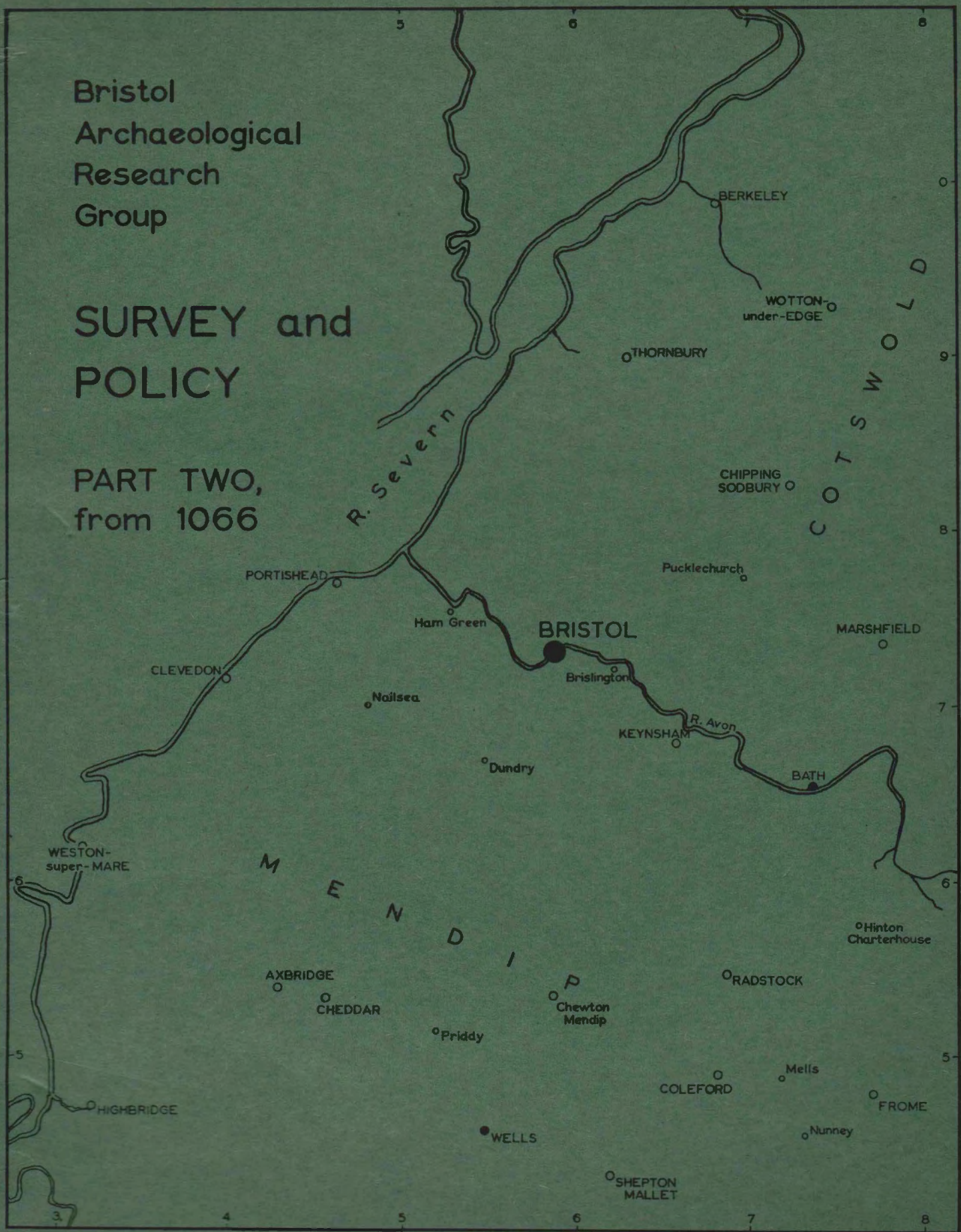
Bristol
Archaeological
Research
Group

SURVEY and POLICY

PART TWO, from 1066



A SURVEY AND POLICY
CONCERNING THE
ARCHAEOLOGY OF THE BRISTOL REGION

Part II

From the Norman Conquest

Publications by the

Bristol Archaeological Research Group

Bulletin, 1962 onwards. (1962 - 1964 out of print).
Annual subscription 7/6d for three parts.

The Preparation of Archaeological Reports, by Leslie Grinsell, Philip Rahtz, and Alan Warhurst. Second edition, 1963.
Price 3/6d (4/- including packing and postage).

A Survey and Policy concerning the Archaeology of the Bristol Region. Part I, to the Norman Conquest. 1964. Price 5/-.
(5/6d including packing and postage).

A Survey and Policy concerning the Archaeology of the Bristol Region. Part II, from the Norman Conquest. 1965. Price 6/-.
(6/8d including packing and postage).

In preparation:

A Guide to the Principal Archaeological Sites in and around Bristol.

A SURVEY AND POLICY
CONCERNING THE
ARCHAEOLOGY OF THE BRISTOL REGION

Part II. From the Norman Conquest

Edited by L. V. Grinsell

in consultation with

P. A. Rahtz

Price 6/- (6/8d including postage)
from the editor,
Bristol Archaeological Research Group,
c/o The City Museum, Bristol, 8.

