapel at Ely, on the ninth of January, 1465-6, he said that a certain John Hope had promised him wealth if he would give him the two pounds six shillings and eightpence for the books and instruments, and said he had great hopes of certain spirits appearing to him, who would answer his questions, direct him to gold and silver in abundance, and impart to him all secrets. To this end he found a secret place in a close next William Clerk's house at Saffron Walden. As these things seemed to savour of idolatry and heresy, the Bishop commanded Robert Barker to abjure them, and enjoined as a public penance that Robert should, on the next two Sundays, walk round the market places of Ely and Cambridge, with bare feet and uncovered head, carrying the said plates and charts round his neck, the wand in his right hand and the books in his left hand. Afterwards all the books and instruments were to be burned in Cambridge Market Place. By way of private penance the Bishop ordered that Robert should fast on bread and water the whole of every Friday for a year, and say the seven penitential Psalms, with the Litany, every Sunday throughout the year.

An instance of this drawing of circles occurs in 1615, in the case of Dorothy Pitman¹, of Haddenham, where strong faith in witchcraft appears to have existed. Dorothy was asked whether she had at any time made any circle, or did she know of the making of any circle by "charmer, or enchantment," to do any mischief? This woman after a family quarrel appears to have had a little difference with a neighbour, when she had the misfortune to remark that she would be even with her before seven years went by. About six months later this neighbour's little girl fell ill. Her father took her to one, Hillers, an accounted wizard who lived six or seven miles from Newmarket, to seek a remedy. Hillers said that if the child lived till the spring, she would either "amend or end." In the

¹ See Appendix, p. 45.

spring the child died and innocent Dorothy was believed to be the cause of the child's death.

Henry Douglas¹ had previously brought a case against this Dorothy Pitman, who was supposed to have been a witch for more than twenty years. This man charged her with making a circle in his house at Haddenham, and shortly afterwards his daughter was ill, but a "woman wizard," near Royston, was said to have given her a remedy which saved her life.

The earliest witch remembered by my fellow parishioners at Horseheath, went by the name of Daddy Witch. It is said she was an ancient bony creature, half clothed in rags, who lived in a hut by the sheep-pond in Garret's Close, and that she gained much of her knowledge from a book called *The Devil's Plantation*. When Daddy Witch died, her body was buried in the middle of the road which leads from Horseheath to Horseheath Green, just where the road passes the close opposite the sheep-pond. Her grave is marked by the dryness of the road, said to be caused from the heat of her body. But whether the County Council will be as generous with its granite, as our old world road-mender was with his flint, at this particular spot, remains to be seen. Daddy Witch in her prime would be amongst the many witches and wizards who flocked for miles round Horseheath to attend the frolic and dances held at midnight in lonely fields by the master witch of the neighbourhood. We hear that the witch from the neighbouring parish of Withersfield was often seen by Horseheath people riding through the air to attend these revels upon a hurdle, and that witches and wizards returning in the early hours of the morning were seen to be in a terrible state of perspiration. But these creatures riding during the night upon their broom-sticks or hurdles could scarcely endanger themselves or the public as do some airmen of to-day with their complicated machinery.

As for dancing, all men, young and old, were eager to dance at Horseheath fair with a witch, who, it is remembered, danced the hornpipe better than any man or woman for miles round.

Superstitious people may live in comparative security from

¹ Ely, *Depositions and Informations*, F, 10, 1615.

the ills of witchcraft if they can be assured that no witch possesses anything belonging to them to work upon. But it seems a difficult matter to tell when a person is liable to be bewitched, or in bad hands, for who knows that the witch has not picked up a piece of one's broken crockery, or perhaps taken a sprig from the garden hedge? The smallest thing of yours in possession of the witch is supposed to be sufficient to start the bane of terror. Then to offend the witch spells sure misfortune.

Under certain circumstances, it is believed that one is actually obliged to make presents to the witch. Only a short time ago an old lady at Horseheath, who is supposed to have been a witch or "something in that way," admired some turnips and said she would like to have one. The owner promptly sent the old lady several of his very best, in order to be on the safe side. Girls in service, who return to Horseheath for their holidays, sometimes think it advisable to give the witch a few pence before leaving the village, in order to avoid bad luck. So that it would seem almost impossible to do what is believed to be the right thing, and still keep out of evil hands. We know of a charitable woman who made a skirt for a poor child connected with the witch's family, who gave the skirt to a neighbour to give the child, because she had not the courage to do so herself.

It is thought that a person can be bewitched by accepting a gift from a witch. For instance, in a generous mood our old lady sent some fine currants, that she had grown in her garden, to a Horseheath girl staying in London. The girl however did not dare to eat them, fearing that by doing so she might have been bewitched.

There is perhaps one easy way to guard against witchcraft, and that is to go to the village shop and buy a halfpenny worth of salt without saying either "please" or "thank you" for it. Another precaution is to put a piece of steel under your door mat, for a witch cannot cross steel, and a knife put under a chair will prevent the witch from sitting down if she should come into your house. But this precaution is not so good as the former, as standing visitors often stay longest.

Witches are extortioners, and their craft is remunerative. Whenever anything went wrong on the Church Farm, at Horseheath, a former tenant used to promptly send the witch five shillings, firmly believing that she had been up to some of her pranks. One poor woman, who had made several batches of heavy bread, believed that it was bewitched, so in order to remedy the trouble she sent for the witch, paid her a fee, and asked her to break the spell. This we are told she did by burning a piece of heavy dough in the fire, when at once the evil went into the witch's cap which caught fire at the same time as the dough. Such assistance always means a fee for the witch. We frequently hear that a spell has been cast on someone's coal, and that nothing will induce it to burn until the spell is removed, and much inconvenience has been caused when horses have been bewitched. We have heard how, one day, a waggon and horses were set fast in a field in Horseheath, near Money Lane. The driver, realizing that evil influence was at work, sent for the witch to break the spell. On arriving, the old lady told the man not to whip the horses, but to whip the wheels of the waggon, which he did, and the horses at once moved on with their load.

On another occasion, a man was taking a load of corn to the malting with a pair of black horses; but as they passed the witch's house the horses suddenly stopped, and nothing would induce them to go on till the witch came out and patted them, and called them "pretty dears," then they quietly went on their journey without further trouble. But this patting and coaxing sometimes appears to be injurious. For instance, Mrs C., of Horseheath, had two good pigs that she was fattening in her sty, and was feeding them one day when the witch in passing patted one of them on the head, and remarked as she did so what a good pig it was. But, she had no sooner gone than the pig stopped feeding, and it would not eat anything the next day or the next. So in despair Mrs C. had her pig bled. This was done by cutting a little piece out of one of its ears, and a little piece off its tail. However, as the pig was no better for this treatment, it had to be killed, because it was bewitched, though it was said, the spell might have been broken simply

enough by burning a little of the pig's blood, and by doing so, the witch would be supposed to suffer from the burn. For although witches and wizards are said to be the devil's own people, he takes little personal care of them.

Mrs H., formerly of Horseheath, tells how her mother had a beautiful brood of young ducks, and when only a fortnight old, they were bewitched and covered with vermin. These young ducks just turned on their backs, kicked up their little feet, and were dying fast. Fearing she might lose the whole brood, the good woman sent to the shop for an ounce of new pins, and stuck them into one of the dead ducks. Then she made up a good fire, and at twelve o'clock at night, without telling anyone what she was going to do, she put the duck well into the middle of the fire, and before the duck had been burning ten minutes her fears were affirmed. The witch came screaming to the door, making the most agonising noise, for the pain caused by the pins in the burning duck had entered the witch, and we are told the rest of the ducks in the morning were found to be cured of their pest. A swarm of fleas, or other insects, supposed to be sent by a witch, may often be destroyed by burning a piece of linen or flannel which has been worn next the skin and stuck with new pins. The burning must take place secretly at midnight.

Such instances of this craft at Horseheath are numberless, and repetition is useless. Of course if one of the usual methods failed to cure some ill or other that was supposed to have been sent by the parish witch, the sufferer would then pin his faith on some well-known cure, or even consult a doctor. However, if a doctor's treatment failed to effect a cure, even such an eminent physician as Dr Isaac Barrow, of Cambridge, would ask his patient if witchcraft was suspected, which shows that the craft of a doctor was considered useless against the craft of a witch.

A very usual method used by a so-called bewitched person at Horseheath to draw a witch, is to get a pint and a half glass bottle and half fill it with water; and put in a lock of hair from the noddle of the neck, also an ounce of new pins—heads downwards—some rusty nails from an old shoe and some parings of

finger and toe nails. Then cork the bottle, which must be put on the fire at midnight when the bewitched person is quite alone, and if that person does not speak, when the bottle bursts, whatever is bewitched will be cured, and the witch will come to the house screaming with the trouble that has affected the bewitched person. But unfortunately, we find it so often happens on these occasions that, perhaps through nervousness, the bewitched person does speak.

A witch or wizard and the person or thing bewitched, are considered by some people at Horseheath so closely allied, that by killing that which is bewitched, it is believed that the witch or wizard who wrought the evil will also be killed. For instance, we hear there was a cow that would not give any milk. Her master after giving her several blows on the head, was implored by his man not to hit her any more, because he believed the witch would feel the blows and send them other troubles. And a man whose horse and cart was set fast in Silver Street, Cambridge, threatened to fetch a gun to shoot the horse, believing that by doing so he would rid himself of the witch who wrought the misfortune.

However, some men had no fear of witches, and Mr J. of Horseheath was one of them. Driving in the village one day, he saw a woman sitting by the side of the road, whom he took to be a witch, and wishing to make her move on out of the parish, he gave her a flick with his whip, and told her to be off. She refused to move, so Mr J. gave her a little more of his whip. She then got up and said, "Whip away young man, your horses will never do you any more good," and we are told, one after another his horses died. In fact we have heard of some people in Horseheath, suffering so much from the spite of witches, that life there has become unbearable for them, and that after a time, they have been obliged to go "abroad to Wales, or somewhere."

The belief in this craft is unfortunately all too real in Horseheath. Only a short time ago we heard that a conveyance was coming over from Linton to take an old lady—supposed to be a witch, or something in that way—to the "great house," where she might end her days in more comfort than she

was enjoying at Horseheath. This news made little impression upon the village public, who care little for that residence, for they were sure the old lady would stop the conveyance from coming, or, if it did come, that the horse would never move when she got into the carriage. When the conveyance actually did arrive, and the old lady was comfortably driven off, words cannot describe the wonder in the minds of those who witnessed the sight.

But the day comes when the parish witch ceases to find any charm in her craft, and she longs to be at rest. Then the question arises as to what can be done with her imps? For we are told, a witch cannot die until she can dispose of her imps, and unless she has a relation who is willing to take them, it is a difficult matter in these days to dispose of them in any other way. One seldom finds that the ordinary rustic is brave enough to undertake such a responsibility. One way out of the difficulty is to burn the imps, but this is a terrible business, and was tried only a few years ago when the witch at West Wickham wanted to die. In this case, it is said, the imps were put into a well heated brick oven, but they screamed to such an extent that they had to be taken out of the oven, and were returned to the witch who was found to be covered with burns, whilst the imps themselves were uninjured. So we are told the imps were put into the old lady's coffin and were buried with her in West Wickham churchyard. On another occasion, we are told, some imps were burned in a brick oven where no more bread was to be baked, and when they were in the oven it was as much as two strong men with great pitchforks could do, to keep the imps from bursting the oven door open, and the men were terrified by the strength of the imps, who screamed and cried like a lot of little children.

APPENDIX:

The Examination of Dorothy Pitman, of Haddenham, widow, taken before Sir Thomas Steward, Knight, the thirteenth day of January, 1615¹.

She being demanded whether she had at any time made any circle, or did she know of the making of any circle thereby by charmer or enchantment to do any mischief. She said she never made any, neither did she know of any that was made by any. And denyeth that ever she said to Bird or his wife that she would be even with them, or ever said so much to Bowman his wife, neither did she ever hurt Bird his child or any other. And further sayeth that she do not know what doth belong to witchcraft, or anything there unto belonging.

Tho: Steward.

Information of Mary, wife of John Vipers, of Haddenham. She sayeth that when the daughter of the said widow Pitman was sick, there was a falling out between widow Pitman and her daughter, and that the wife of Martin Bird and Joan Soale told this informant of the falling out, which, when Pitman understood, she came to this informant to know what Bird and his wife and Joan Soale had reported unto her, which, when this informant told her, widow Pitman answered and said "Well, I will acquit her kindness before 7 years go about."

Tho: Steward.

Information of Martin Bird, of Sutton, labourer, who says that, about one and a half years since, there was a falling out between Dorothy Pitman, of Haddenham, and Ann, wife of Thomas Cooper, daughter of the said Dorothy. This informant then dwelling in the said town, his wife being in the street with a little girl named Joan Soale, did hear Ann cry, "Murder,

¹ Ely, *Depositions and Informations*, F, 10, 1615.

Murder," and Dorothy said she would have her blood. His wife and the little girl noising the same abroad unto other their neighbours, Dorothy did give threatening speeches against this informant, unto Mary, wife of John Vipers, saying she would be even with her before 7 years went about. And about half a year after, he having a little girl, about a quarter year old, did fall sick for about half a year, being all the time extremely tormented with continual heaving as she lay in bed, lifting herself a foot or more plumb up with all parts of the body 10 times or 12 times every day and night, the mouth changing continually, as if it had been eating, and so continued during the time of her sickness, and so died. This informant went to one Hillers, accounted a wizard, dwelling 6 or 7 miles from Newmarket, to seek a remedy for the said child, who told him that he had tarried too long, and that "if the child did live until the spring, she would either amend or end." And about the spring the child died.

Informant Elizabeth, wife of Martin Bird, remembers the falling out, and heard Ann cry "Murder, Murder, help, help for God's sake. She will murder me!" And that if she came to help her, she would have her blood, crying out very loud—"Ho, Ho, Ho, Ho, Ise, Ise, Ise," which was very fearful to this informant. Further she sayeth that the said Ann, daughter of Dorothy, cried out and said that now she would have her goodness known, and that she would conceal it no longer. And saith that at the same time Dorothy had two of her fingers bitten by her daughter. Further, Thomas Cooper, husband of Ann, came to the said place, his wife telling him that her mother would have murdered her, took his wife by the arm and said, "Come away for she is a witch, and hath been for 20 years." Further, this informant saith that Dorothy Pitman bewitched the child.

The informant, Thomas Cooper, of Haddenham saith, that 3 or 4 years since, his wife was grievously sick, and he went to one Smith, in Cambridge, an apothecary, and some others skillful in physic, but could find no remedy. He went to a woman named Mother Jane, a reputed wizard, dwelling at Waltham, by Hitchen, Hertford, who told him his wife was ill

dealt with, but she should recover and lift her arm to her head the next day, which, at his coming home he found to be very true, and so she recovered little by little. He thinketh she was bewitched.

The informant, Ann Cooper, sayeth she was ill about 7 weeks, but never thought her soul bewitched, neither did she at any time in her extremity say that she was bewitched by her mother, or knew that her husband went to any wizard to seek remedy for her.

The information of Edward Mason, of Haddenham, taken upon oath before Thomas Castell, Esquire, one of His Majestie's Justices of the Peace for this Isle of Ely, the twenty ninth day of May, 1647¹.

Who saith that being in the company of Thommison Read, the said T. R. told this informant that the devil appeared to her in the likeness of a mouse and demanded of her the life of her child, which the said Thommison would not agree unto. Then the devil demanded of her some of her blood, which she consented and yeald unto, which was no sooner granted, but the devil coming to the said Thommison to know what he should do for her. She said unto him send my spirit to bewitch the child of John Miller, of Hillrow. All which was speedily performed by her spirit called "Muse," and the said child hath ever been most grievously tormented, and being asked by this informant if she could not unwitch the child again, she answered she could not, for if she could she would. And further this informant saith not.

The information of Ellen, the wife of Oliver Pope, who saith that Thommason Read, being in this informant's house, after she was apprehended and searched, and by the searchers found to have the marks of a witch. The said Thommason told this informant that, when she lived at Cottenham, which is about 15 years since, the devil appeared to her in the likeness of a mouse, and pricked her on the thigh, and so for a time, left her. Afterwards she coming to live at Haddenham, the devil appeared the second time and demanded of her her

¹ Ely, *Gaol Delivery Rolls*, E, 5, 1606-36.

child, or else her blood, and presently gave the said T. a prick or nip upon the breast, and the spirit mouse sucked her blood. And she commanded her spirit mouse to go and bewitch and touch the child of John Miller, which was speedily performed, and the said child was handled in a most grievous and tormenting manner. And further, she told this informant that she commanded her other spirit cat, to bewitch to death the sheep of Thomas Woodbridge and of Robert Gray, both of Hillrow, which was further performed. And eight of the sheep of Thomas Woodbridge and Thomas Gray did die, and further this informant saith not.