(Remittances should be made payable to the
Bristol Archaeological Research Group)

1965

CONTENTS

PREFACE

In this part of the Survey and Policy, an attempt has been made to cover the later periods which have become so popular in the post-war years, as shown for example by the founding of the Society for Medieval Archaeology in 1956, and by the rapid development of interest in Industrial Archaeology, marked among other things by the founding of the Journal of Industrial Archaeology in 1964.

As with Part I, the area covered approximates to that shown on the Map on the cover, but each contributor has been free to extend or contract this area to accord with his own interpretation of his subject.

It cannot be stressed too strongly that in the study of these later periods, field archaeology and the study of history, documents, and records must go hand in hand. For this and other reasons, the section dealing with Facilities for Research, and the Bibliography and References, are more comprehensive than they were in Part I.

In view of the extent to which Part I is in demand in the rest of the British Isles, and beyond, and to comply with the wishes of several contributors, some of the chapters and bibliographies are slightly broader than in Part I. It is hoped that this will increase the utility of the work for those in other areas who are interested in formulating regional Surveys and Policies.

ACKNOWLEDGEMENTS

The section on post-medieval ceramics has been revised by Miss N. Elphinstone, until recently Curator in Applied Arts at the Bristol City Art Gallery. We are particularly grateful to Mr. C. D. Harley for contributing the section on Ecclesiastical Archaeology at very short notice. The chapter on Mines and Quarries has derived much benefit from criticism by Dr. F. S. Wallis. The chapter on Communications has been revised by Mr. Frank Walker, Department of Geography, the University of Bristol. The chapter on Facilities for Research owes much to comments by Mr. Irvine E. Gray (Gloucestershire Records Officer) and Mr. I. P. Collis (Somerset County Archivist). References to documentary sources in various chapters are mainly the work of Mrs. Frances Neale, formerly of the Bristol City Archives Office. The chapter on Scientific Aids has been revised by Mr. Brian V. Arthur.

ABBREVIATIONS

Arch. Jour.	Archaeological Journal
Archa.	Archaeologia
B.A.R.G.	Bristol Archaeological Research Group
B.C.M.	Bristol City Museum
B.C.S.	Birch, W. de G. Cartularium Saxonicum. 3 volumes and index; 1885-99.
C.B.A.	Council for British Archaeology
D.M.V.	Deserted medieval village
Glos. N.Q.	Gloucestershire Notes & Queries
Jour.B.A.A.	Journal of the British Archaeological Association
Jour. Indus. Arch.	Journal of Industrial Archaeology
Med. Arch.	Medieval Archaeology
M.N.R.C.	Mendip Nature Research Committee
N.G.R.	National Grid Reference
N.Q.S.D.	Notes and Queries for Somerset and Dorset
O.S.	Ordnance Survey
P.N.Glos.	Place-Names of Gloucestershire (English Place Name Society). Parts I - III, 1964; Part IV, forthcoming.
Proc. Clifton A.C.	Proceedings of Clifton Antiquarian Club
Proc. Som. A.S.	Proceedings of Somerset Archaeological & Natural History Society
Trans. B & G.A.S.	Transactions of Bristol & Gloucestershire Archaeological Society
V.C.H.	Victoria County History

I

THE MEDIEVAL PERIOD

By Alan Warhurst, B.A., F.S.A.,

(Director, The City Museum, Bristol)

Definition of the Area

The areas covered by this chapter are:

(a) the Medieval city of Bristol;

(b) the Surrounding Countryside (excluding Bath).

Inevitably, for this period much study will be concentrated within the medieval city of Bristol. Bath has been excluded because it is being dealt with by the Bath Excavation Committee. Nevertheless, most towns and villages in the area surrounding Bristol have a medieval origin and in both ecclesiastical and secular fields offer rich opportunities for research. Similarly, many villages, castles and industrial sites now deserted afford opportunities for field survey and excavation.

The Documentary and Printed Sources

It is not proposed here to deal with problems which are entirely historical. Nevertheless, in the Middle Ages documentary evidence becomes more common and more important than in previous periods and must be consulted. When a medieval site is the subject of research, enquiry should be made at the appropriate Archives or Records Offices to ascertain whether any documents exist dealing with the site. Further information under this heading is given in the chapter on Facilities for Research and in the Bibliography and References (pp. 46, 51). The medieval archaeologist should familiarize himself with the general run of the contents of the volumes published by the Bristol Record Scoeity and the Somerset Record Society.

(a) The Medieval City of Bristol

Over the next few years work must be mainly concentrated on rescue excavations within the medieval city walls. The area between High Street, Wine Street, the River Avon, and Old Market is now being developed with the building of the Norwich Union Offices (1962), the Bank of England (1963), and the new Museum and Art Gallery (about 1967/70); the remainder of the area will be laid out as public gardens. This development, as it progresses, will prevent any further substantial research by excavation in an area which is

already severely gutted by cellars. In addition, excavations in other areas such as King Street and on the Redcliffe side of the river, when opportunities arise, must not be overlooked.

The main problems are:

(i) The Medieval city walls.

Their approximate course is now fairly well known, but cuttings across the supposed line of the wall, wherever possible, should reveal, -

a) the precise position of the wall;
b) the dates of the various sections of the wall;
c) the possibility of earlier phases of fortification which will throw light upon the problem of Saxon Bristol;
d) the actual size of the wall and ditch, together with any features such as gateways and bastions;
e) important stratified and perhaps well dated groups of pottery;
f) sections of the wall which may possibly be permanently preserved for the public to see (e.g. the Bastion discovered during the restoration of St. Nicholas Almshouses in King Street).

Such opportunities will undoubtedly be rare, and will occur mostly when buildings are demolished. Opportunities exist, however, under Bridge Street when this road is closed, and just west of St. Peter's Church, where excavation should prove whether the Castle and medieval walls were connected at this point. Sections of the later Redcliffe wall along Portwall Lane could also be proved by excavation when the ground becomes clear.

(ii) The Castle site

There is only a little chance of improving our knowledge of Bristol Castle. It may still be possible to prove the north wall and sequence of defences of the Castle by Broad Weir and the west wall by the site of Barbican at the junction of Castle Street and Little Peter Street.

(iii) Religious and Monastic Sites

Any such sites would be worthy of study and excavation, particularly monastic ones. Bristol, in the fifteenth century,

possessed 16 churches, an abbey, two priories, four friaries and seven hospitals. Most of the existing churches of the City afford an opportunity for the study of church morphology, architectural detail, monumental effigies, brasses, stained glass, tiles, sculptures and in some instances church plate, furniture, and regalia. A church museum has long been needed in Bristol, and it now seems probable that St. Nicholas Church will be adapted for this purpose.

(iv) Secular Occupation

Traces of houses, pits, and other features may be found wherever undisturbed medieval layers are encountered, as under Mary-le-Port Street (excavated 1963) and Castle Street, and possibly on the site of St. Peter's Hospital which is the known site of the Aldworths' late medieval house. In addition, any church site which is available for excavation, e.g. St. Mary-le-Port (excavated 1962) or St. Peter's, may well reveal secular occupation beneath it.

The Role which the Amateur may play in the City

Much of the work outlined above will be achieved only by large scale organized effort by the City Museum and the Ministry of Public Building and Works. Indeed at this moment these bodies are jointly carrying out a programme of excavations to solve some of these problems. This work has so far been under the able direction of Mr. P. A. Rahtz. A great deal can still be done by the keen amateur:

(i) He can still pursue individual studies in medieval material such as architecture, building materials, pottery, or small finds such as keys or horseshoes amongst others, about all of which more knowledge is needed.

(ii) He can assist in the large scale excavations which will be organized each year by the City Museum in consultation with B.A.R.G.

(iii) He can examine the ground within and near the Medieval City walls, wherever it is disturbed, and report any interesting archaeological finds or features to the City Museum. There already exists a small number of persons who are prepared to do such work, but many more are needed.

(iv) Much more could be achieved by detailed examination of cellars and basement properties in the medieval city. Many of these probably retain in their structure parts of medieval buildings or the City Wall.

(v) There is a great need for existing finds and sites to be plotted on to a large scale map of the City at a scale of, say 1:500. It would also be useful to compile a map showing those areas of the City where it could be reasonably expected that medieval layers still exist.

(vi) Finally, he should constantly refer to William Wyrcestre's 15th century Antiquities of Bristow (Dallaway, J, 1834). Unfortunately this is mostly in Latin, and a well edited English translation is an urgent need.

(b) The Surrounding Countryside

The sites in the countryside fall into the following groups (as classified in the Annual Reports in Medieval Archaeology):

A. Monastic Sites.
B. Cathedrals and Ecclesiastical Palaces.
C. Churches and Chapels.
These are considered briefly in Chapter IV, on Ecclesiastical Architecture and Archaeology.
D. Castles.
E. Towns.
F. Royal Palaces.
G. Moated Sites.
H. Farms and Smaller Domestic Architecture.
I. Villages.
J. Other Sites.
K. Industry.

D. Castles. Some, such as Berkeley Castle are still inhabited and archaeological methods are not likely to be practicable. Others, such as Beverston Castle near Tetbury and Richmont Castle at East Harptree are appropriate subjects for investigation with the spade: likewise Culverhay Castle near Englishcombe. Of the mottes which have no apparent evidence of stonework, our area contains at least two: Castle Batch north of Worle, and the motte-and-bailey near Locking Head Farm. No scientific excavation appears to have been done at either site.

E. Towns and Larger Villages. It is assumed that the medieval archaeology of Wells is being covered by the Wells Archaeological and Natural History Society. Of other towns and large villages, the existence of coin-mints in late Saxon times at Berkeley and Axbridge implies possibilities in medieval archaeology at both places.

F. Royal Palaces. The excavations at the late Saxon and Norman Palaces at Cheddar show what an immense amount of scope is provided by such sites.

A possible site at Pucklechurch needs to be identified. There was also a Royal House at Alveston (where William II stayed) and another (built by King John in 1209) at one of the Cadbury Camps (there are three in Somerset and one in Devon).

All these sites provide opportunities if they can be located.

G. Moated sites. Those in the region under consideration fall into two groups:-

1) Those north of Bristol seem to occur mainly between the Cotswolds and the River Severn. Obvious examples are Wanswell Court Farm; Church Hill Wood; south of Alkington Farm; and Yate Court. Excavations under modern conditions have recently been done and published for Prestbury Moat near Cheltenham (O'Neil, H.E., 1958).