The information of Robert Miller, who saith that John Read, the son of Thommason Read, came to him and desired him to go with him to the house of his mother, which this informant did, and being there, Thommason Read gave this informant a white root to eat, which this informant did eat, and in a short time after had his first tormenting fit, and hath to this present been in great pain and misery, all which this informant doth verily believe was done by Thommason Read.

The information of Thomas Woodbridge, who saith that in April, 1647, had died out of his flock 12 sheep, which sheep died in a strange manner, and in a very short time.

The information of Robert Gray who saith that having the son of Thommason Read to drive his plough, this informant changed the said son of T. R. and took another boy that was more stronger, which the said T. R. hearing, said, "hath this Robert Gray taken another boy? If I live I will be even with him for so doing." And presently after this informant had two of his sheep died, within an hour's space, which at that time, this informant saith unto the shepheard that, he did verily believe was bewitched by the said T. R.

The examination of Thommason Read, who saith that, about 7 years since, there appeared unto her a great mouse, and gave her a prick upon the thigh, and hath sucked upon her body ever since, until Wednesday last, being the twenty sixth of May, 1647. And after she had made her contract with the devil, the first thing the devil asked her was to make away with her child. Which she refused, but commanded her

spirit mouse to go and touch and bewitch Robert Miller, the son of John Miller, which she confessed was presently performed by her spirit mouse, and the child ever since to this twenty sixth of May, was in great torment. And she being asked if she could not command her spirit mouse to forsake the child, she answered she could not, for if it was in her power she would. But further saith that old —, of Aldreth, could unwitch Miller's child. And further saith that she had another spirit in the likeness of a cat, which cat she commanded to go to the fold of Thomas Woodbridge and Robert Gray, and worried 12 of the sheep because they would not have her boy no longer to plough, but took another boy. And being asked when the spirits fed upon her body, she said that they both came in a great wind the last night between twelve and one of the clock, and as soon as they had done, she commanded her mouse spirit to go into the body of Robert Miller, and her cat spirit she commanded to go and destroy the corn that groweth in Hillrow field.

THE MONUMENTAL BRASSES OF SPAIN.

By R. H. EDLESTON, M.A., F.S.A., F.R.G.S.

Communicated February 8, 1915.

The three rubbings which I venture to submit for the inspection of the Society, represent, so far as I am at present aware, the only three monumental brasses existing in Spain. That of Don Perafan de Ribera Duke of Alcalá, 1571 (Plate III), formerly in the Cartuja Convent in Sevilla, and now in the University Chapel in that city, was long thought to be the only brass in Spain, and is mentioned as such by Mr Creeny in his monumental work, *The Brasses of Europe*. I only venture to submit a rubbing of this brass because that reproduced in Mr Creeny's book shows only the figure, and the base, of this immense quadrangular plate. The marginal inscription reads as follows: AQVI IAZE EL EX^{MO} SENOR DON PERAFAN DE RIBERA DVQE DE ALCALA MARQVES | IE TARIFA CONIE IE LOS MOLARES ADELANTADO MAIOR DEL | ANDALVZIA VISOREI DE NAPOLES FALLESCIO A. Z. DE ABRIL DE 1571 ANOS |.

The Latin verses read thus:

HOC IACET IN TVMVLO QVEM VIRTVS VEXIT AD ASTRA :
 QVEM CANET AD SVMMVM DEBITA FAMA DIEM.
 TEMPORE DIVERSO DVO REGNA AMPLISSIMA REXIT,
 BARCHINOEM IUVENIS, PARTHENOPENQVE SENEX.
 DVM FVIT EOIS, FVLSIT QVASI SIDVS EOVM :
 DVM FVIT HESPERIIS, HESPERVS ALTER ERAT.
 FLERE NEFAS ILLVM, QVI FÆLIX VIXIT VBIQVE.
 ANTE HOMINES VIVVS, MORTVVS ANTE DEOS.

The two identical shields in the upper corners are surmounted by a ducal coronet. When I visited Sevilla in 1906 for the purpose of rubbing this, "said to be the only brass in Spain," permission for which was most courteously given me by



Brass of Don Perafan de Ribera, 1571.



Brass of the Wife of Francisco Fernandes, 1371.



Brass of Martin Ferrandes de Lascortinas, 1409.

Professor Joaquin Hazanas y la Rua, late Rector of the University, I had the good fortune to meet that eminent artist and archaeologist Mr George Bonsor of Carmona, the excavator of Italica and more lately of the Phoenician and pre-historic sites at Carmona. Mr Bonsor, to whom I was introduced by the British Consul, Capt. Johnston, most kindly gave up a day to showing us Sevilla, and put me on the track of the second of the brasses to which I desire to call your attention. This brass (Plate IV), commemorating the wife of Francisco Fernandes, 1371, is now on the walls of the cloisters of the former Convento de la Merced, now the Museo Arqueologico at Sevilla. It was formerly in a church at Castro Urdiales in the province of Santander. I do not propose to take up the time of the Society by any description in detail of these brasses. The rubbings, although I could wish that they were better, must speak for themselves. In this brass, the costume of the lady, the lapdog with its collar of bells at her feet, the single canopy with sixteen saints in two's in the shafts, and the marginal inscription in Lombardic characters, with the Evangelistic symbols, bear so strong a resemblance to the Flemish brass of Walsokne, 1349, at St Margaret's, King's Lynn, and in slightly less degree to that of the Braunche brass, 1364, in the same church, as almost to suggest that this brass from Castro Urdiales must have come from the same shop at Bruges or Ghent as some of the finest examples of Flemish brasses to be found in England, and in Northern Europe. The parts of the inscription remaining on this brass read thus:TO POLO E MVGER QVE FVE DE FRANCISCO FERNANDES | QVE FINO EN TREINTA DI | ...MAYO ERA DE MIL E CCC E LXXI ANN... | .

The third rubbing (Plate V) is of the brass to Martin Ferrandes de Lascortinas, 1409, and his wife Catelina Lopes, 1411, and their sons Lope, Johan, and Diego, although with the figure only of Martin Ferrandes himself. It is now mural, in the Museo Arqueologico at Madrid. I was told of its existence by the Curator of the Museo Arqueologico at Sevilla. Leave to take the rubbing was given me at once, on the introduction of the British Embassy, by the Curator, Don Jose Ramon Melida.

The general design, both figure and accessories, the canopy with saints and angels, the diaper patterned background, the marginal inscription with symbols and shields, and the lion and wild man at the feet of the figure, is of the usual Flemish type of well-known examples in England, Belgium and Germany. It bears a striking resemblance, especially in the position of the folded hands, to the brass of Roger Thornton and his wife, 1429 and 1411, at Newcastle-upon-Tyne. The inscription, in Lombardic letters, runs as follows: ✠ AQVI IAZE MARTIN FERRÁDES DE LAS CORTINAS QVE FINO EL PRIMER DIA DE MARSCO ERA DE M.CCCC.IX ANNOS ✠ AQVI | IAZE CATELINA LOPES SV MVGER Q FINO | A OCHO DIAS DE MAYO ERA DE M.CCCC.XI. ANNOS ✠ AQVI IAZE SOS FIOS LOPE FERRÁDES IOHÁ FERRÁDES DIAGO FERRÁDES AQVI | DIOS P̄DOE |. I heard in Spain a vague rumour of brasses at Zaragoza and Valladolid, but I have not since visited Zaragoza, and at Valladolid a look through the Museo at the Collegio de Santa Cruz revealed nothing. However I am able to report that there are three brasses, not one only, in Spain, if not more, and to exhibit the rubbings I made of the three.

MEDIEVAL GRAFFITI, ESPECIALLY IN THE
EASTERN COUNTIES.

Modified from papers read December 2, 1912, and
February 8, 1915.

We have a great deal still to learn from the systematic study of masons' marks; but there is another class of marks in churches which has been left almost unnoticed, though it offers perhaps a still richer field, and especially for Cambridge students. On the piers of the tower-arch at Coton church are three rough inscriptions, scratched apparently with knife-points, one by the mason who did the work, and the others by parish clerks. The material (clunch) was evidently so tempting, and is so common in Eastern county churches, that these inscriptions suggested to me the idea of a systematic search, which has been rewarded far beyond my expectations. If we may generalize from about a hundred buildings now inspected in Cambridgeshire, Herts, Essex, Suffolk and Norfolk, it would seem that there are scarcely any clunch-built churches which have not tempted the medieval scribbler. Some have been so mercilessly scraped at restoration that little or nothing now remains; in other cases, the pillars are still covered wholly or in part with whitewash; in nearly all other cases medieval inscriptions may be found in a more or less legible state. It may therefore be worth while to provide here a rough hand-list of such inscriptions, deciphered to the best of my ability. Although I have here had much help from the Provost of King's, Mr E. H. Mians, and above all from Mr A. Rogers of the University Library, much must still be left to my reader's conjecture or correction. If this paper elicits more accurate readings from other observers, and especially if it stimulates systematic research and preservation

of such inscriptions in the clunch districts, it will have served its purpose.

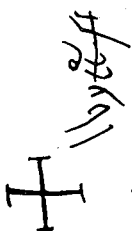
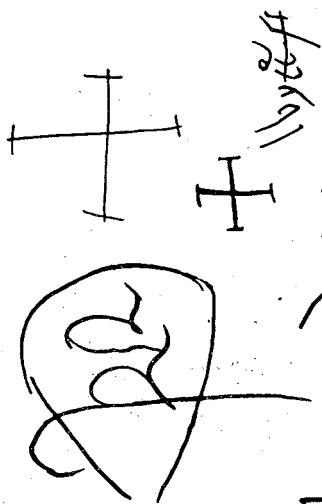
Some of these inscriptions are very conspicuous, and have already been published. The chief among them is the famous Black Death inscription, and drawing of Westminster Abbey in the 14th century (miscalled Old St Paul's), inside Ashwell tower. Legends almost equally conspicuous are inscribed upon two arches at Rushden (Northants). On one is "This arche made Hiwe Bochar & Julian hise wyf, of whos sowlus God have merci up on. Amen." The other bears "In God is all. A! God help!" At Ropsley (Lincoln) a pillar bears "Ista columna facta fuit ad festum Sancti Michaelis anno Domini M^o CCC^o LXXX^o, et nomen factoris Thomas Bate de Corby." These, of course, were official inscriptions meant to be seen by all. Of similar character are the boldly-cut words on the jamb of a window in the N. aisle at Offley (Herts). "Dedicatum fuit istud altare in festo sancti Sulspicii (sic) episcopi, anno domini M^o CCCC^o XVII^o," to which a contemporary hand has added "et Regis Henrici V^{ti} quarto. Billeys"; (plate X). Again, on a pillar at Little Dunmow; "Hic requiescat (sic) corpus Johannis de monte Caniso, cujus anime propicietur Deus. Amen." Such conspicuous inscriptions are deeply cut in bold letters, and have attracted their due share of notice; it is therefore better here to emphasize the multitude of others, sometimes so minute as to suggest that they may have been scratched with a pin-point, and often half-scraped away by the restorer, which seem hitherto to have escaped notice almost altogether. In a few cases, as at Barrington and Ashwell, they have been traced over in modern times with a lead pencil; but with unfortunate results, since the operators in all these cases have evidently misread (and therefore, wrongly traced) a good many letters.

Let us begin with Coton, as nearest to Cambridge and intrinsically among the most interesting. I have collected the best Coton graffiti on Plate VI. On the N. side of the tower-arch Andrew Swinhoe has recorded that he began the arch on St Wulstan's day 1481, and two parish clerks have written their names about the same date, one on the S. and one on the N. pier. These inscriptions run: "Andreas Swynnnow hoc

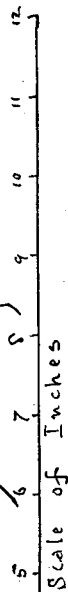
Sanctus Stryuon +
homo i die cu vltan in cep
anno d' aquillm cccc^m octuagel^m

Thomas de Cotys
anno d' m^o c^o lxxviii

Thomas de Cotys
anno d' m^o c^o lxxviii



Thomas de Cotys
anno d' m^o c^o lxxviii



Graffiti, see p. 54.

amento mei aū be di (nec r

Opere p p amā + e sōg apr s

homo s: 16 Elstow

oge p meq cōio

Ho the post fo
the ga gūtu

pat. (an kept a
anru it)

Constance
a hūella



Graffiti, see p. 55.

primo in die Sancti Wlstan̄i incepit, anno domini millesimo cccc° octagesimo primo"; "Thomas Bradfeld clericus de Coty[s] anno domini [MC] CCC [octa]gesimo tercio"; and again "Thomas Dobson clericus de Cotes¹ anno domini....." The rude mark before *Andreas* seems pretty plainly intended for a pair of compasses, a very common emblem of the mason's craft. On the pier of the tower-arch, about 8 feet up, is a sort of rough monogram which may possibly be read "P. R.," and may be a mason's indication-note such as we shall see later on. On the pillar near the font are two so-called "pilgrim-crosses," such as occur in very many medieval churches. The explanation of these (which is probable enough, though I have never seen documentary evidence given), is that they marked the beginning or the consummation of a pilgrim's vow. On another pillar "William" [] has scrawled his name, on the N. pier arch "Johannes Lofte," and in other places we note "th"[omas], "thom," "stobart"?, and a very minute scratch which apparently reads "Dom^s Henricus," and will in that case be the signature of one of the clergy.

With this miscellaneous collection from Coton let us compare a similar collection from the nave of the nunnery church of Elstow, Beds, which was doubtless frequented by the laity also (Plate VII). These pillars are hard and rough sandstone, so that the letters, though often large, are shallow and frequently illegible. The first runs "Memento mei cum ve...." We at once supply "-neris in regnum tuum," and this is not entirely inconsistent with what can be deciphered of the rest of the inscription. Another begins quite clearly "Orate pro anima," and then, almost as clearly, "rus boy," which may possibly be ungrammatical for "Robertus Boy." The rest is suggestive of "eujus anime propicietur Deus," though there scarcely seems room for "eujus." It is possible, however, that the word which I have read as "Boy," may be "eujus," in which case there seems scarcely room for the name of the person whose soul is prayed for. The next seems to read "Homo de muliere"... "Man" (born) "of woman" (is full of trouble). The next is possibly "Me (et) temetipsum cedis." The next

¹ Coton was called *Cotes* in the Middle Ages.

is a long inscription in large letters, but mostly illegible, "tho the goost ffo d(o)th ge..." "th(an) he shel boot..." There are a good many scarcely legible names scratched, among them "Constaunce," "de — [?]" The other figures on this plate are from Whittlesford, and of the armorial kind which we shall see more fully later; one of the Allerton family has drawn his crest, an antelope's head, repeatedly, on a tilting helmet; the same drawing and the same name occurs on a pillar at Babraham.

Plate VIII gives fresh examples of building notes.

At Ashwell (S. pier eastwards) we find "anno D^{mi} M.CCC^o LXXX^o fuit ista. [ij^a] ecclesia con[summata]"; Sawston "[Consecr]atio [] xxxviij in die apostolorum Symonis & Jude." At Ashwell, that is, "this second church" (by which is doubtless meant the church as rebuilt after the Black Death) "was finished in 1381." At Sawston the church (or possibly the altar close to the pillar) was consecrated after rebuilding on St Simon and Jude's day 1338: the century is illegible on the inscription, but no other is compatible with the actual architecture. At Stapleford on one of the pillars is "M," doubtless for "Maria." The rest on this plate are moral saws such as are very frequently found among these medieval graffiti, although they are not always specially legible. Saws of this kind are of course commonly met with scribbled on the blank leaves or margins of medieval books. Moreover collections of them were not infrequently made in the Middle Ages. A German scholar, Jakob Werner, has published an extremely useful alphabetical arrangement of them, mainly from two MSS. at Bâle¹. He suspects a Low German origin for the best of these collections, but one of the proverbs seems to point to an English origin, since it is difficult to make sense of it in any other language². The last of the saws on Plate VIII is in one of the Bâle MSS. quoted by Werner, "ebrietas frangit quicquid sapientiâ tangit." "Drunkness breaks whatever wisdom

¹ Jakob Werner. *Lateinische Sprichwörter u.s.w. des Mittelalters*. Heidelberg. 1912. 2 mks.

² "Plus valet il quam nil," pulicem gluciens lupus inquit. "Ill is better than nil," as the wolf said when he swallowed a flea.

lo fol hio ye day such
 Tatt fol nook to ye look
 Ryth bone to wyth ye dook
 It go abnotts wyth ye dook

Barrington, Cambs.

Anno d'ni m
 lxxxviii
 m'p'cc'os conu'mu

Ashwell, Herts

Quot gratias petis tot sales quib' m'p'cc'os

Ashwell.