2) Those south of Bristol are mostly north of the Mendip Hills; e.g. Spargrove Farm, Batcombe; Bickfield Farm, Compton-Martin; Court Farm, Hutton; Church Moat, Stanton Prior; Rookery Farm and Nye Farm, Winscombe. There is also Moat House Farm, Wraxall, which is one of several un-nucleated farmsteads on Failand, which may prove to be characteristic of North Somerset.

H. Farms and Smaller Domestic Architecture. These are covered in chapter V on Domestic Architecture.

I. Deserted Medieval Villages. This region is not very wealthy in sites of this type, but M. W. Beresford (1954) lists about 5 sites in Gloucestershire between Bristol and Stroud, and 3 sites in Somerset between Bath and Frome. Undoubtedly many others exist.

Those wishing to study these traces should contact the Deserted Medieval Village Research Group. County monographs on the Deserted Medieval Villages of Northamptonshire and Oxfordshire are in preparation, and it is to be hoped that similar monographs may before long be issued on those in Gloucestershire and Somerset. They are eminently suitable subjects for field study with the aid of air photographs. An example at Upton on the Cotswolds is being periodically excavated by Mr. P. A. Rahtz and others.

Medieval Pottery.

There is a great need for a study and enlargement of our medieval pottery collections. Steps are now being taken to form and maintain a National Reference Collection of Medieval Pottery, to be housed in the

British Museum, under the supervision of a newly appointed Assistant Keeper in the Department of British and Medieval Antiquities. It is equally necessary for reference collections of medieval pottery to be formed on a regional basis in the main provincial museums.

In this connection, the discovery, excavation, and publication of kiln sites is of prime importance. This has already been achieved for a kiln at Ham Green, where undoubtedly more kilns may be discovered and excavated once we have assimilated the knowledge gained from the first discoveries. The prospects of locating such kilns by geophysical methods are mentioned on page 44.

Meanwhile, Mr. P. A. Rahtz has provided a basic sequence of pottery types for the medieval period, founded on his work at Cheddar, Baldwin Street and St. Mary-le-Port, Bristol, and upon the work of others:

10th. - 11th century:	Saxo-Norman; simple forms in poorly fired handmade and some wheel-turned fabrics.
12th century:	Hard sandy hand-made ware; some rough glaze and a few Stamford imports. Forms develop from those in the first group.
c. 1200 - 1250:	Ham Green early ware associated with earlier forms.
c. 1250 - 1325:	Ham Green later ware associated with "Selsley Common" and French imports, and with other good quality wares from unknown kilns. Forms and decorations are more elaborate, and include bridge-spouted and face-jugs.
c. 1325 - 1400:	French imports with good quality glazes, some Selsley Common ware still; little Ham Green, which possibly gave way to superior products.
c. 1350 +	Some harder-fired fabrics (semi-stoneware) beginning, associated with hard reddish fabrics either side of c. 1400.
c. 1450:	Tudor green, semi-stoneware, imported stoneware and others, black-glazed and other Tudor wares.

More stratified groups are needed from well-authenticated excavations, and more study is needed of existing groups of material in the City Museum, Bristol, and elsewhere. The collections in the Bristol City Museum need considerable strengthening.

II

THE POST MEDIEVAL PERIOD

by P. A. Rahtz, M.A.,
(Lecturer in Medieval Archaeology, Birmingham University)
and K. J. Barton, F.S.A.
Curator, Hartlebury Castle Museum, Worcestershire)

FIELD ANTIQUITIES

by P. A. Rahtz

Defensive Earthworks and Buildings. Those connected with the Civil War offer an interesting subject for study in the Bristol region. The earthworks on Brandon Hill are well preserved and form part of an extensive system. It may also be possible to find traces of Civil War earthworks on Lansdown and Claverton Down near Bath.

Ecclesiastical Architecture and Archaeology are covered in Chapter IV.

Domestic Architecture in town and country is covered in chapter V. Here it is enough to note that dozens of buildings are being destroyed each year, many with exceptional characteristics. Their loss is unfortunate, but less so if all their features have been measured, photographed, and described. Barns in particular form a most rewarding subject for study, as shown recently by the excellent work of Mr. C. P. Nicholson in the Salisbury area, who has measured and classified several hundred examples in the last few years. Town Houses in and around Bristol may still prove to contain older parts hidden behind later facades, and it is always worth watching the demolition of any buildings of 16th to 18th century date for these and other features of interest. Windmills and Watermills are also worth study and record, whatever their age. An excellent watermill of 17th century known as Stratford Mill was some years ago removed from the Chew Valley Lake area and re-erected on the Blaise Castle estate.

Deserted Villages are by no means all medieval. Some desertions have been occasioned by emparking, as with Milton Abbas in Dorset, which was moved to its present 'model village' site in the late 18th century, its earlier site having been in the Park near the Abbey. Earthworks north of Long Ashton are suspected to have resulted from a similar move. Other villages were abandoned in the late 18th and early 19th centuries because of the movement towards the growing towns which resulted from the Industrial Revolution. Yet other villages have been deserted during the present century, - for example Imber in Wiltshire and Tyneham in Dorset, both by eviction for military use during the last war.

Sites connected with Breeding include rabbit warrens, dovecotes and pigeoncotes, all of which seem to have been introduced in the Norman period but most extant examples of which are post-medieval. Sites marked as Warrens, or Rabbit Warrens, on the larger scale maps often contain earthworks known as pillow-mounds. Many archaeologists believe that most if not all pillow-mounds were rabbit-warrens, but the available evidence has not yet been gathered and analysed. It is, however, now being collected by the Royal Commission on Historical Monuments (England), Rougemont, Manor Road, Salisbury. There are many pillow-mounds on Minchinhampton Common, and Rev. John Skinner saw several examples on Downhead and Cloford Commons on Eastern Mendip. The long straight mounds within Dolebury hill-fort are most likely pillow-mounds of exceptional length. Dovecotes and pigeoncotes offer an attractive field for study, but should perhaps more properly come under the heading of domestic architecture.

Sites connected with Pleasure and Entertainment include gardens and other works of the landscape gardener, such as tree enclosures, follies and grottoes, bull-pits, cock-pits, and mazes. Gardens in town and country might well be traced by documentary evidence and identified by changes of level in towns, or by earthworks or terraces in the country. They have sometimes been mistaken for medieval village sites or moated earthworks. Tree-clump enclosures and afforestation enclosures, mostly of 17th and 18th centuries, were put around young trees to protect them from being nibbled by domesticated animals. They normally comprise a bank (in stoneless country) or wall (in stony country) with or without an outer ditch which is nearly always present in stoneless country. The bank was generally planted with hawthorn. They have at some time or other deceived most British field archaeologists within the last century. They were often placed around ancient earthworks, thereby altering their appearance and making it difficult to distinguish between their original form and their later modification. Local examples include the 'Seven Sisters' clump of firs on Durdham Down, which may or may not be on a round barrow; and the earthwork on Knowle Hill south of Chew Magna. Closely related to the work of the landscape gardener are the follies and grottoes, (e.g. in the garden of Goldney House), the chief examples of which have recently been charmingly described by Miss Barbara Jones (1953). Minor examples probably await discovery, and any such structures should be adequately recorded lest they become damaged or destroyed. A site that probably comes under the 'landscape gardening' category is the Hawhaw west of Marksbury. Some bull-pits and cock-pits on Mendip have recently been described by Robin Atthill (1964), who has found evidence of examples at Hinton Charterhouse, Paulton, and Stoke St. Michael in addition to the well-known site at Buckland Dinham. Other examples should be found by searching tithe-maps for likely field-names, by examining contemporary Diaries and Journals (such as those by Rev. James Woodforde and Rev. John Skinner), and by other methods. A good example of maze is the earthwork south of Canerton church; a better one is on Breamore Down south of Salisbury; and that at Hampton Court is still in use.

Sites connected with obsolete forms of punishment also merit careful record, and are fast disappearing. These include stocks, (as at Faulkland), whipping-posts, ducking-stools, pillories, lock-ups (such as the fine example on the bridge at Bradford-on-Avon), and gibbets. These may sometimes be discovered from documentary sources; e.g. Wine Street (Bristol) derives its name from the wynch or pillory which stood on the site. The various museums of folk material (such as those at Blaise Castle House and in Gloucester) and local museums (such as Axbridge, Wells and Stroud) often contain relevant material.

Enclosures. It is important, in any detailed study of a particular area, to be familiar with the dating and origin of all field and other boundaries if they can be ascertained from estate-maps, tithe-maps, or other documents. They will often be useful in determining property boundaries and the influence of soils, geological features, and other factors on the utilization of the land.

Field-Names. Finally, the importance of studying field-names cannot be overestimated. In the M.N.R.C. Library behind Wells Museum is a set of 6" O.S. sheets of most of Mendip, on which the late A. T. Wicks marked a great many field-names for several parishes. This work should be extended to cover the rest of the area within the range of B.A.R.G. The method is laborious but interesting, and involves consulting the estate-maps and tithe-maps of each parish, and in the case of the tithe-maps their apportionments which are often cumbersome to handle. Much useful information on field-names is included under each parish in the recently issued P.N.Glos. While many field-names are purely descriptive and of no archaeological significance, almost every parish contains a few which throw useful light on its past history.

CERAMICS

by K. J. Barton

The ceramics to be discussed here fall into three main groups within the period A.D. 1500 - 1750: (a) Domestic Pottery, (b) Building Materials, and (c) Clay Tobacco Pipes.

(a) Domestic Pottery.

There appears to be no record of pottery manufactured in the Bristol region between the 14th (Ham Green) and the 17th century (Brislington), although excavations in the city (at Back Hall and St. Nicholas Almshouses) have provided groups of wares suggesting that there were local manufacturers during this period. The chief manufacturers of the period 1650 - 1850 were described by Pountney, W. J. (1920), but his work now needs revision.