Stapleford

C'no'cc'os & T xxxviii Indie
 ap'at' Symon & Iude

Sawston

paed fiiiiio tenn'c
 T'celo'paed

fiiiiio'it'ur' Est' & no' san' fii' m'p'cc'os

Oibz' q's' 1. m' 11' g'p'g' & p'uni

eb'p'cc'os' fran'c' q'is' p'at'at'
 t'ing'

} Ashwell

Graffiti, see p. 56.

touches." It is difficult not to suspect that the man who first invented the line wrote "pangit." Working upwards on the plate the next seems to read "Omnibus in quibus...diligit punit." The next "Finis virtutis Dei gloria, & non sancta sum omnibus." "The end of virtue is God's glory, and I am not holy to all." The next, "Patere si vis temet in coelo patere"; i.e. "Suffer, if you want yourself to be seen in Heaven." Skipping the Sawston inscriptions already noted, we come to another from Ashwell. "Quot gratias sentis tot deles crimina mentis." "As many thanks [or favours] you feel, so many faults of the soul do you wipe out." It is pathetic to think that the good priest who wrote this took *gratias* for an anapaest. The top inscription is from Barrington; it has been wholly pencilled over, so that it can only be read properly in a rubbing¹. It is an English exhortation to the sinner:

"lo fol how the day goth
 Cast foly now to the cok
 Ryth sone tydyth the [thee] wroth
 It ys almost xii of the klok."

I have found only two similar inscriptions in English: one is from Great Bardfield, very imperfect:

"Be noght to bold
 Be to buss[ness]...
 Bost noght to mych..."

and the other is a portion of an English love-song on one of the pillars of the half-ruined church at Duxford:

"With wiel my herte is wa
 & closyd ys w^t care
 L & S sekurly
 [Ca] use me to syth full far
 I &
 ...for to smarte
 V &...Y withall
 .. joy come to thin hert."

¹ It may be well to mention here that by experience I find far the best rubbings can be made with a *good* (2d.) indelible pencil, and on the thin tough paper commonly sold nowadays in 6d. correspondence tablets. The pencil should be sharpened at both ends, otherwise it may wear out before the inscription is fully rubbed, which causes great difficulties.

But to return to our Latin saws. At Gamlingay is an inscription in large sprawling letters (Plate IX); "mors comparatur umbre que semper sequitur corpus"—"death is like a shadow which always follows the body." At Harlton is "si servire velis...immittere del...", evidently meant for a hexameter, but beyond my skill to decipher: as is also another in the same church, "Quod non vis longas...propheta [fatigas]." A third at Harlton runs "qui me deridet non sua facta videt"—"he who laughs at me sees not his own deeds." Before passing away from the subject altogether, one or two may be recorded which are not figured in these plates. At Ashwell we find "...autem Domini sordidi et fetentes"; "non [hac] arte [pre-munt] pungentes cornua [spinas]" and (magnificent specimen of dog-Latin) "Superbia preceedit fallum." At Little Dunmow is a curious motto for a monastic church "Dum sumus in mundo, vivamus corde jocundo"; and at St Gregory's, Sudbury, on the tower-arch, a saw which Werner quotes also from a Bâle MS., "non est in mundo dives qui dicit habondo"—"there is not a rich man in the world who says 'I have enough.'"

Let us now return to Plate IX. One Stanstedé has recorded his name elaborately at Harlton; at Lavenham and Beachamwell is a puzzling τ ††, in both cases on the western tower; and at Harlton there is in the same place an equally large and legible τ . In none of these three cases is there any trace of an emblem of the Trinity. I can only conjecture that these marks are masons' memoranda of some sort.

Plate X. Among the commonest graffiti are Roman numerals, sometimes indicating dates, but in many cases certainly referring to business accounts. On the tower-arch of Walpole St Peter's is a record of a considerable amount spent for stone. At Duxford St Peter's, in the splay of the window behind the priest's seat, is "Robertus Ba (?) hic obligatur di marē," which evidently records a debt of half a mark. On the piscina at Harlton is recorded a series of shillings and pence over the signature of "Elena Crowe¹." On Gt Dunmow tower-arch are similar notes of money and one legible item "oyll." At Thaxted on one of the pillars is "P. Kyng. iij s."

¹ The Walpole and Harlton examples are not on this plate.

cyor scōpapat?
 ʒombie que
 ʒenaper
 ʒegmita
 coʒaʒ ʒ

Gamlingsay

In feru. ye ʒelus n̄ ta imure del.
 Quod noi ne logʒ sum. ʒ pheta face [ʒakʒʒʒ]

Hailton.

ʒ

Beachamwell

ʒ

Lavenham.

ʒ

ʒ

Hailton

* Graffiti, see p. 58.

Duxford, St Peter
 1066
 1067
 1068
 1069
 1070
 1071
 1072
 1073
 1074
 1075
 1076
 1077
 1078
 1079
 1080
 1081
 1082
 1083
 1084
 1085
 1086
 1087
 1088
 1089
 1090
 1091
 1092
 1093
 1094
 1095
 1096
 1097
 1098
 1099
 1100

Barrahm
 1188
 1189
 1190
 1191
 1192
 1193
 1194
 1195
 1196
 1197
 1198
 1199
 1200

Hariton
 1188
 1189
 1190
 1191
 1192
 1193
 1194
 1195
 1196
 1197
 1198
 1199
 1200

Barrahm
 1188
 1189
 1190
 1191
 1192
 1193
 1194
 1195
 1196
 1197
 1198
 1199
 1200

Dedicat. aut. altar
 in feto S. iustici. epi
 et regis Henry 2. quart
 1188

Graffiti, see pp. 58-59.

Plate X shows other business or clerical inscriptions. At Babraham "Dominus Johannes Hede funus celebravit"; also on the base of one of the north pillars "[Beverach?] & Kateryn Sant offyrit this gobyite. [Beverach?]." *Gobbet* was a medieval term for a large block of stone: no doubt these two contributed the cost of the block from which the base was wrought. At Harlton on a N. pillar; "orate pro anima Thome [] Cujus anime propicietur Deus amen." On the Swynford tomb at Lincoln, or on a pillar beside it, "Oliverus Lowode Capellanus de [Husse]." At Duxford St John's "Dominus Johannes Ranaldson [bis]. Mundi salvatrix sis michi A propiciatrix Amen." It is evident that Sir John Ranaldson misplaced his ejaculatory *Ah!* which should come after *salvatrix*. Most interesting of all is an inscription on the pillar between the choir and the S. chapel at Whittlesford. It reads "Frater Fenis apostata"; *Fenis* is evidently *Fiennes*, a name which is spelt *Fenys* in the Greyfriars' Chronicle of London recently edited by Mr C. L. Kingsford. This is dated, in contemporary Arabic numerals, 1388, and was evidently cut on the stone before the Perpendicular screen was put in its present place. This date is extremely interesting, since the internal evidence would have dated this pillar a hundred years later. It is scarcely possible to suppose that the stone is of earlier date than the rest, and that it was re-chiselled by masons of 1480 without touching the inscription. It would seem to confirm very strongly a theory to which some students of Perpendicular architecture have already been driven by other evidence—that the style ran very quickly through almost all its variations, and that what seems to us late Perpendicular was sometimes middle Perpendicular.

Plate XI gives specimens of religious emblems, a very frequent form of graffiti: three vernicles, a lily, a crown, and the sacred monogram, which is to be found almost everywhere.

Plate XII. The costume of the Whittlesford archer shows him to be medieval; the Gamlingay mill and crossbow are probably medieval also. Rough coats of arms are very common indeed; sometimes (as at Kingston) the name is given; though I cannot read it.



Gamlingay



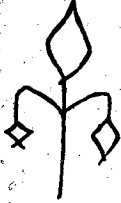
Kingston.



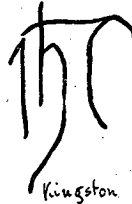
Elstow



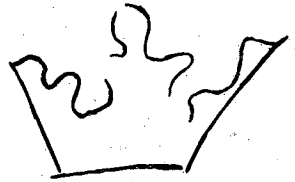
Coton.



Kingston



Kingston



Elstow

Graffiti, see p. 59.

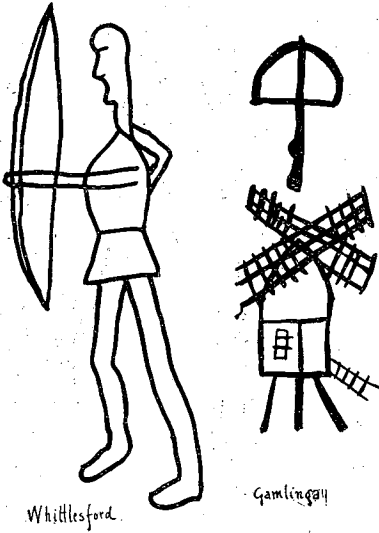
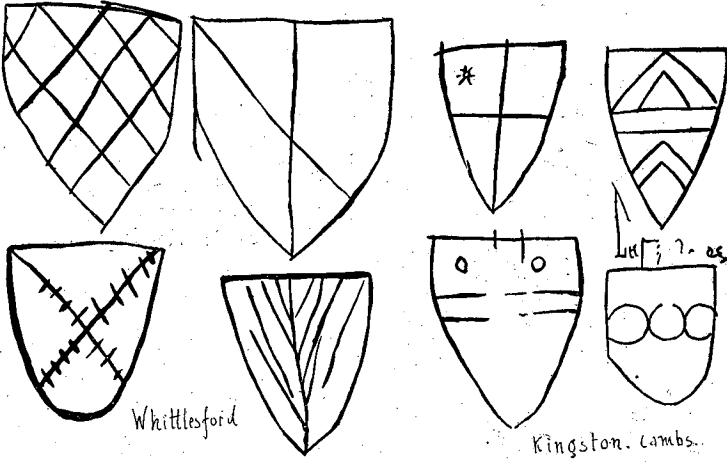


Plate XIII contains more elaborate drawings. The Church-down (Gloucs.) mermaid, if the letters belong to it, must be post-medieval. The monk at Little Dunmow, and a very delicate peacock in the porch at Churchdown (not here reproduced) are evidently by practised artists. The Sible Hedingham hawk is copied from the carved hawks on the cenotaph of the great condottiere Sir John Hawkwood, which stands just opposite.

Plate XIV. The Babraham lion is evidently heraldic, and the added name seems to be Snape. The Rickling inscription is the most elaborate of its kind I have seen; it is on both sides of the priest's door. It is evidently a tribute to the mutual affection of Isabel and Colin Walden. The numbers (IX, 45, 2435) had doubtless a mystical signification to Colin and Isabel. The heart and three roses had its parallel (as we have seen in Plate X) at Babraham: the motto *tout dis* is, of course, old French for *toujours*.

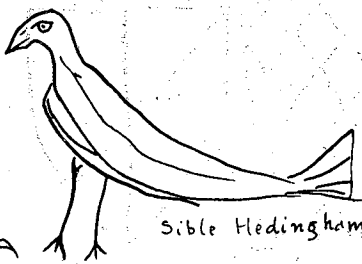
Plate XV. The Pentney and Barnston figures seem, by their hoods, to be 14th or 15th century. The Stebbing helmet has a wing for its crest. At Babraham is a chalice on one of the pillars, and the Duxford rose is on the jamb of the priest's door.

The Gloucester examples are part of a most interesting series of masons' records. At the back of almost every niche in the reredos of the Lady Chapel, is a rudely-sketched figure of a saint, with the name scrawled across it in illiterate handwriting, far less cursive in its character than are the ordinary graffiti. The examples given here are Margarete, Babtiste, Arilda (a Gloucester female saint), Sofonie, and Henos (i.e. Zephaniah and Enoch). At St Albans are similar notes of subjects to be painted on the S. choir piers—"Samson ludificatus"; "legem domini." The oak-leaf was evidently scratched by a practised hand; a similar oak-leaf, drawn on the magnificent chantry-tomb in the N. nave aisle of Sens Cathedral, can be proved to be not later than 1490.

The other three inscriptions on this Plate are very tantalizing. The first two occur on the tower-arch at Sible Hedingham about six feet from the ground on exactly



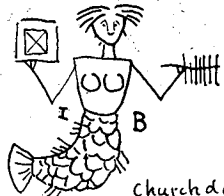
Lit. Dunmow



Sible Hedingham



Beachamwell



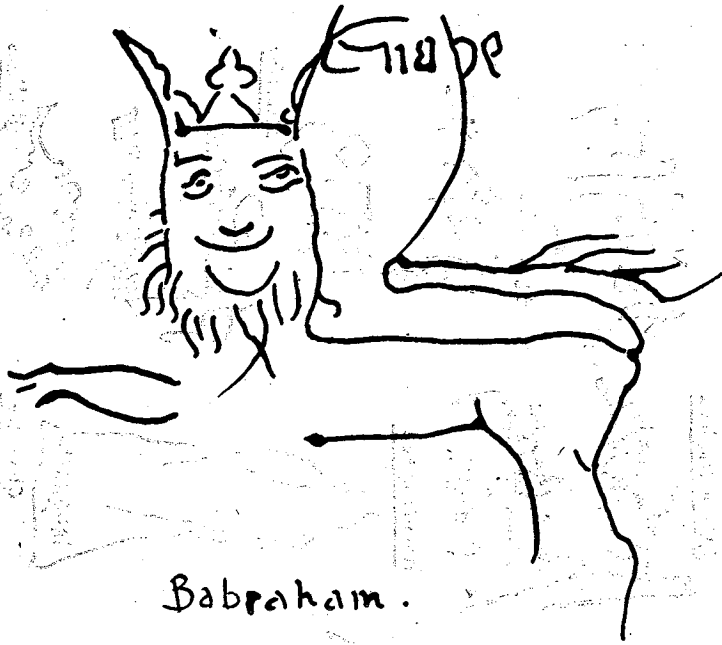
Churchdown



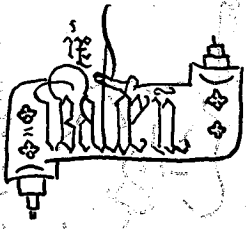
Barrington



Barrington.



Babraham.

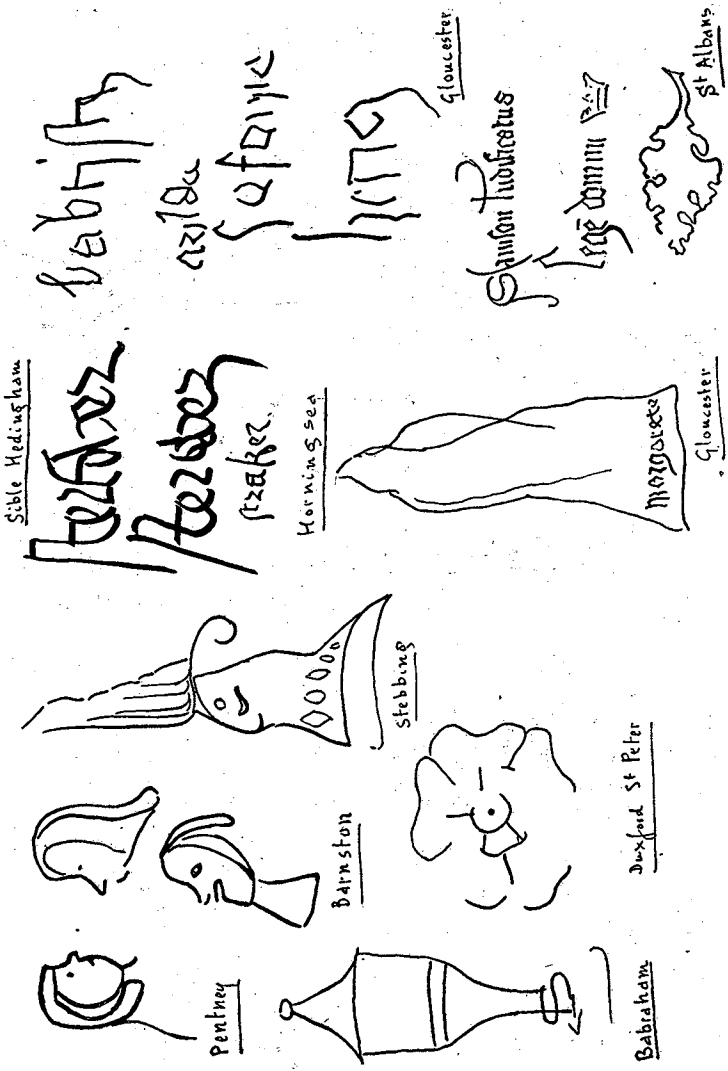


Rickling
Essex.



18-00 14 son 11-100

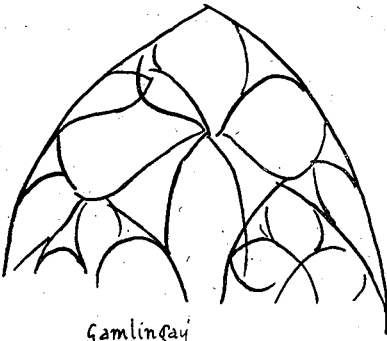
Graffiti, see p. 60.



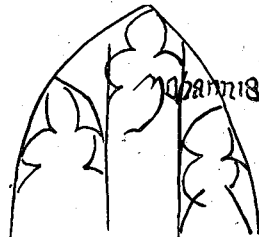
Graffiti, see pp. 60-61.

corresponding stones of the north and south piers. Like most of the Gloucester inscriptions (and some others which I have noticed whose masonic origin is also probable), these letters seem to have been scratched with the end of a very narrow chisel rather than with the point of a knife. The Horningsea inscription, moreover, is in a position in which it would have been almost impossible to make it when the stone was in its present position (west side of entrance arch into south porch, a few feet above the spring of the arch). We are driven to the conclusion that the letters were inscribed upon the stone by the workman who had it before him on the banker. Even Mr Rogers is puzzled by the inscriptions, which are so similar as to suggest that the same word is intended in each case, and I have vainly searched architectural glossaries for any medieval word like these. Before passing on from Horningsea it may be remarked that on the other side of the same arch "[] de Templo" has inscribed his name.

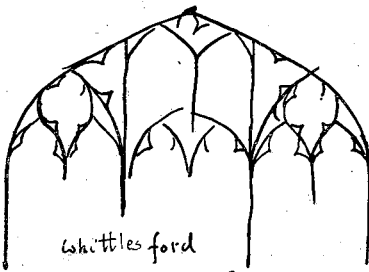
The last class of inscriptions to which I come is that of masons' drawings (Plate XVI). One well-known example of such drawings is in the Archaeological Museum at Cambridge, a slab of clunch from the old chapel of St John's College, upon which a 13th century mason had worked out a simple design for tracery. Other far more complicated working-drawings are figured in an early volume of Didron's *Annales Archéologiques*; they are scratched (if I may trust my memory) on the grey slabs of slate which take the place of lead as an outer covering for the aisle roofs at the Cathedral of Limoges. At Castleacre Priory in Norfolk, in the late seventies or very early eighties, the outer coat of whitewash peeled bodily away from the pointed recess on the west side of the south transept; and this left bare, upon the original rough plaster below, a sketch of a flowing decorated window which had evidently been drawn with a point while the plaster was wet. You could see the burr thrown up as the point swept along. This sketch was 3 or $3\frac{1}{2}$ feet high, and, though hastily drawn, very elaborate. I foolishly neglected to take any drawing of it; and, in a year or two, another frost brought most of the plaster down as suddenly as the earlier coat had fallen. Two years ago there remained



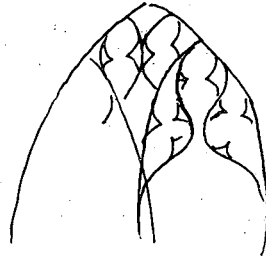
Gamlingay



Barrington

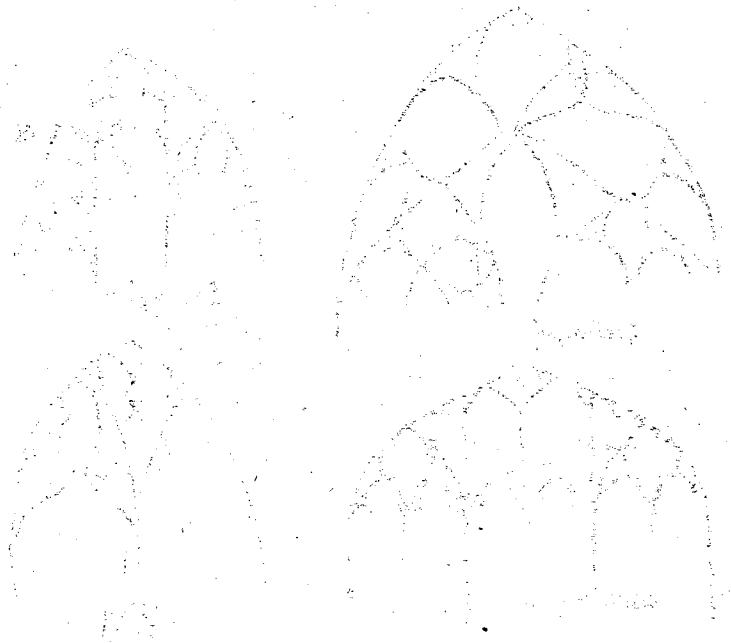


Whittlesford



Offley

Graffiti, see pp. 61-62.



PLANT COLLECTOR'S RECORD

only a few inches here and there, quite unintelligible to a stranger. The four examples collected on Plate XVI are of the same kind, scratched on pillars in every case. If proof were needed that these are rough sketches by actual masons, and not attempts by some worshipper to copy what he saw in the church, it may be noted that in none of these four cases do the sketches correspond with any existing window.

I may add that I have lately found considerable numbers of medieval graffiti in foreign churches, e.g. Calais, Arques, Bures, Guarbecques, Sens Cathedral, the porches of Notre Dame and St-Bénigne at Dijon, and, above all, the pulpitum of the old Cathedral (Valère) at Sion in the Valais. This pulpitum of about 1260 has its upper part covered with plaster of Paris, apparently contemporary with the rest; and this plaster, now as hard and smooth as marble, is covered with drawings and writings which seem to date from the early 14th century,—texts and moral saws, artists' notes, and very spirited drawings of mounted knights, duels, &c. I am more and more convinced that some traces at least of such graffiti will be found in almost all churches where the material permits them, and the restorer has not swept them away. This Society will do an excellent work if it can continue systematically the study of such ancient inscriptions, and warn the clergy not to destroy them during the process, however necessary, of removing whitewash.

G. G. COULTON.

ACOUSTIC VASES IN CHURCHES TRACED BACK TO
THE THEATRES AND ORACLES OF GREECE.

By T. M^CKENNY HUGHES, M.A., F.R.S., F.G.S., F.S.A.

(Read February 15, 1915.)

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A.

Introduction.

The oracles are dumb,
No voice or hideous hum
Runs through the arched roof in words deceiving.
Apollo from his shrine
Can no more divine
With hollow shriek the steep of Delphos leaving.
No nightly trance or breathed spell
Inspires the pale-eyed priest from the prophetic cell.

What had Milton in his mind when he wrote "hideous hum"? I have often asked that question, but have never received a satisfactory answer. The idea will hardly commend

itself to our notice that Milton, being like some common song writers, at a loss for a rhyme, put in a jingling alliteration which had no more meaning than if he had said "No voice, fi fe fo fum."

Moreover, a little further on he says:

In consecrated earth
 And on the holy hearth
 The Lars and Lemures moan with midnight plaint;
 In urns and altars round
 A drear and dying sound
 Affrights the Flamens at their service quaint:
 And the chill marble seems to sweat,
 While each peculiar power foregoes his wonted seat.

What does he mean by the drear and dying sound which was heard in urns and around the altar? Why mention the *arched* roof and *hollow* shriek?

He was a fine classical scholar, familiar not only with the language but also with the literature of classic writers, and his long residence in Italy must have given him abundant opportunities of verifying or correcting impressions. The author of the great epic *Paradise Lost* and *Regained* cannot have passed with unobservant eye over any allusion to the relation of man to the unseen world.

Milton must have deliberately chosen those words and have believed that they would meet with an intelligent response in the minds of his readers.

In his time there must have been a belief that awe-inspiring noises accompanied the oracular responses and that moans seemed to issue from urns and altars in the midnight celebration of ancient mysteries.

B.

Decorative substitution.

Very often the use of an object is kept up although its structural intention has been lost sight of. It is traditionally repeated, and a simply decorative purpose or a real advantage, quite different from that of the original, is found to exist in it.

A good example we have frequently brought before us in the bases of mediaeval earthen vessels. When the thin clay bottom sagged, and caused the base to be round and unstable, a small bit of clay was stuck on, forming a sort of calkin, or the base of the vessel was pinched where necessary to produce the same result; then these impressions were made symmetrically or even all round, and, at last, they became merely an ornamental pattern of no use.

Or, to take a less obvious case, the best form of bracket for roof or ceiling is given by three pieces radiating upward from an upright beam as in the spring of a groined roof, and these became decorative and elaborated into the bucranium of the ancients or the cherubs of mediaeval times, which afterwards were often merely painted on.

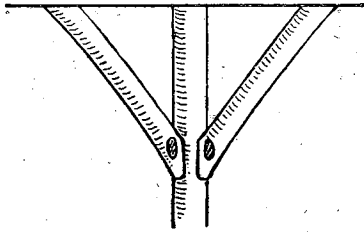


Fig. 1.

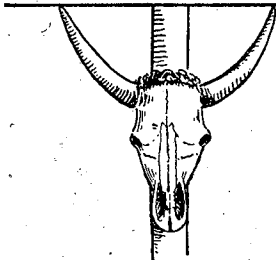


Fig. 2.

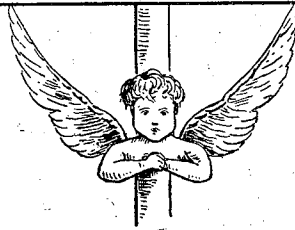


Fig. 3.

An urn was often built into the masonry of the fireplace as a charm against the house being burnt down. That might easily arise from the ancient custom of placing urns in the chancels of churches. When its use for resonance was lost sight of it was believed to be a protection against evil, and, if

placed by the altar of public worship, why not by the household ingle?

Why should we crave a hallowed spot?

An altar is in each man's cot.

WORDSWORTH.

C.

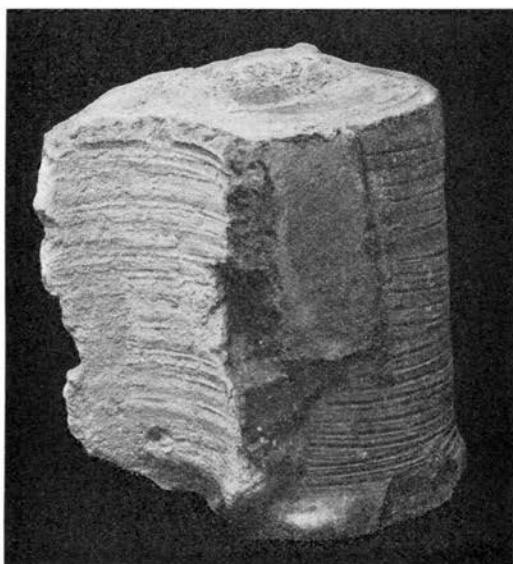
Urns, &c., built into arches for structural purposes.

There is no doubt that earthenware pipes can be advantageously used for building, and have been so used, especially in arches where strength and lightness were required.

I exhibit some cylindrical vessels (Plate XVII) which were found built into that portion of the arched roof of Cockerell's Building, at the University Library, that was removed to make way for the staircase.

They are $7\frac{1}{2}$ inches long by $4\frac{3}{4}$ inches in diameter and somewhat resemble a beretta in form, only that they are higher in proportion to their diameter. They are circular at one end, but at the other they are flattened into a four-sided figure measuring $4\frac{3}{4}$ inches each way. Both ends are closed; the square end has a slight depression in it, and the circular end has a hole in it $\frac{3}{4}$ of an inch across like that in the bottom of a flower pot. The exterior is covered with grooves irregularly produced by marking the clay when soft with a pointed instrument. This was probably to help the adhesion of the mortar in which they were imbedded.

These cylinders certainly do look as if they had been made to serve some such purpose as the production of resonance, and I know of no other object with which to suggest comparison. But, whatever they may have been originally made for, it was clear from their manner of occurrence in the masonry that they cannot possibly have been put into Cockerell's Building for acoustic purposes: they appeared to have been carefully built in to add to the mass and the strength without increasing the weight to the same extent as would solid stone, bricks or mortar. It is most probable that these earthen cylinders came from some earlier building where they had been built in for acoustic purposes, and were used with other old material in the



Earthen Vessels from Cockerell's Building.

erection of Cockerell's Building and put where they would lighten without weakening the arched roof.

With these specimens before us it is very interesting to read the following descriptions¹. The first is of one of the tubes or hollow cylindrical bricks of red terra-cotta discovered among the ruins of the tomb of the Scipios in the Via Appia at Rome. It measures seven inches in length, and about two inches and a quarter in diameter; it is surrounded by a spiral channel to afford a firm holding for the mortar; and at the closed end there is a conical spike which fitted into the open mouth of the next brick.

Another from the church of S. Vitalis at Ravenna "is of red terra-cotta slightly curved to coincide with the arc of the cupola. There is a broad spiral groove on the exterior, and the usual short conic stem or spike at the hollow end. It is nine inches and three-eighths in length and two inches and three-fourths in diameter."

At Arles, Strasburg, and in many Spanish churches, horns and pots and vases have been found built into the vaulted roofs. "Some have supposed that these vessels were placed there for acoustic purposes, the idea being drawn from the *Echea* of the Greek and Roman theatres, but there can be little doubt that in these cases they were introduced for the sake of lightness."

Another example from London Wall is given by the same author, and is worth quoting because the description agrees almost exactly with that of our hollow bricks from Cockerell's Building. It measures, he says, "seven inches and a half in height, and weighs three pounds and half an ounce; it is square at top and four inches in diameter, the lower end circular, impressed with five concentric rings, and having an orifice in its centre, seven-eighths of an inch in diameter. The cylindrical body of the brick is scored with a sharp instrument, not for the sake of ornament, but as a key for the mortar, some of which still adheres to the surface, and might pass for Roman Cement. It has been thought by some that the arch of which this specimen is a portion was the remains of a music room, the

¹ H. Syer Cuming, *Journ. Brit. Archaeol. Assoc.*, Vol. XVI. (Proc.), pp. 359-363.

hollow bricks serving for echea," but others were of opinion that these bricks were made hollow simply for the sake of lightness.

Hollow, or, as they are sometimes called "bottle" bricks, and "cones," were extensively employed in the eighteenth and nineteenth centuries in London and Liverpool for lightening the masonry in public buildings.

"In Upper Egypt, the walls of the peasants' houses are very frequently constructed in part of jars placed one over the other, and cemented together with mud. In walls of inclosures, or in such as require only a slight roof, the upper part is very generally formed of the same materials..." As "pot walls were in common use by the ancient inhabitants, the large mounds of broken pottery may be satisfactorily accounted for¹."

"The Roman builders introduced vessels and tubes into their noblest edifices²."

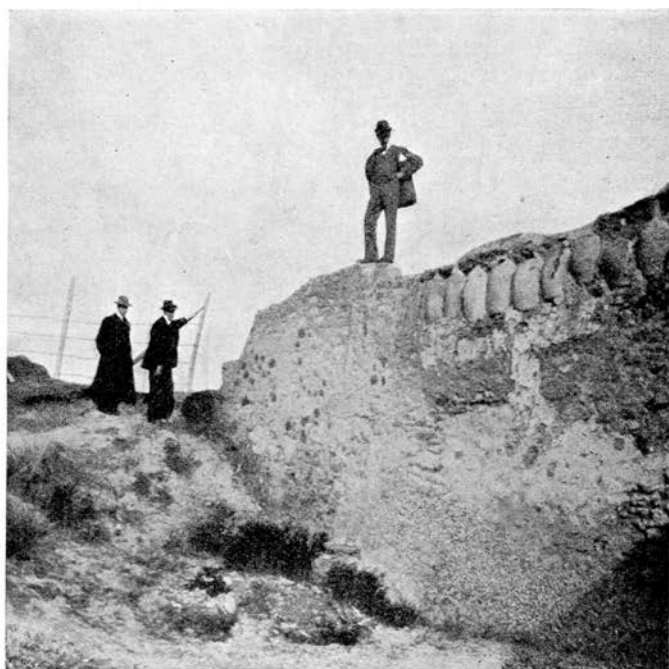
I have here (Plate XVIII) a photograph taken by Mrs Hughes of the interior of a room in Pompeii where there is a row of narrow amphorae carefully placed in a vertical position with the mouth up and built into the top of one of the walls. Whenever we have had good reason for believing that such objects were built in in this country to give strength with lightness they appear to have been laid sideways, but in the east, where the traditions of a remote past still linger, such vessels are often connected by rods and projecting points fitting into corresponding hollows in the adjoining tube in such a manner as to suggest that they represent the jointed bamboos of which their houses were originally built.

From this common use of urns in building it is probable that the wind was often heard whistling and sighing in them and producing musical notes, and this may have suggested their introduction into the surroundings of shrines and temples and at last into Christian churches.

At any rate there they are found, whatever may have been the object in putting them in.

¹ Burekhardt, *Travels in Nubia*, Vol. I. p. 94, 1822.

² H. Syer Cuming, *Journ. Brit. Archaeol. Assoc.*, Vol. XVI. (1860), p. 360. Seroux d'Agincourt, *The History of Art by its Monuments*, Vol. I.



Amphorae built into wall of room in Pompeii. From a photograph by Mrs Hughes.

D.

Hollow bodies placed under floors and in walls to improve sound.

Those who are familiar with rocky mountain paths must often have noticed that their footfall calls forth in places a hollow booming answer, which is due generally to the washing out of the earth from between the stones by subterranean runlets leaving the fragments supported by one another with empty interstitial spaces.