What do we know of the ceramics of this period? About 1450 to 1500 the standard medieval wares underwent a modification that is reflected throughout Southern England. This was probably, although not certainly, influenced by imports then coming from the Lower Rhine and the Netherlands (salt-glaze and stone-ware) and Western France (green-glazed earthenwares - so-called 'Tudor Green'). The local wares would appear to follow the Midland pattern of hard firing and a covering of a thin purple glaze, although there is no real evidence of dating. Examples of this ware were found at Back Hall and they can be paralleled to some extent with vessels from Coventry dated to 1425 (Kenyon, K.M., 1948). One feature of the beginning of Post Medieval pottery in the South-West is that of large globular jug-like vessels with spigot-holes. These vessels are frequently decorated with white paint on the body and they are often not glazed. A fragment of a vessel of this sort was found at Pickwick Farm, Dundry (report forthcoming), and others are known from the area. This type occurs throughout the south with a coastwise distribution as far as East Anglia and has been dated elsewhere to c. A.D. 1500 (Barton, K. J., 1963). This ware with its painted decoration appears to be the precursor of slip-decorated ware.

Slip-decorated wares are already well developed by the end of the 16th century. They are the dominant ceramic type in the Bristol region from the end of the 16th century throughout the 17th century. The principal forms of vessel in this ware are bowls decorated on the inside with a white slip and a lead glaze giving a yellow and brown pattern.

In the South-West slip-wares are embellished with sgraffito patterns, i.e. the added white slip is scratched to reveal the colour of the body underneath. Another decorative feature connected with this sgraffito slipware, peculiar to this region, is the use of copper on the slip to give a green dot or leaf decoration; this type, found at St. Nicholas Almshouses and in a group at Cheddar, does not appear west of the Parret or very far north of Bristol, and its frequency in finds within the city of Bristol suggests that it may have been made locally.

The introduction of Delft wares (i.e. tin-glazed earthenwares) at the Brislington kilns in the mid 17th century and its subsequent manufacture in the Redcliffe Back, Temple Back and Lime-Kiln Lane Potteries, Bristol, up to the 1780's is adequately covered by Pountney (1920), and the material exhibited in Bristol City Art Gallery. It therefore requires no description here. Common earthenware (i.e. vessels in an ungrogged red paste covered with a dark brown glaze) which appears in great quantities in excavations in the city, is not so well documented but must be considered as part of the local products.

After 1650 the yellow slip-wares with black decoration, originally developed in Staffordshire, were probably also manufactured in Bristol where

this type of pot has a massive and wide distribution (Barton, K. J., 1965). This ware has a steady development in the area, ending in combed slip-ware dishes in the early 19th century.

Recently wasters of salt-glazed pottery have been found in the Redcliffe area (Barton, K. J., 1965), indicating that such material was manufactured here as early as c. 1725.

Any discussion on post-medieval pottery in this region would be incomplete without reference to the large quantities of imported ceramics found in Bristol proper. These range throughout the period and come from many sources. In the 16th century, as already shown, imports came from the Netherlands and Western France. Towards the end of that century and into the 17th century the range of foreign imports increased and included :

Slip-wares and Delfts from Holland, France, Spain, Portugal and Northern Italy;

Common earthenwares from the whole of Western Europe and the Mediterranean;

Wares from Syria and North Africa;

Stonewares and Salt-glazed wares from Normandy and the Netherlands.

In the first half of the 18th century the products of China began to dominate the lists.

Material was also imported from other British kiln-sites and some originated from North Devon, Ewenny, (South Wales), and the Herefordshire potteries as well as from many sources as yet unknown.

(b) Building Materials

The use of ceramic building materials has been discussed by Dunning, G. C., (1961). Much of what is said there is relevant to Bristol; however, a study of the buildings that remain in Bristol shows that even in the 17th century most of the houses were built of timber, wattle and daub. Bristol had access to many wooded areas and also to good building stone, so that the use of bricks was of minor importance until the speculative building of the 18th century.

The roofs of most medieval houses were covered with flat ceramic tiles and crested ridge-tiles. The flat tiles have changed little from the Middle Ages. Some were nibbed but many pierced to take wooden pegs. At the beginning of the period ridge-tiles were decorated with coxcomb and applied

thumb-strips on their sides. These were also covered across the crest and part of the ridge with a lustrous green glaze. These typical medieval features soon gave way to plain semi-circular tiles with a dark green or brown glaze; and later, by the middle of the 17th century, were decorated only with a splash of dark brown or black glaze (as at St. Nicholas Almshouses).

The gable-heads of many houses were decorated with ceramic finials in many and varied forms. Such finials appear to have been common in the medieval period and go on into the post medieval period, and should be considered here. Ceramic chimney pots, although known as early as the 12th century in other places, have yet to be recognized in Bristol in this period. It may well be that as the fireplaces and chimneys were built in stone, ceramic chimney pots were not used until the 18th century. However, in the late 17th and early 18th centuries fireplaces were frequently faced with tin-glazed tiles, the decoration of which took many forms, some copying the Dutch style, some showing Chinese influence and others being of a purely local character showing groups of animals drawn in a purple outline.

Ceramic floor-tiles are found in all levels throughout the period under discussion. They are mainly nine inches or twelve inches square and made in a hard red paste covered with a heavy black or thin brown glaze.

(c) Clay Tobacco Pipes

The manufacture of clay tobacco pipes is recorded in documents as early as 1603, and after then it became a fairly large industry which continued until 1925. Many of the makers and their marks are given by Pritchard, J. E., (1923) and Oswald, A., (1960). A study of these marks, undertaken by Mr. Keith Reed, is as yet unpublished, but is far more exhaustive than the work of his predecessors in this field.