Brewster¹ says "a remarkable subterranean echo is often heard when the hoof of a horse or the wheels of a carriage pass over particular spots of ground. This sound is frequently very similar to that which is produced in passing over an arch or vault." He refers it to the reflection of the sound from the surfaces of broken rock having hollows "left entirely empty or filled up with materials of different density" from which there arises "a great number of echoes reaching the ear in rapid succession, and forming by their union a hollow rumbling sound."

He then describes the peculiar hollow sound which I have myself often heard when a particular place in the great crater near Pozzuoli is struck violently by throwing a large stone against it².

This very appreciable effect is produced by the existence of hollow spaces yielding echoing sounds to blows, and is called *repercussion* or *reverberation*.

But when we get the note played on a violin reproduced on another violin attuned to it; or the notes of a chord, sung in arpeggio, blended in harmony in a domed roof; or sounds bellowing through a cavern, or whispered from a bronze or earthen vessel, then we have something different, to which we must restrict the name *resonance*.

The Rev. T. Whiteside told me an interesting story which shows the prevalence of the belief that hollow objects placed

¹ Brewster, Sir David, *Letters on Natural Magic*, 1883, Letter VII, p. 224.

² Herschel. Dauberry, *Description of Volcanoes*, p. 170. Forbes, *Edin. Journ. Sci.*, n.s. No. 1, p. 124. Scrope, "Considerations on volcanoes, &c.," *Edin. Journ. Sci.*, No. 20, p. 261, and No. 14, p. 265.

beneath the floor would aid and improve musical notes produced in the room above them.

His story is this: "My father about the year 1860, when he was Perpetual Curate of Thrimby... while visiting at Thrimby Hall (Nicholsons)..., saw in the garden a heap of horses' heads which were now discoloured by exposure. On enquiry he was told they had been taken from under the parlour floor, where they had been placed for purposes of sound by the tenants who were a musical family.... The heads were supposed to have been collected after a skirmish at Clifton Moor." I exhibit one of them.

The boards on the ground floor would probably gape enough to allow the air and sound to pass freely through, and therefore there may have been resonance as well as reverberation in this case, and we must remember this when we come to consider the amphorae under the floor in the Vestal Virgins' room (see p. 82).

Mr Thomas Blashill¹ gives two similar cases.

"The idea," he says, "that an object of some kind, of a hollow form, might be used in building for increasing and improving sound has been carried out at a much later date" than that which had been assigned to the custom. "One curious instance," he adds, "impressed itself very much on my mind. The objects used in the instance to which I refer were not pots, but the skulls of horses. Any one who knows the anatomy of the horse knows that there are very large cavities in [horses'] skulls, in fact they are most remarkable and peculiar in that respect; and therefore if the skull of any animal be fit for such a purpose, that one would be selected. Thirty years ago I was present at a gathering in a large room in an old inn, called the Portway, about eight miles west of Hereford. Something brought the matter to the recollection of the landlord, and he stated that the floor of the room in which we were sitting was laid over a quantity of horses' skulls; he had been told indeed that two cartloads had been put there. I asked the reason, and he said 'to make the fiddle go better.' It was a place where music and dancing sometimes went on. I was

¹ *Trans. R. Inst. Brit. Architects*, 1882, p. 83.

there two or three years ago, and they were altering the building. The place was surrounded by scaffolding, and on the top of every scaffold pole was a horse's skull. It was a nine-days' wonder, and the workmen had decorated the building with these strange objects. The way they were found was thus: Twenty-four of them were screwed through the eye-holes to the under-side of the floor-boards in three rows. It was the ground floor, and nine of them were too much decayed to be examined. It would be necessary to test that room both with and without the skulls, and therefore I cannot say whether they made any difference.

"I remember also," Mr Blashill goes on to say, "a paragraph in the papers about twelve or fifteen years since, where it was mentioned that in removing a floor, I think it was in Lancashire, the main beam was found to have been laid on horses' skulls."

It will be noticed that the skull from Thrimby has been chipped on one side as if to make it lie close and evenly against the boards.

Few people would notice and fewer place on record such occurrences. Since I read this paper Dr Holden of Sudbury has sent me the following:

"In 1908 an old brick and stone wall, which was the only surviving part of the ruins of the Dominican Friary at Sudbury—dating 1272—had to be demolished; a layer of bones was found, laid the length of the wall (20 feet) and two feet above the ground. The bones were chiefly the tibias of the small ox of that period."

E.

Urns placed in walls for resonance.

What we have arrived at so far is that urns and other hollow bodies were built into masonry where lightness was sought combined with strength, and that hollow objects were placed under floors in the belief that that would assist music in the room above.

I pass over the methods of deception which Brewster¹ has so fully described, and we will now consider cases where there is good reason for the explanation that vessels were put in for acoustic purposes.

These have been found in various positions according to the shape and character of that part of the building in which they were placed. Some are said to have had the mouth of the urn or cylinder opening on the outside of the building, and this may explain the statement that they were used as dove-cots.

It may be that the effect of the voice or of the rising and falling wind upon some of these hollow bricks may have suggested the idea of putting them in on purpose to produce resonance.

The architect Vitruvius gave exact instructions how to place in a theatre bronze vessels so attuned, according to commentators², as to respond some to one, some to other notes in the actors' voices, and increase their audibility.

His are the only clear descriptions of what was aimed at, and what was achieved, and from him everybody traces the placing of vases in public buildings down to comparatively recent times and back to the theatres of Rome and Greece and to the awe-inspiring rituals of the earliest ages.

Vitruvius says that there was no arrangement of vases to give resonance in the Roman theatres, because these were chiefly constructed of wood, which is very resonant. But we require more knowledge of the details. Canon Pemberton tells me that the panelled room now occupied by the hospitable Vice-Master of Trinity, and therefore well known to almost everybody, is the worst room for music that he has ever played in.

Vitruvius does not bring forward a new acoustic scheme for assisting and improving the propagation of sound. He records a system in use; and there is much to suggest that it was widely used³.

¹ *Letters on Natural Magic*, 1833, Letter vii.

² Cf. *The Dictionary of Architecture*, Architectural Publication Soc., Vol. III., sub voc. "Echeium."

³ See Brash, R. R., *The Gentleman's Magazine*, Dec. 1863.

In many of the examples cited of hollow objects placed under floors there is an obvious similarity to the system described by Vitruvius where the tilted bells communicated by passages with the open theatre.

There are however a number of cases on record in which vessels have been found inserted in the masonry of churches in such a manner as to give the impression that some sort of resonance was aimed at, although the possibility of producing it was often destroyed in later times by plastering over or otherwise covering the mouth of the vessel when the utility or desirability of the structure was questioned.

In the fifteenth century earthenware pots were placed in the walls of the church of the Célestins at Metz¹, and it is on record that they were put in in order to give resonance and assist the singing, and in 1665 the Abbé Cochet² complains that the choirs of religious houses are so fitted with jars in the vaults and in the walls that six voices there make as much noise as forty elsewhere.

Here again some difficulties have to be explained. Many of the most remarkable examples have the urns so placed or so covered as to render them useless for producing resonance.

In most of these cases it is probable that they were built in by workmen who had no knowledge of the way in which they became effective, and ignorantly carried out incomplete instructions; while in other cases they may have reconciled their work to themselves by noting that hollow spaces when struck produced by reverberation loud booming noises, and there is no doubt that for intoning or recitative the reverberation produced by percussion from hollow spaces as well as by resonance from open chambers properly adjusted and attuned would effectively add to the volume of sound.

When, however, attention had been called to the frequent discovery of vases built into the walls of churches and discussion had arisen as to their purpose the custom was not always dismissed as an attempt to impose upon an ignorant and credulous

¹ Didron, *Annales Archéologiques*, Vol. xxii. 1862, p. 224.

² *Précis Analytique des Travaux de l'Académie Impériale de Rouen*, 1863-4, Rouen, Boissel.

public—"jouyr à plaisir aux foux"—or as a ridiculous notion—"ecce risu digna¹," but the subject was from time to time brought forward in the press or at meetings of Archaeological Societies.

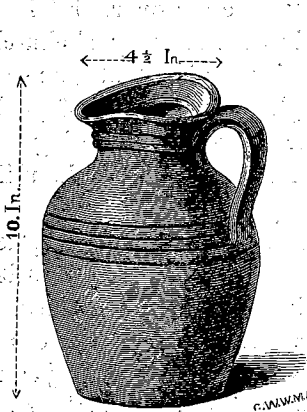


Fig. 7.



Fig. 8.



Fig. 9.

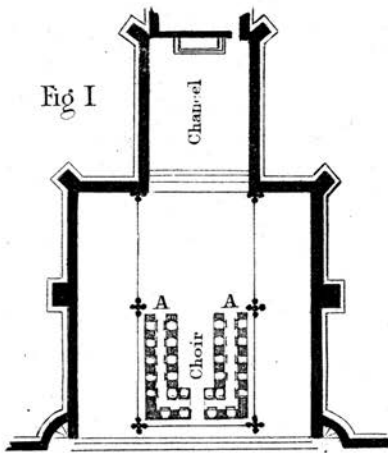


Fig. 10.

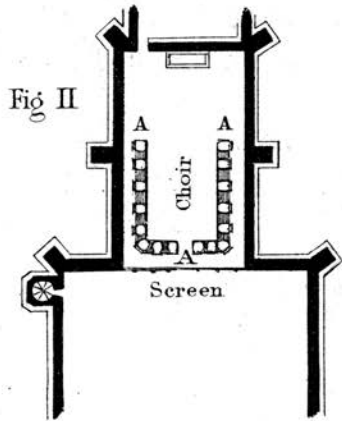
The paper by the Rev. G. W. W. Minns² is of exceptional interest because it gives the results of enquiries from original

¹ *Chronicle of the Cèlestins of Metz, 1432*. Bouteiller, Ernest de, 1862, *Notice sur le Couvent des Cèlestins de Metz*. Didron, *Annales Archéologiques*, 1862. Viollet-le-Duc, *Dictionnaire raisonné de l'Architecture Française*.

² *Norfolk Archaeology*, Vol. vii. 1872, p. 93; cf. *ib.* iv. p. 352; vi. p. 382; viii. 1879, p. 331. Cf. also Phipson, *The Builder*, 1863, p. 893.

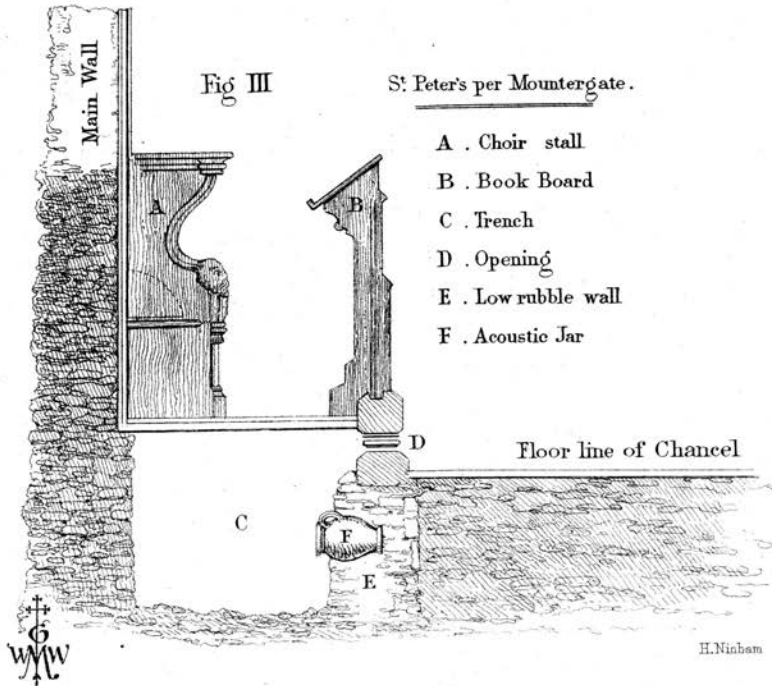


Plan. St. Peter's Mancroft.



St. Peter's per Mountergate.

AA. Site of Trench & Wall containing Acoustic Jars.



ACOUSTIC POTTERY IN NORWICH CHURCHES.

observers with illustrations of the manner of occurrence of the vessels. Some of these pictures, reproduced from the original blocks, I am able to give by the kindness of the author and through the good offices of his son, our Præsident.

After a short notice of previous observations he describes the vessels found embedded in masonry under the seats in the choir of the churches of St Peter Mancroft and St Peter Mountergate in Norwich. The vessels in this case were jugs and jars such as were in common use in the fourteenth century

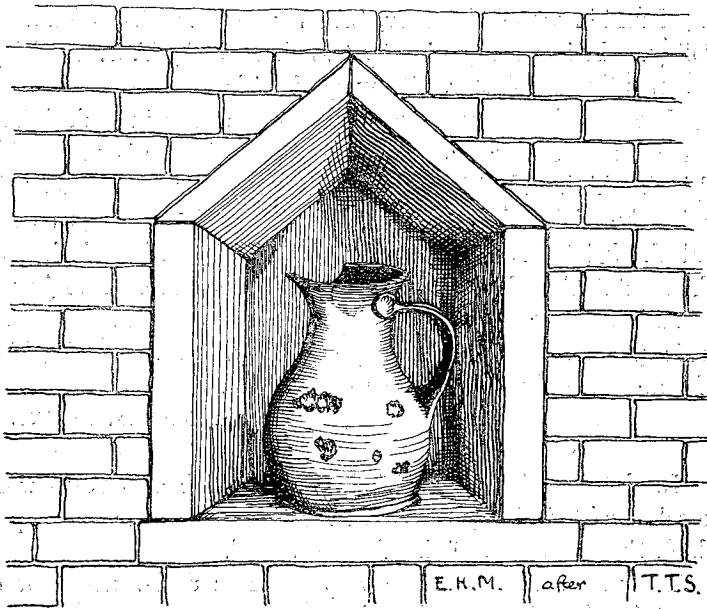


Fig. 11.

(Figs. 7, 8, 9, 10, p. 74) and were built into the walls of passages with the mouths of the vessels opening into the passages and the passages opening into the choir, as shown in Figs. I, II, III on Plate XIX.

Our Præsident has also kindly furnished the following description of the discovery of acoustic vases in the Chapel of Pembroke College. This also is of special interest not only because it refers to a local discovery, but also because the jug

(Fig. 11) which he exhibited obviously belongs to the fourteenth century.

“This jug, with six others, was found in the north wall of the Old Library of Pembroke College during the restorations of 1881. They were all found in similar situations to the accompanying rough sketch which I sketched on the spot.”

T. T. S.

“The above note gives all that can be recovered as to the jugs found in the Old Library, formerly the Chapel, of Pembroke College. It is accompanied by two sketches by T. T. Stoakley, formerly College Porter. They are in fair agreement with one another, and the above figure follows them even in such details as the size of the bricks about the niche. As the jug measures $9\frac{1}{2}$ inches high and $6\frac{1}{2}$ inches across its greatest width, this would make the niche about $16\frac{1}{2}$ inches high and 12 inches across, and the bricks as represented $1\frac{1}{2}$ by 4 inches, which is impossible. But the niche is probably fairly accurate. The jug is of hard black ware, and is ascribed to the fourteenth century. It is preserved in the College Library. I think Stoakley told me once that the niches were under the floor.”

ELLIS H. MINNS.

In the church of St Nicholas¹ in Ipswich also there were vessels found similarly placed in the sides of sleeper walls upon which the wood floor of the chancel rested.

The much discussed discovery of vases under the floor of Fountains Abbey² is another similar case.

All these appear to be attempts to carry out Vitruvius' system, and indicate the belief in the efficacy of intramural resonators.

Mr Gordon M. Hills³ has contributed an admirable description of the character and mode of occurrence of many of the

¹ *Journ. Arch. Inst.*, Vol. vi. 1849, p. 76; 1855, p. 276.

² Walbran, M. R., *The Builder*, 1854, pp. 342, 343; *Trans. Yorks. Architect. Soc.* 1854-5; Ripon, Studley, Fountains Abbey, Harrogate, &c., 1862.

³ *Trans. R. Inst. British Architects*, Session 1881-2, p. 65.

vessels commonly called acoustic vases which have been found embedded in the masonry of churches.

In the church of St Laurent-en-Caux, Dondeville, there was a vase in one of the angles of the choir, entirely enveloped in mortar. It was conical at one end, flat at the other, and was closed at both ends, but it had a sort of spout which appeared at the surface of the wall¹. I am able to reproduce a figure of this vessel (Fig. 12) from the block prepared in illustration of the paper by the Rev. G. W. W. Minns.

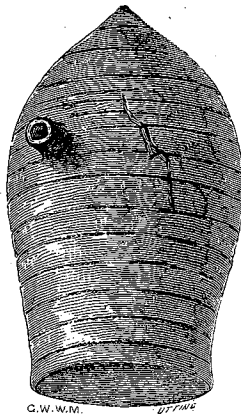


Fig. 12.

Viollet-le-Duc² says that he has frequently seen the "acoustic pots" in the choirs of churches of the twelfth and thirteenth centuries.

In the church of St Olave at Chichester jars were found built into the east-end wall of the chancel. The jars were placed on their sides, the mouths facing inwards to the church. The east window was of the fourteenth century.