Problems

As can be seen from this review, our knowledge of the post medieval ceramics of the Bristol region is very limited, particularly so in the period between 1500 and 1650. Much has been supposed but there is little real evidence.

A close study of levels producing ceramics in any excavation or through any reconstruction work should help to fill this gap in our knowledge. As has been suggested, the continuance of the ceramic industry in Bristol after the closure of the Ham Green kilns can be assumed, for at this time Bristol was a major city and would surely have been providing its own ceramic products as well as accepting those brought in from outside. It is probable that a good guide to the nature of the ceramics of this period can be given by associated imports, and work in the Redcliffe area may give a pointer in this direction.

Although much work has been done on recording the finer wares produced in Bristol from 1650 to 1800, little if anything has been done in listing the types of coarse earthenwares produced in the city at this time; and a close study of material already in Bristol City Museum and Art Gallery and of material found during building development and excavations within the city and in the region of the old port should produce a sufficient bulk of evidence to indicate possible local products.

Finally, the problem of imports must be considered. It cannot be stressed too strongly that it is possible to find in levels as early as the 13th and 14th centuries examples of exotic wares which could easily be mistaken for intrusive material from a later period. Any archaeologist working within the city should bear this in mind when he sorts his find trays.

III

INDUSTRIAL ARCHAEOLOGY

by Kenneth Hudson, M.A.

(Industrial Correspondent, B.B.C., Bristol)

By comparison with other parts of Great Britain, South-West England is a very old industrial area. In pre-railway days its manufacturing prosperity owed much to its easy access to sea and river communications and also, before the coming of the steam-engine, to the abundant water power which was available for driving its mills and workshops.

Much of the industrial activity of the South-West has been closely connected with agriculture. Its brewing, tanning, boot and shoe making, gloving, sheep-skin dressing, cheese-making and bacon curing, for instance, have been widespread and on a considerable scale. But the most important of its agriculture-based industries has been the manufacture of woollen textiles. Many of the splendid eighteenth and nineteenth century mills and clothiers' houses in Gloucestershire and Wiltshire survive as evidence of the wealth that wool once brought to the area before the main base of the industry moved north.

Ship-building and its ancillary trades, such as rope-making, sail-making and the manufacture of a wide range of metal castings and forgings, made substantial fortunes for manufactuers and suppliers and left a strong imprint all along the south coast, and, even more, at Bristol. Many remains of the installations of 150 - 200 years ago are still to be seen. The building stone industry has also been of great importance along the Cotswolds, and in the Bath area and elsewhere in Somerset, while brick and tile making was for a long time an important feature of the economy of Mid-Somerset. The biggest concentration of trades has, of course, always been in Bristol - soap, glass, pottery, coal, iron, brewing and tobacco are among those of which the industrial archaeologist can find many remaining clues within five miles of the city centre.

The South-West of England as a whole is a satisfying and rewarding field to explore for anyone whose interest lies in discovering fresh evidence of the early days of the Industrial Revolution before the dominance of the Midlands and the North and while industry was mainly situated in the country-side and the small towns.

The new subject of industrial archaeology is gradually beginning to establish its limits, if not its definition. "The Industrial Archaeolgist", writes one of them, "is concerned with recording and studying early industrial

remains, especially those of the eighteenth and nineteenth centuries, which have not hitherto been the subject of field study. The methods of field study and recording and even of excavation on appropriate sites make the subject properly a branch of archaeology, even though the results obtained are likely to prove of most value to the historian of technology and to the economic historian" (Green, E.R.R., 1963, introduction).

Industrial archaeology, in other words, is not a museum subject, although its results may have much to contribute to the effectiveness of museums. It deals primarily with material which can still be seen and studied on its original site and which is original in the sense that nobody has previously published a description of it or assessed its significance. Dr. E. R. R. Green's definition quoted above is useful, although there still appears to be a good deal of disagreement as to which industrial remains are to be considered sufficiently reputable and ancient to merit the attention of scholars. In a world where time presses so heavily, where is one to draw the line?

For another of its distinguished practitioners, Mr. Michael Rix, the core of the subject lies in "..... the study of early remains produced by the Industrial Revolution". Such remains he identifies as eighteenth and nineteenth century factory premises, industrial housing of the same period, "the steam engines and locomotives that made possible the provision of power, the first metal-framed buildings, cast-iron aqueducts and bridges, and the pioneering attempts at railways, locks and canals." All these things, he feels, "represent a fascinating interlocking field of study, whole tracts of which are virtually unexplored." (Rix, M., 1955). Ten years after Mr. Rix wrote these words, there are still whole tracts to be explored, and in no part of England is this more true than in the West Country.

Academically speaking industrial archaeology is not a 'pure' subject, with well-defined boundaries. It could be better described, perhaps, as a federation of subjects. It straddles and nourishes economic history, social history, architectural history and the history of technology, and for this reason, if their work is to be effective, industrial archaeologists must possess a fairly broad range of knowledge. In its essence, however, this is essentially a field study. It has come into existence as a discipline in its own right, mainly as a result of a growing dissatisfaction with the regrettable fact that our industrial past has been investigated and written about too much from libraries and archives and too little from the surviving buildings and machinery. In the interests of accuracy and completeness, fieldwork was urgently needed, and on a large scale.