Just above a thirteenth century arcade in the chancel of Denford Church in Northamptonshire there were openings in the stone facings of the wall within which were the mouths of jars lying on their sides.

¹ Crochet, *op. cit.* Minns, *op. cit.* p. 97.

² *Dictionnaire*, Article "Pots acoustiques."

In St Clement's Church at Sandwich in Kent a similar discovery was made, but here the pots were filled with mortar.

Some of these urns have been put under the floor, some in the walls, and some in the arches.

Some have been placed with the mouth of the vase opening into the building, some with the whole vessel so buried in masonry as to throw doubt upon the idea of their having been intended to produce resonance, and some have the neck turned towards the interior of the building, but have been plastered over or covered with a slip of wood and then plastered over.

The simple explanation seems to be that some have been used according to a well-known ancient method of construction in order to give body and strength with lightness of material to vaults and arches—that some have been placed there with a view to aiding the propagation of sound as suggested in certain cases by experience and supported by scientific instructions; while others are found where neither of these objects could be attained, and we must assume that they were put in in ignorance according to a misunderstood traditional method, or subsequently plastered over at the open end, or filled up altogether, or perhaps moved from their original position.

It does not appear to be necessary that the vessels should be embedded in masonry; indeed we may suppose that in some situations they would be more effective if they stood free in suitably constructed openings in the wall. The grey earthen jugs found in the old chapel, now the Library of Pembroke, stood in the north wall of the chapel in separate small recesses, the character of which is shown in Fig. 11.

There are many examples of the occurrence of such recesses which various authors¹ have assumed to have been intended for the reception of vases.

Behind all these examples we may fairly look for earlier practices dimly shadowing forth some scientific idea which was dying out for want of the support which would be gained by proved efficiency, but large enough and certain enough to make it worth following up.

One source of error in the examination of these instances is

¹ Hills, *op. cit.* p. 67.

that it is often difficult to determine whether the vessels are found where and how they were originally placed: for, if they were originally tilted like the bell-shaped vases of Vitruvius, or if they had been originally placed with open mouths opening into open cavities, though subsequently covered with mortar, they come under the head of disused resonators, rather than reverberators, that is hollow spaces giving out booming sounds under the influence of percussion. Of these last I do not think I can offer any satisfactory examples in mediæval times.

F.

Resonators and Echoes on Oracular Sites.

If then we can trace this belief back to the time of Vitruvius and find that he was only explaining a system then in widespread use, let us see how far the ancient cults made use of the solemnizing influence of strange sounds to control the unruly faith of novices and compel the acceptance of the priests' interpretation of what the suppliant himself had heard but had not understood.

Alongside the belief in the prophetic power of the oracle there soon sprang up a scepticism as to the real character of the phenomena. Was it divine inspiration or demoniacal possession or altogether an imposture? Was the *δαίμων* a familiar spirit more like a guardian angel, or a devil deceiving man and leading him astray?

The references in classic authors and in later writers of less note were collected to illustrate what was really thought of oracular manifestations in their time. Such a collection is given by Gallæus¹.

When at the birth of Christ it was said "The Oracles are dumb," there was a new development of the old controversies—and we have the opinions of the Fathers laid before us and various explanations offered of the Pythonesses and demoniacal possession.

¹ Servatius Gallæus, *Dissertationes de Sibyllis earumque Oraclis*. Amstelredami, 1688.

A good example of the arguments made use of in this connection we have in a treatise with the following long title: "An Answer to Mr de Fontenelle's History of Oracles in which Mr Van-Dale's System concerning the Authors of the Heathen Oracles, and the Cause and Time of their Silence is confuted: and the Opinion of the Fathers upon that Subject vindicated. Translated from the French. With some Reflections upon the Remarks of Mr Le Clerc, in his *Bibliothèque Choisie*, in a Preface. By a Priest of the Church of England. To which is prefixed a Letter to the Translator by the Reverend George Hicks, D.D. London. Printed by W. B. for Henry Clements at the Half Moon in St Paul's Churchyard, 1709."

Whatever may be the value of such treatises, it is largely to the controversies which gave rise to them that we owe the preservation of the great body of descriptions and explanations which enables us to form an opinion as to the belief in and the character of oracular manifestations.

Many of the places celebrated for oracular responses have some natural phenomena such as caverns and chasms connected with them:

Outhewn in cavern was the vast Euboic mountain side,
Whither conduct a hundred mouths a hundred entries wide;
Whence voices hundred rushed abroad, the Sibyl's prophesies.

Such-wise the Sibyl from her cell, the maid Cumaean sings
Her riddles dread—the vaulted cave with bellowing echo rings.

Pausanias saw at Olympia an enclosure sacred to Zeus, close by the mouth of a great cavern.

The Votary who consulted the oracle of Trophonius had to take part in terrifying rites and then descend in darkness into the deep recesses of a cave whose extent and shape were unknown to him save by the confused echoes of his own voice and footfalls. He heard no articulate response, but, on his return, he told the priest all that had occurred to him and his impressions, and from these the priest drew up an oracular response.

Brewster says "there is no species of deception more irresistible in its effects than that which arises from the

uncertainty with which we judge of the direction and distance of sounds¹."

Persons already in a state of nervous tension would readily yield themselves to the influence of awe-inspiring sounds in solemn surroundings. I have myself heard ghosts, but I was not in the proper frame of mind, so I investigated them and found them out.

Once in the stillness of the night I was sitting with a friend in the parlour of an old inn close to the churchyard of a celebrated Abbey. We both heard a wailing sound, but neither could say where it came from—both felt that it was in the room. I opened cupboards, doors, windows; when I was here, it was there; when I was there, it was here.

I at last suspected a tall vase with a trumpet-shaped mouth, and in it found an enormous fly the spread of whose wings prevented his getting out, so that he hung for a few seconds buzzing in the neck. If it had been some of you doing penance in the church instead of me in the inn parlour the account would probably have been different.

Another time I was in an inn in a provincial town with a friend. Our sitting-room was between two other rooms, a larger and smaller, and had a door into the smaller, but was cut off from the larger by a wooden partition. Night after night we heard the rustling of a silk dress—now here, now there. We rushed out into the passage, one through one door, one through the other, but saw nothing. We knew everybody in the inn. No one had a silk dress. We waited in the large nearly empty room and found that when an outside door was opened downstairs a draught blew a lot of large placards about against the wooden partition, and the sound, getting through the cracks, appeared now here—now there—now all about.

In the wild crags between Settle and Austwick there is a cave of that shallow kind which the French call an "abri," and in it there dwells a bogey known as "Boggart of Cave Ha." A servant riding home along the road which runs close by it, having taken measures to fortify himself before starting, once saw the boggart, which leapt on to his horse in front of

¹ Sir David Brewster, *Letters on Natural Magic*, 1883, Letter vii, p. 231.

him. But it was more often heard than seen. I have heard it. The site and tumbled débris in the cave suggested that remains of primaeval man and ancient beasts might be found there, so I dug it out, and, when I had got to a lower level than was at first exposed, I heard a strange combination of sounds—wild birds—children—cattle, &c., and soon made out that I was in the focus of sounds collected in the dome-shaped roof from all the valley far below.

We might in this connection adduce numerous examples of sounds naturally produced by the air being forced in or out of hollow places in the rocks or even in carved images. On the coast of Pembrokeshire near St Davids there is a place called Lle sugn, from the loud sucking noise made by the air being drawn back into a cavern, or perhaps from *sygan*, from the whispers and murmurs it makes when it is being forced out through a small aperture by the inrushing wave—and *mutatis mutandis* similar explanations are offered of the sounds heard as the sun falls on or off the pedestals or bodies of hollow images¹.

Sir Thomas Browné, in the dedicatory preface to his *Hydriotaphia*, records a belief that there were resonators in the Hippodrome in Rome when he says "We cannot but wish these urns might have the effect of theatrical vessels and great Hippodrome urns in Rome to resound the acclamations and honour due unto you." A footnote explains that this refers to "the great urns in the Hippodrome at Rome, conceived to resound the voices of people at their shows."

In one of the lowest rooms of the building assigned to the Vestal Virgins in Rome there was an open space with large globular amphoræ sawn in half and placed side by side with the opening down under a floor which was thus raised above the original level of the ground. I had no opportunity of ascertaining whether when first discovered they were not slightly tilted so as to act as resonators, as would be suggested by the description given by Vitruvius of the arrangement of the brass vessels placed between the seats of a theatre for acoustic

¹ Philostratus, Pausanias, Strabo, Juvenal, refer to the sounds issuing from the statue of Memnon. Sir A. Smith, *Revue Encyclopédique*, 1821, T. ix. p. 592; Dussaulx, *Trans. Juvenal*.

purposes. He says that they had to be placed in cavities in sequence, according to the note to which each responded (see above, p. 72), with a clear space around and above them; and, on the side next the auditorium, they were to be supported by wedges or blocks at least six inches in height and openings were to be left through the lower steps. Whether these urns in the vault-like room in the house of the Vestal Virgins were intended by resonance to strike terror into the worshipper by "voice or hideous hum" or when stamped upon to respond in deep booming reverberations, there must have been some intention in placing them there¹.

Here was one of the centres of worship and the site of some of the highest ritual of the Roman cult.

It has been suggested that it was done to keep the room dry, but if, as is recorded, the spaces between the vessels were packed with potsherds and other dry rubbish one would think that it was unnecessary to arrange a series of urns symmetrically over the floor as well as in order to keep away the damp, but the interstitial spaces between the potsherds would aid the echoes and not destroy the resonance of the urns.

Within the Delphic adyton the Pythian priestess sat on a tripod over a cleft in the rock. The suppliant waited till she appeared to be in a state of ecstatic frenzy, when she uttered incoherent cries and unintelligible words. A priest stood by her. The suppliant heard but could not understand. The priest interpreted the will of the god as conveyed in the sounds, and gave him versified maxims or advice with double meaning to carry away for his guidance. These are briefly the facts as we have them handed down, but the explanation of the phenomena opens up a varied and wide field of speculation².

¹ Cf. Jourdan, *Vesta, Auer: Notizie degli Sci.* 1883; Gilbert, *Topogr.*; C. Huelsen, *Röm. Mitth.* 1889, 1891, 1892; Prof. J. H. Middleton, "The Temple and Atrium of Vesta and the Regia," *Archaeologia*, Vol. XLIX. Part 2, 1886, p. 405; *Ancient Rome* in 1888, p. 189; Esther Boise Van Deman, *The Atrium Vestae*, Carnegie Institution of Washington 1909, Publication No. 108, p. 32. I am indebted to Commendatore Boni and to Dr Ashby for kind help and references.

² Cf. Boucher Leclerc, *Histoire de la Divination dans l'antiquité*; Carapano, *Dodone*.

In the first place we must clearly distinguish between the inarticulate sounds uttered by the priestess and the ambiguous answers elaborated by the priest. Next we must enquire whether there was anything in the character of the spot so carefully chosen and so rigorously adhered to, to explain the strange condition into which the priestess appears to have been thrown.

Mephitic vapours issuing from the rock have been suggested, but no explanation seems to have been offered of their occurrence here. Carbonic acid gas is heavier than atmospheric air, and would not rise from subterranean sources except under pressure. There are plenty of clefts and chasms in the cavernous limestone of Greece, but they are scoured out in the rainy season by the torrents which gather on the surface and plunge into the Katabothra, searching out every hole and corner in their underground passage to the sea. For this reason there is seldom any accumulation of carbonic acid gas in limestone caves, and there is nothing like the solfatara anywhere near Delphi. Supposing carbonic acid gas had formerly been forced up here, the effect of it would not be to excite the persons subjected to it and throw them into a state of frenzy. They would be rendered insensible by it, as is the dog in the Grotta del Cane; and anything of that sort which could have affected the priestess must also have affected the priest who was standing beside her.

Moreover, when the French excavations were carried out on what was supposed to be the exact site of the oracular manifestations no cleft or cavern was found, but only artificially constructed underground chambers, suggesting quite a different explanation of the phenomena.

We are told that the Pythian priestess sat on a three-legged stool, a most awkward seat to place over a chasm: one leg must have gone in.

On another tripod elsewhere we are told there was an inscription. It would not be easy to place a long inscription on a three-legged stool in any position where it would be likely to catch the eye.

But more conclusive is the fact that round the temple of

Zeus at Dodona¹ there were bronze vessels standing on three feet and hence called tripods. Here the response of the Deity was obtained from the interpretation put by the priests upon the rustling of leaves, the cooing of doves, the bubbling of the brook, but chiefly upon the notes produced by the wind in these tripods or bronze urns: just as we make children listen to the sound of the sea in a hollow shell, or perhaps like the attuned urns described by Vitruvius responding to the various notes of the human voice, or like an æolian harp rising and falling in harmony.

On such a vase, we may therefore infer, sat the Pythian priestess, but in her wild gesticulations she could well have called into that deep chasm and resounding urn sounds which when blurred by resonance and reverberation, and carried by the draughts that issued and by the southing wind, reached the suppliant as a shriek and hideous hum, terrifying from the surroundings, and an awe-inspiring ritual.

The priestess was not an improvisatrice who could turn out hexameter verses to order. The priests from whom the suppliant received his answer took their own time over that, and the ambiguity which has become proverbially the characteristic of an oracular response, as when Croesus was told that if he went to war he would destroy a great nation, came not from the unintelligible utterances of the frenzied priestess, nor from the inarticulate sounds emitted by birds or even issuing from inanimate objects, but was due to the deliberate or self-deceptive mystification of the priests.

The suppliant did not hear that uttered, but only a confused and terrifying noise as of a human being in agony, multiplied and carried into the air in the reduplicated echoes of subterranean cavities or the sustained resonance of an acoustic urn.

Such the scientific facts and such the ritual from which the use of acoustic vases seems to have come down to us through the ages.

¹ Leake, Col., *Northern Greece*, Vols. I., IV. *Revue Archéologique*, 1877, pp. 329, 397.

AUTHORS REFERRED TO.

ACOUSTIC VASES. *Vitruvius* 63 B.C.—14 A.D. Lib. v. c. 5.

ORACLES. *Plutarch* 46 A.D.—. Lib. de Defect. Orac. Julian apud Cyrillum, i. 6.

Philosophers ascribed the silence of the Oracles to the failure of those exhalations by means of which, according to them, the gods communicated their prophetic inspiration to men.

ACOUSTIC VASES. *Belli*, Onorio, 1586. History of Candia.

Referred to by *Falkener*, Edward, in Supplement to the Museum of Classical Antiquities 1854, "Description of some important Theatres, &c. in Crete."

ACOUSTIC VASES. *Méliton* (Claude Pithoys), 1662, 1665, 1668. L'Apocalypse de Méliton (ed. 1665, p. 34) ou Révélation des mystères cénobitiques, 1662, 12mo, p. 42.

Méliton = pseudonym of Claude Pithoys, Saint Leger, Luxembourg.

"The choirs are so fitted with jars in the vaults and in the walls that six voices make as much noise as forty elsewhere."

ORACLES. *Gallaeus*, Servatius, 1688.

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To which is prefixed a *Letter* to the Translator by the Rev. George Hicks, D.D.

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ACOUSTIC VASES. *Smith*, 1812–93. Dictionary of Roman Antiquities. Article “Theatrum.”

POTS IN WALLS. *Burckhardt*, 1822. “Travels in Nubia,” Vol. I, p. 94.

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Fountains Abbey. “To burn incense.”

ACOUSTIC VASES. *Walbran*, 1854–5.

1. Trans. Yorkshire Architectural Soc. 1854–5.

2. The Builder, 1854, pp. 342, 343.

3. Ripon, Studley, Fountains Abbey, Harrogate, &c. 1862.

ACOUSTIC VASES. *Loftus*, W. K., 1857. Travels and Researches in Chaldea and Susiana.

Reviewed in Builder, 1857, p. 470.

Builder, 1863, p. 820, refers this to acoustic pottery but

Mr Loftus compares it with decorative pottery.

ACOUSTIC VASES. *Cuming*, H. Syer, 1860. Read Dec. 12.

Journ. Brit. Archaeol. Assoc., Vol. xvi, Proc. sub. fin. pp. 359-63. "On the use of Vessels and Hollow Bricks in Buildings."

URNS in Masonry. *Bouteiller*, Ernest de, 1862. "Notice sur le Couvent des Célestins de Metz." Metz, 1862, 8vo, p. 110.

(a) Quoted by Didron aîné in the *Annales Archéologiques*, 1862, Vol. xxii, p. 294.

(b) Also by Viollet-le-Duc in the *Dictionnaire raisonné de l'Architecture Française*, Vol. vii, p. 471.

Also by M. Gordon Hills in "Earthenware Pots (built into Churches) which have been called Acoustic Vases," *Trans. R. Inst. British Architects*, Session 1881-2, p. 65.

Also by Minns, *Norfolk Archaeology*, Vol. vii, 1872, p. 95.

ACOUSTIC VASES. *Didron*, 1862. *Annales Archéologiques*, Vol. xxii, 1862, pp. 294-7. Arles, St Blaise. See Huard.

Published passage from MS. of 15th century which proves that jars were so placed with a view to acoustics, *Chronicle of the Célestins of Metz*. See *Bouteiller*.

ACOUSTIC VASES. *Brash*, R. R., 1863. *Gentleman's Magazine*, Vol. cccv, p. 750, Dec. 1863.

Cites *Belli*; *Falkener's Museum* for 1854; *Conyngham*, *R. Irish Acad.* 1790; *Irby and Mangle's Travels*; *Texier*, who refer only to *recesses*.

ACOUSTIC VASES. *Cochet*, Abbé, 1863. *Précis Analytique des Travaux de l'Académie Impériale de Rouen*, 1863-4. Rouen, Boissel.

At Montivilliers jars with simple neck moulding and conical base found at four angles of vault of choir.

At Fry, Canton Arqueil four jugs with handles like those at St Peter per Mountergate, Norwich.

At St Laurent en Caux a large earthen vessel in one of angles of choir closed at both ends and entirely buried in mortar *except a sort of spout which appeared in the face of the wall*. Refers to Abbé Saint Leger.

ACOUSTIC POTTERY. *Minns*, Rev. G. W. W., 1872. *Norfolk Archaeology*. *Norfolk and Norwich Archaeol. Soc.*, Vol. vii, p. 93. "Acoustic Pottery."

ACOUSTIC VASES. *Bensley*, 1879. *Norfolk Archaeology*, Vol. VIII, 1879, p. 331.

Mr Bensley exhibited an earthen jar of "Acoustic Pottery," discovered in the upper part of the wall of the chancel of East Harling Church.

Blackish grey ware of early date 1 foot in diameter and 10 inches high.

TRIPOD. *Boucher-Lecterc*, A., 1879. "Histoire de la Divination dans l'Antiquité," 4 Vols., Vol. III, p. 91. Paris, 1879.

"Le trépied étant un siège et non une marmite, ni une table, ὄλμος ne peut avoir été qu'un support plat, appelé κύκλος parce qu'il est circulaire. Il pouvait avoir un couvercle hémisphérique dans l'intervalle des consultations; mais quand il servait, il portait ou la pythie elle même, maintenue par les trois oreilles du trépied, ou plutôt le siège de la pythie. Si le trépied avait un bassin, ce qui était bien inutile, ce bassin était la cortina ou ἄξων."

URNS in Masonry. *Hills*, Gordon M., 1882. "Earthenware Pots (built into Churches) which have been called *Acoustic Vases*." *Trans. R. Inst. British Architects*, Session 1881-2, p. 65.

URNS in Masonry. *Rölfe*, 1893. *Popular and practical History of Naples*.

p. 124. Speaking of the Stabian Baths, he says "enough of the arch has fallen away to let us into the secret of the method by which the Romans constructed their vaults, namely, by building amphoræ into them, in order to combine lightness with strength."

RESONANCE. SOUNDING STONES. *Tingle*, Alfred, 1906. *Nature*, Jan. 4, p. 222, Vol. 73. "Sounding Stones at Ch'ufu, Shantung."

SOUNDING STONES. *Wheeler Cuffe*, O. F., 1906.

Referring to Mr Tingle's letter in *Nature*, Jan. 4, p. 222, on Sounding Stones, Wheeler Cuffe says that he has "seen at Pagan (former capital of Burma) a large log of fossil (or rather silicified) wood used as a gong. It emits a clear ringing note when struck, and is used, like all pagoda bells or gongs, to direct the attention of the guardian

spirits to the offering about to be presented by the pious Buddhist."

SOUNDING STONES. *Carus-Wilson*, Cecil. *Nature*, Vol. 73, Jan. 11, 1906, p. 246.

SOUNDING STONES. *Barnett*, W. G. *Nature*, Vol. 73, Feb. 22, 1906, p. 390.

VITRUVIUS. Translated by *Morgan*, Morris Hicky. Illustrated by *Warrén*, Herbert Langford. 1914.

Vitruvius. The Ten Books on Architecture. Translated by M. H. Morgan. With illustrations and original designs prepared under the direction of H. L. Warren.

Professor Morgan, who died before this work was finished, while conscious that Vitruvius had no literary merit, had confidence in the serious purpose of this treatise. There are nearly seventy illustrations. (Harvard University Press.)

Vitruvius was architect and engineer under Julius and Augustus Caesar.

ACOUSTIC VASES. *Norfolk Archaeology*, Vol. IV, p. 352; Vol. VI, p. 382.

Discovered in churches of St Peter Mancroft and St Peter per Mountergate, Norwich.

Various conjectures as to use: to receive ashes of hearts of Canons; drink at commencement of building; dove cots; warming apparatus; for strength with lightness; ventilation; keep off damp.

ACOUSTIC VASES. *Trans. Kilkenny Archaeol. Soc.*, Vol. III, p. 303.

Five earthen jars on their sides opening into five holes in western ends of N. and S. walls of choir in church of St Mary, Youghal, Cork.

ACOUSTIC VASES. *Viollet-le-Duc*. *Dictionnaire raisonné de l'Architecture Française*, Vol. VII, p. 471.

ORACLES. *Van-Dale*. *De Orac. Vet. Ethnic Diss.* 1 & 2, pp. 22, 36, et seq.

ORACLES. *Le Clerc*. *Bibliothèque choisie*. T. 13, Art. iii. [See book "by A priest of the Church of England."]

ORACLES. *Fontenelle*, M. de. *History of Oracles*. [See book "by A priest of the Church of England."]

PURCHASES MADE BY THE CURATOR OF THE
MUSEUM OF ARCHAEOLOGY AND ETHNOLOGY
WITH THE GRANT FROM THE COUNCIL FOR 1911.

PREHISTORIC.

STONE.

(Unless specially indicated the implement is made of flint.)

RIVER-DRIFT IMPLEMENTS:

One triangular carefully chipped so as to expose in the centre of its convex face a fossil *pecten* shell, the original surface of the nodule being retained on the square butt (5''·4 × 3''·1). West Tofts, N.*

Thirty of various forms including some remarkably fine specimens, notably one slim, tongue-shaped, example (7''·5 × 2''·9). Dunbridge, Hants, 1911.

CELTS:

Four chipped: one flat pear-shaped with ridged back (6''·1 × 2''·7), Cranwich, N.; one narrow, with sharp sides, square cutting edge and rounded butt (4''·8 × 1''·6), Lakenheath, S.; two long, one flat, Cavenham, S.; and one convex back, Icklingham, S.

Four with ground cutting edge: two short, stout, with broad cutting edge, Undley and Lakenheath, S.; one ovoid, with ridged back, Undley, S.; and one flat with rounded butt, Lakenheath, S.

One ground: flat oblong. Lakenheath, S.

ADZES:

Three chipped: one elongate with convex back and rounded cutting edge, Linford, N.; and two triangular: one elongate, Cranwich, N., and one short with broad cutting edge, Eriswell, S.

CHISELS:

Three chipped (fabricator type), the largest with ground cutting edge (4''·5 × 1''·4). Mundford, N.

BORERS:

One shouldered with chipped edge, Lakenheath, S.

* The letters C., S., and N., printed after the names of places, indicate, respectively, the Counties of Cambridgeshire, Suffolk, and Norfolk.

AXE-HEADS:

One, made of a triangular water-rolled sandstone pebble, with flat faces, drilled with a funnel-shaped perforation (4"·1 × 3"·0). Doking, N.*

KNIVES:

One thin flake with finely chipped edge. Freckenham, N.

ARROW-HEADS:

Tanged and barbed: seventeen, twelve straight-sided, including one large (3"·3 × 1"·2) with rounded small barbs and large square tang (? javelin head), Soham Fen, C.; and another thick, elongate, with small tang and barbs (1"·4 × 0"·8), Lakenheath, S.; and five with curved sides, including one finely chipped example with long, incurved barbs (1"·2 × 0"·9), Dulham, N.

Three triangular with cusped base, Undley and Copolow, S., and Freckenham, N.

Eight leaf-shaped with rounded ends: one very large (2"·4 × 1"·2), thick, with convex faces, finely chipped (? javelin head), Thetford, N.; and two small with convex back, Undley and Copolow, S.; one finely shaped, flat, translucent, with broad rounded base (1"·8 × 0"·9), Lakenheath, S.; two slim, Eriswell and Icklingham, S.; one flat, pointed at both ends, Copolow, S.; and one very stout and broad (? arrow-head), Elvedon, S.

Two lozenge-shaped, with rounded shoulders: Mildenhall, S., and Croxton, N.

BRONZE.

CELTS, ETC.:

One plain, flat with wide expanding cutting-edge and slightly-convex sides. Burwell, C. (5"·7 × 4"·7).

One slim palstave with transverse edge (4"·9 × 1"·9).

One socketed with bold rim-moulding, decorated on both faces with a pair of curved beads ("palstave wing" pattern) 4"·6 × 3"·2. Cambridge.

One small socketed, with one loop and greatly expanded cutting-edge. Arkesden, Essex (2"·2 × 1"·4).

DAGGERS:

A small straight-sided blade with ridged faces, rounded point and notched base (7"·1 × 0"·8). Walton, N.

A broad blade with faint marginal groove and expanded hilt-plate perforated for six rivets (10"·6 × 3"·2). Norton Fitzwarren, near Taunton, Somerset.

PINS:

One long, with moulded head and beaded neck (1. 7"·4). Cambridge.

One massive with large flat disc head, with an oval perforation in the side covered with a lozenge-shaped plate (? l. 4"·9, d. of head 0"·9). Lakenheath, S.

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ROMAN.

- A bronze fibula with rope-pattern, beaded bow, and large openwork pin-catch (l. 2''·7). Lakenheath, S.*
- A small, plain, annular brooch of bronze, with ridged face (d. 0''·9). Lakenheath, S.
- A bronze pin with knob-head and beaded neck (l. 4''·2). Lakenheath Warren, S.
- A portion of a Roman steel yard with expanded end and two suspension loops. Undley, S.
- A small vessel of polished red clay—"Pilgrim bottle" type—with round flattened body, the neck bearing a pair of large loops (4''·4 × 3''·2). Cranwich, N.
- Two cylindrical blue glass beads. Croydon, C.
- Portions and fragments of figured Samian ware vessels. Haslemere, Surrey. (Simpson Collection.)

SAXON.

- The lower half of a finely cast cruciform bronze brooch. Lakenheath, S.
- A bronze, silver inlaid buckle, with massive tongue (1''·6 × 1''·2); and the loops of two smaller, plain examples (?Saxon). Cambridge.

MEDIAEVAL AND LATER.

- A stout leaf-shaped iron spear (10''·4 × 1''·2) with very long socket, taper neck and ridged blade. ?Date. Rougham, S., 1908.
- A small armorial shield-shaped pendant, bronze-gilt, charged with three chevrons (1''·9 × 1''·4). 14th century. Lakenheath, S.
- An oval bronze seal, engraved with an eye and a pierced heart. Openwork handle. Gamlingay, C.
- A brass finger ring engraved with a crowned R. Cambridge.
- Nineteen flat metal buttons; fifteen ornate, incised with various patterns, including a set of six depicting a sportsman, dogs, and various game birds. 18th and 19th centuries. Cambridgeshire.
- Nine keys: including one, of the 14th century, of bronze with ornate lozenge-shaped bow; Wickhambrook, S.; and two of the 16th century in iron: one large door key with plain comb-fan, and one smaller with trilobed bow. Shingay, C.
- A pair of wafering irons (31''·3), the discs (d. 5'') engraved with the feathers, crown, and motto of the Prince of Wales, and a floral spray. Formerly used for making "Wafering cakes" for "Mothering" (i.e. Mid-Lent) Sunday. Cambridge.
- A brass pastry cutter. 18th century. Saffron Walden.

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- Two brass spoons with fig-shaped bowls: one with "slipped" stem, the other with hexagonal stem and "seal top." 16th century. Cambridge.
- A socketed sharpening steel with ornate square-sided shoulder (13''·5). Saffron Walden.
- An iron taper-stand with turned oak base. Cambridge.
- Two iron candle-holders with spike-shank: one for fixing to the floor, the other to the wall. Cambridge.
- A flat oval tinder box with engraved brass faces. ?Italian.
- Two socketed iron shepherds' crooks: one with a large flat bow, the other with a small flanged bow (16''·6 × 7''·6 and 9''·5 × 5''·4). Bury St Edmunds.
- Four small jugs: one low, flat-bottomed with lipped rim partially glazed: two of grey glaze with indented base; one stout, and one slim, the latter with trumpet-shaped mouth (7''·8 × 3''·6). 16th century.
- A watering pot of brown glaze with partly covered mouth (rose missing). 17th century. ?London (Simpson Collection).

PURCHASES MADE BY THE CURATOR OF THE
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PREHISTORIC.

STONE.

(Unless specially indicated the implement is made of flint.)

RIVER-DRIFT IMPLEMENTS:

Three: one flat oval, Eriswell, S.*; one pointed oval with ridge faces, Mildenhall, S.; and one with ridged back, Icklingham, S.

CELTS:

Four chipped, chisel-shaped with sharp sides; the largest (5''·5 × 1''·8) rough-hewn with ridged faces, Burnt Fen, Elvedon, S., Grimes Graves, N.

CHISELS:

Three small: one well-shaped double-ended with ridged faces (2''·8 × 0''·7), Icklingham, S.; one long, tongue-shaped, and two flat with convex backs, Methwold, N. and Icklingham, S.

FABRICATORS:

Three: one very slim with high crest-like back and sharply pointed ends (2''·9 × 0''·8). Methwold, N., Lakenheath and Eriswell, S.

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SCRAPERS:

Six: one spoon-shaped, one kite-shaped, one horseshoe-shaped, two wedge-shaped, and one large side-scraper. Icklingham, S.*, and Grimes Graves, N.

A very large carefully shaped implement of oval outline, with flat rough-hewn faces, one side being chipped so as to form a flat base, the other a semi-circular crest-like edge (l. 11''·5, b. 2''·9, h. 8''·1), Lakenheath, S. Possibly a hide-scraper for which purpose this implement appears to be admirably adapted. A similar but cone-shaped implement, also from Lakenheath, was entered under No. 253 in the List of Accessions for 1905.

BORERS:

Thirteen of various forms, including some remarkably fine flanged examples from Icklingham, S.; Lakenheath, Eriswell, and Cavenham, S.; Mundford and Cranwich, N.

KNIVES:

Two flake-knives: one small finely chipped; and one oblong with continuous chipped edge (2''·6 × 1''·6). Lakenheath, S.

ARROW-HEADS:

Five Tanged and Barbed: three straight-sided, one very large, flat, with broad square tang and barbs (1''·9 × 1''·4), Lakenheath, S.; and one finely shaped with pointed barbs (1''·6 × 1''·1), and another, Burnt Fen, S.; two smaller of curved outline, one with pointed tang and barbs, Eriswell and Lakenheath, S.

Nine Triangular, including one with curved and one with straight spurred base, Elvedon and Eriswell, S.; and two finely chipped, one thick with convex faces and straight base (1''·2 × 1''·1), and one flat with cusped base (1''·0 × 1''·0), Beck Row, S.

Nine Leaf-shaped: five with rounded base, three broad and two slim, Elvedon, S., Undley, S., Eriswell, S., Tuddenham, S.; three with pointed base, two remarkably well shaped, Burnt Fen, S.; Tuddenham, S.; and one pointed oval, Elvedon, S.; and one finely chipped oval with pointed ends and convex back (1''·9 × 0''·6), Undley, S.

Three Lozenge-shaped: two well made with convex back (1''·5 × 0''·9 and 1''·4 × 0''·9), Eriswell, S. and Undley, S.; and one roughly shaped, Icklingham, S.

JAVELIN-HEADS:

Two: one Leaf-shaped, roughly chipped, sharply pointed with convex back and rounded base, and one large Lozenge-shaped, thin, remarkably well chipped (breadth 1''·8, both point and base missing). Lakenheath, S.

BRONZE.

A socketed single-looped celt with heavy rim-moulding, decorated with three straight rays on one face and two on the other: very roughly cast (4''·3 × 1''·9). Lakenheath, S.

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A diminutive triangular knife, with slightly concave sides and broad convex cutting-edge, the truncated top has a large oval perforation (1"·4 × 0"·9). Lakenheath, S.*

EARTHENWARE.

A tall urn-shaped vessel, with beaded base and plain slightly overhanging rim, decorated with eleven encircling rings of basket pattern (6"·8 × 4"). Lakenheath, S. May, 1911.

ROMAN.

A stout bronze pin with orange-shaped head and beaded neck (1. 0"·8). Lakenheath, S.

MEDIAEVAL AND LATER.

Twenty-seven keys: twenty-one for doors, coffers, etc., including some rare forms, ranging from the 14th to the 18th century. Found in Suffolk (Beck Collection).

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PREHISTORIC.

STONE.

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CELTS:

Chipped:

Two small, ridged, roughly fashioned. Icklingham, S.

Ground:

The lower portion of a large finely ground example with curved cutting-edge (breadth 3"). Shippea Hill, C.

ADZES:

Five chipped of various sizes from Suffolk and Norfolk, including one small straight-sided example, with square cutting-edge, and sharp tapering rounded butt-end (2"·5 × 1"). Undley, S.

FABRICATORS:

Six chipped, variously shaped. Suffolk and Norfolk.

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CHISELS :

One chipped, with ridged back and gouge-like cutting-edge ($4''\cdot9 \times 1''\cdot1$).
Undley, S.*

BORERS :

Four of various forms, including one large triangular example. Norfolk
and Suffolk.

GRINDING-STONES, ETC. :

A small oblong slab, polished on both faces ($3'' \times 1''\cdot7$), and a cylindrical
muller. Found together at Sedge Farm. Lakenheath, S., 1913.

KNIVES :

Eight chipped: two large, thick oval, boldly chipped ($4'' \times 3''$), Elvedon, S.,
and Weeting, N.; one triangular, three small leaf-shaped; one spear-
shaped knife, and one large elongate flake. Suffolk and Norfolk.

SCRAPERS :

One large side-scraper, Feltwell, N.

ARROW-HEADS :

Tanged:

One with sharp shoulders and broad tang ($1''\cdot5 \times 0''\cdot8$). Undley, S.

Tanged and barbed:

Three: one broad, with minute triangular tang and very long square babs
($1''\cdot1 \times 1''$), Eriswell, S.; one straight-sided (imperfect), with broad
tang and square barbs ($1''\cdot5 \times 1''\cdot1$), Lakenheath, S.; one roughly
chipped, with large tang, and with one large and one small barb
($1'' \times 0''\cdot8$), Eriswell, S.

Single-barbed:

One with very long, taper barbs ($2'' \times 0''\cdot9$). Icklingham, S.

Triangular:

One broad, roughly chipped ($1''\cdot6 \times 1''\cdot5$), Undley, S.; and one with both
faces chipped ($1''\cdot8 \times 1''\cdot4$), Lakenheath, S.

Chisel-ended:

One carefully chipped, with convex back ($1''\cdot3 \times 0''\cdot9$). Copolow, S.

Lozenge-shaped:

One unsymmetrical ($1'' \times 0''\cdot7$). Icklingham, S.

Leaf-shaped:

Two broad with rounded base: one very roughly chipped, and one flat with
finely chipped convex back ($1''\cdot4 \times 0''\cdot9$), Icklingham and Eriswell, S.;
and two elongate: one flat, with rounded base (imperfect), the other
thick, with pointed base ($2''\cdot1 \times 0''\cdot7$), Feltwell, N.

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respectively, the Counties of Cambridgeshire, Suffolk, and Norfolk:

ROMAN.

- A bronze pin with faceted head (1"·3). Lakenheath, S.,* 1913.
 A jug of brown clay with wide trefoil mouth (5"·5 × 4"·2). Bottisham, C.,
 1890.

SAXON.

- A bronze ear-pick with flat spear-shaped shank (2"·5 × 0"·4). Lakenheath, S.

MEDIAEVAL AND LATER.

BRÓNZE.

- Seven buckles of various patterns, including three small, double, for shoes (of bronze or brass). Lakenheath, S.
 A brass disc-button with ornate border (1"·1). Lakenheath, S.
 A netted purse of gold and silver wire. 17th century.

HARNESSE FITTINGS:

- A small horse-bit rosette, pierced rose pattern of bronze. Bury St Edmunds, S.
 Nine brass horse-harness pendants: discs, etc., of various patterns. 18th to 19th century. Bury St Edmunds, S.

MISCELLANEOUS.

- A pewter snuff-box in form of a double-barrelled pistol. Cambridge.
 A bleeding knife, three blades in brass sheath, inscribed "Richard Peel, Bury." 18th century.
 Four iron corkscrews of distinct forms. Cambridge.
 An iron rush-light holder with clip and curved candle arm on wooden base; and
 An iron candlestick, spiked for driving into a wall. Bottisham, C.
 Four pairs of iron fire tongs. 17th and 18th centuries. Saffron Walden.
 An ornate steel bobbin-holder with screw attachment.
 An ornate brass letter balance, English, 1830.
 Five coin-weights: four of brass, viz. one temp. Charles I. for weighing the half-crown struck at Aberystwith by Thomas Rawlings; one temp. Queen Anne; one temp. George III., dated 1772, for weighing the half-guinea; one bearing the arms of the City of London, dated 1826; and one of bronze, temp. John IV. of Portugal, dated 1746 and inscribed "A portugal piece of eighteen shillings" (i.e. a gold moidor).
 A small globular bell of bronze, decorated with a pair of human masks. Bury St Edmunds.

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PREHISTORIC.

STONE.

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CELTS.

Chipped: Four with sharp sides and rounded butt-ends ($5''\cdot5 \times 2'' - 2''\cdot2 \times 1''\cdot2$), C., S. and N.*; and

Partially ground: One with convex back and taper butt ($3''\cdot2 \times 1''\cdot6$). Feltwell, N.

ADZES.

Chipped: Nine from C., S. and N.: one oval, bowed example with flat lower surface and very sharp sides ($5''\cdot9 \times 2''\cdot2$), Feltwell, N.; and eight smaller, including one, the largest ($4''\cdot2 \times 1''\cdot8$), with ridged back from Hilborough, N., and one triangular (?adze) with convex back from Barton Mills, S.

CHISELS.

Chipped: One large with boldly convex back, chipped flat lower surface, rounded cutting-edge and pointed butt ($5''\cdot7 \times 1''\cdot5$), Burnt Fen, S.; and fourteen, comprising two distinct forms, from Suffolk and Norfolk.

BORERS.

Twelve from Suffolk and Norfolk: eight with expanding base, including one with broad flat point and triangular base ($3''\cdot6 \times 3''$), Cranwich, N.: two drills; one small, carefully chipped, of oval section with shouldered base ($1''\cdot9 \times 0''\cdot9$), Cavenham, S.; one slim, ridged flake of "pigmy" type with one worked edge ($1''\cdot1 \times 0''\cdot2$), Kenny Hill, S.; and two with ridged blunt point, one made of a contorted cylindrical flint, Icklingham, S.

SCRAPERS.

Thirteen of various forms from S. and N., including three spoon-shaped from Suffolk: two crescentic "shaft-scrappers"; one with ridged shank ($2''\cdot1 \times 1''\cdot8$), Cranwich, N.; one triangular with finely chipped convex back ($1''\cdot7 \times 1''\cdot5$), Weeting, N.; one large of unusual form consisting of a boldly ridged square-ended tang expanding into a triangle with blunt, bevelled edge ($5''\cdot1 \times 3''\cdot2$), Cranwich, N.; and one side-scraper, West Tofts, N.

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KNIVES.

Chipped: Two large, roughly spindle-shaped; one broad with convex back and flat lower surface ($4''\cdot9 \times 1''\cdot5$), Hilborough, N.*; and one with convex faces ($4''\cdot2 \times 1''\cdot4$), West Tofts, N.; and fifteen worked flakes with chipped backs, Suffolk and Norfolk.

Partially ground: one oblong bowed, with flat faces and sides ground to a sharp bevel ($2''\cdot3 \times 1''\cdot1$), Undley, S.; and one roughly oval with convex back and edge ground at one end only ($2''\cdot6 \times 2''$), Lindford, N.

ARROW-HEADS.

Tanged: One chipped in the rough with bold shoulder and carefully shaped stem-like tang ($1''\cdot6 \times 0''\cdot7$), Undley, S.

Tanged and barbed: One with serrated edge, and long square tang and barbs ($1''\cdot4$, imperfect), Burnt Fen, S.; nine of various forms, including one flat triangular, with large oblong tang ($1'' \times 0''\cdot9$), Coplow, S. and three broad with minute triangular tang and pointed barbs very roughly fashioned, Suffolk and Norfolk.

Single-barbed: One finely chipped, triangular, cusped, with broad straight barb (point missing), one indented with short barb and one with curved lateral barb, Suffolk.

Triangular: One stout with nicked base forming a pair of square-ended barbs ($1''\cdot4 \times 0''\cdot9$), Eriswell, S., and one with indented base ($1''\cdot4 \times 1''$), Kenny Hill, S.

Leaf-shaped: Four with flat under surface and rounded base, Undley and Eriswell, S., one pointed oval with convex faces ($1''\cdot1 \times 0''\cdot7$), Undley, S.; and one much larger (base missing) approaching lozenge-shape, Undley, S.

Lozenge-shaped: One of rounded outline with convex back ($1''\cdot9 \times 0''\cdot8$), Eriswell, S., 1895.

JAVELIN-HEADS.

Tanged: One thick convex-faced with rounded shoulders and tang ($2''\cdot6 \times 1''\cdot1$), Eriswell, S.

Tanged and barbed: One finely chipped, straight-sided, with pointed barbs and oblong tang (point missing), Mundford, N.

Triangular: One thick elongate with indented expanding base ($2''\cdot2 \times 1''\cdot2$), Mildenhall, S.

Chisel-ended: One well finished with uneven edge ($1''\cdot6 \times 1''\cdot4$), Undley, S., and one large with cusped edge (? javelin head), Tuddenham, S.

BRONZE.

CELTS.

One flat with expanding cutting-edge, and sharp rounded butt-end ($6''\cdot9 \times 3''\cdot4$), Methwold, N.

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ROMAN.

PEWTER.

Three flat circular dishes: the largest (15''·2) with upstanding flat-edged rim, and two smaller (11''·8—14''·8) with broad flat marginally beaded rim. Two flat-bottomed saucers of Samian pattern: one plain (6'' × 1''·3) with upstanding rim, and one ornate (5''·4 × 0''·8), the curved rim bearing a raised fluted band, the bottom an ornate roundel. Four bowls: one plain funnel-shaped with raised bottom and flat rim (5''·1 × 2''·3); two basin-shaped, one plain (5''·4 × 2''·3) with wide, curved rim, and one ornate (3''·9 × 2''·4) with flat rim set with a row of bosses; and one plain flat saucer-shaped (4''·6 × 0''·9) with trumpet-shaped base. Found together at West Row, Mildenhall, S.*

BRONZE.

A finger-ring: a beaded convex band with one pointed overlapping end. St Neots, Hunts.

MEDIAEVAL AND LATER.

Four iron pot-hooks of distinct patterns with ratchet and slot adjustments, Cambridge.

Two iron toasters with sliding bread holder; one a tripod with vertical rod, and one a horizontal rod for hooking on to bars of grate, Cambridge.

A brass spoon with seal head and fig-shaped bowl, 17th century, Croydon, C.

A nutmeg raper: a cylindrical ivory case to hold the nut, with a metal grater attached inside the screw-lid. Early 19th century.

A slim Lambeth-ware jug with ribbed body and expanding base (8''·9 × 3''·5). London.

KEYS:

One of bronze, small, with flat annular bow (? Roman), Lakenheath, S.; and two of iron, Cambridge.

A tall taper-clip with turned wooden base, and a hanging taper-sconce with long shanked hook of iron, Warnham, Sussex.

Two steel candle-snuffers, one with discoidal ends and five japanned snuffer-trays. English 18th—19th century.

Two circular ornate comfit boxes of pressed horn and of cardboard and lace-paper. 18th—19th century.

A collection of sewing requisites, mostly ornate; comprising silk winders, reel stands, darning stands, wax holders, pin-cushions, needle-cases, thimble and thimble-cases, tape measures and stilettoes of various patterns in wood, ivory, and metal. English, 17th—19th century.

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An ornate gauffering-iron of brass and steel with finely moulded handle (10''·3), 18th century; and three gauffering-iron stands of distinct patterns, Bury St Edmunds.

A brass disc-weight, for weighing guinea pieces, inscribed both faces "P G" 5 : 8, the obverse crowned, Cambridge.

An orrery in mahogany case (4''·4 × 8''·4), by Ryland of Northampton, with additions by John Jones of Holborn, and a descriptive pamphlet, dated London 1781.

An ornate bronze horse-bit rosette (2''·7), 17th century, London.

A set of fifteen bells (ranging in size from 4''·5 × 4''—7''·3 × 6''·3) of oval section with contracted mouths, formed of riveted iron plates showing much wear. All are similarly decorated with a raised band, some showing traces of brass plating, and are provided with elongate or knobbed tongues, and stout flat loops which are double in two examples; Chippenham Park, C.*, 1913.

Two socketed, iron shepherds' crooks of distinct form (13'' and 16''·2), Bury St Edmunds.

Two pig-scrapers of hoop iron with handles composed, respectively, of wood and of a cow's hoof, St Neots, Hunts.

A tanged eel-spear with head of forged iron, seven pronged, Cambridge.

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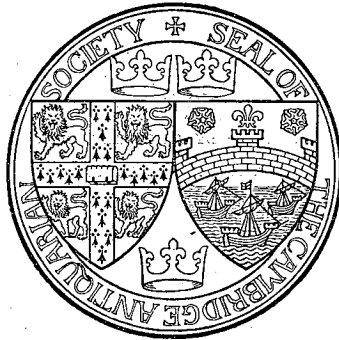
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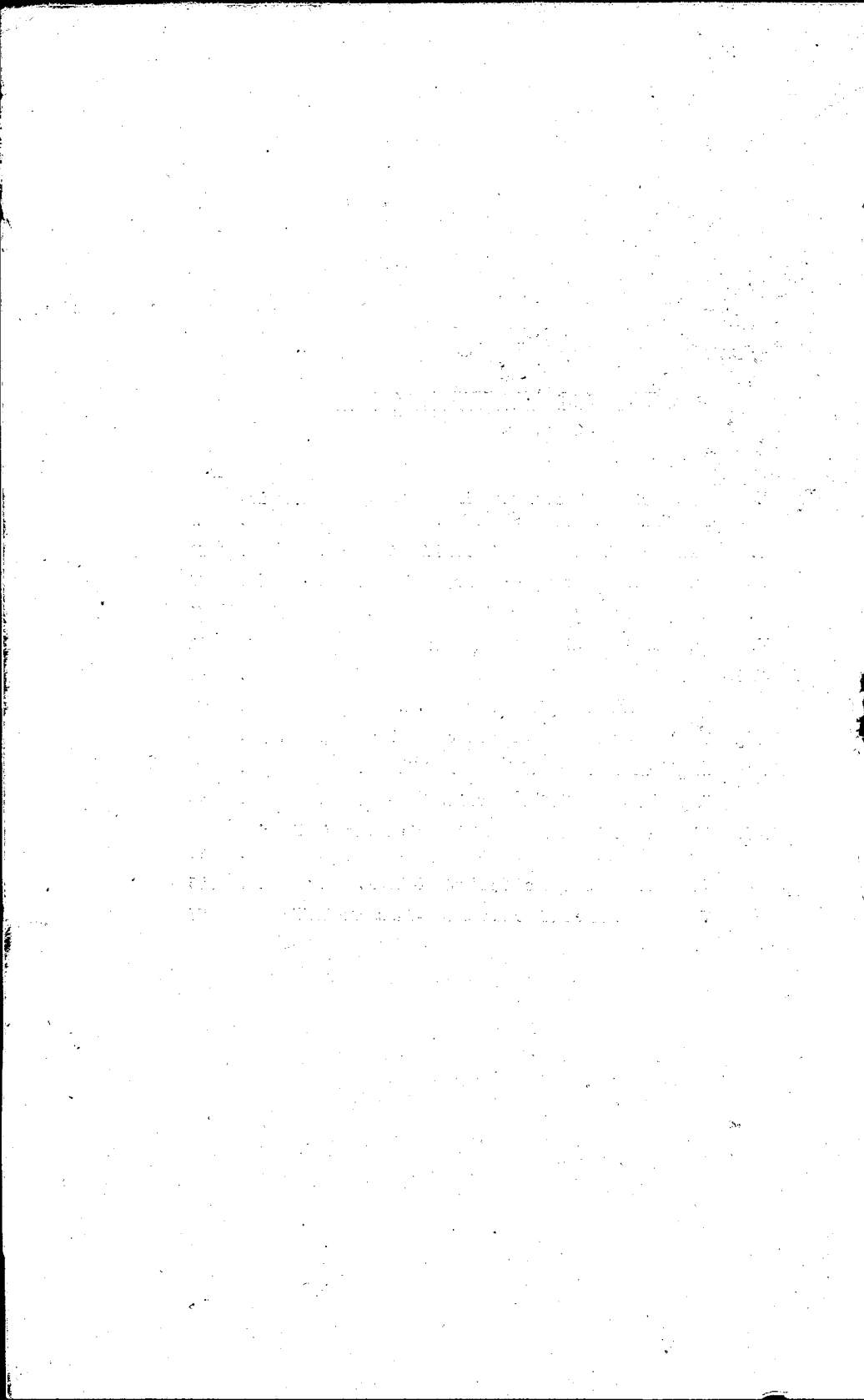
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