It is possible to argue that such well-used phrases as "industrial monuments" or "the surviving buildings and machinery" narrow the subject unreasonably and unprofitably. The devastated landscape of South Lancashire or Swansea, or parts of Cornwall, is just as truly evidence of the Industrial Revolution as, say, an early canal or foundry. An abandoned mine-shaft is no

less worthy of attention than an abandoned beam-engine.

In the present writer's opinion, at any rate, there is no particular reason, also, why the industrial archaeologist should allow himself to be put into a straight-jacket by arbitrary dates. Each industry has to be considered against its own historical development and its own life span. For woollen, cotton, and linen textiles, as for coal and iron, the pioneering days are indeed the eighteenth and early nineteenth centuries. For glass and pottery, the beginnings of large-scale manufacture in England are even earlier. In the case of the petroleum industry, however, or of construction in reinforced concrete, the old and rare remains belong to a period as close to our own times as the second half of the nineteenth century. For the manufacture of aeroplanes or motorcars, the date to go for may be as recent as 1910 or 1920, and, for atomic energy, and for a wide range of plastics and synthetic fibres, the earliest equipment and buildings are now hardly more than twenty years old. The first car assembly line, with the cars moving past the workers, should certainly have been scheduled and preserved as a national monument, but it was in fact scrapped before such an eccentric and posterity-centred idea entered anybody's head. It might be well, however, to earmark the first fully-automatic factory, the first atomic power station and the first gas-from-oil plant for very thorough recording and possible preservation before it is too late.

It is undoubtedly true that the closer industrial remains are, or, more usually and sadly, were, to the present day, the more likely it is that they will have been swept away unvalued and un-recorded. This is particularly true in the case of fast-developing industries and rapidly-growing companies, where the pace of technical change and commercial necessity cause both equipment and premises to become out-dated within a very short time. To take one simple instance, it is extremely difficult nowadays to discover a petrol-pump of the early 1920s in anything approaching the original condition and on its original site. In 1964, two rasonably preserved examples still exist in Somerset, - one at Wells and one at Keinton Mandeville, but their future is very precarious.

The really well-known industrial monuments, especially those connected with railways or canals, are most unlikely to be demolished or converted to some other use without first being carefully photographed or recorded. But industrial history cannot be written or illustrated only in terms of the most remarkable or best known or most spectacular buildings or machines or engineers, any more than literary history could reasonably confine itself to the greatest writers, or the history of art to the greatest painters and sculptors. Perhaps the most essential, and certainly the most neglected, task at the present time is to discover, photograph and describe the less distinguished and therefore less obvious relics of our industrial past, in which Bristol, Gloucestershire and Somerset are particularly rich - the smaller and much modified factories

and mills, the converted breweries, the half-built canals, the domestic workshops, the toll-houses, the more modest bridges and viaducts, the abandoned coalpits and railways, and the workers' cottages. It is here that the greatest amount of destruction is likely to occur before adequate investigation and recording can take place, not usually because of ill-will or of a philistine hatred of the past, but because local people are simply unaware of historically significant things of this type around them.

The problem is to find ways and means of creating an informed public opinion before the bulldozers and demolition gangs get to work. Some industrial firms, like some politicians, still appear to believe that it is commercially dangerous or against one's professional ethic to show any interest in the past, but this view is heard a good deal less now than ten or twenty years ago. In the West Country at least, most owners of old buildings and old machinery are interested and rather flattered to be told that they have historical material under their care, and are willing to co-operate, provided that the investigator has the tact and commonsense to remember that the owners and managers of factories, quarries, ports and railways exist primarily in order to survive and make a profit, not to form part of the museum business.

No two areas of Britain present the same problems or the same opportunities. In the South-West, there is no shrine of Industrial Archaeology to compare with Coalbrookdale, no company museum on the scale of that organised with such magnificence and efficiency by Pilkington Brothers at St. Helen's, no complex of small workshops to measure up to what exists in the Birmingham area, no stretch of industrial devastation as hideous as that between Sheffield and Leeds. In superlatives, the South-West is probably unable to compete.

On the other hand, there are remarkably few cities in Britain which can have contained such a variety of industries, over such a long period of time, as Bristol. For early textile mills, there is no richer area than that of the valleys leading away from Stroud, in Gloucestershire. The railway line from Paddington to Penzance rivals any in the country for engineering feats and architectural interest. The remains of mining activities in the Forest of Dean and in Cornwall constitute almost an industrial museum in themselves. The ports of Southampton, Bristol, Bridgwater, Falmouth and Plymouth are enormously rich in historical material, and there are at least fifty smaller places around the coast with a great deal to offer the student of shipping and commerce.

The South-West is, in fact, one of the most satisfying areas in Great Britain from the industrial archaeologist's point of view, and one which contains an encouraging amount of activity at the present time. During the past twelve months, successful courses and conferences have been held, either by university extra-mural departments or by local education authorities, in Bath, Bristol, Stroud, Trowbridge, Devizes, Swindon, Wincanton, Wells, Yeovil,

Bournemouth and Southampton, and in each case the result has been considerable stimulus to fieldwork within the area concerned. Industrial archaeology is essentially a practical subject and experience so far has been that it attracts the kind of person who wants to do something active himself. This may be taking photographs, measuring buildings, helping to repair old machinery or remove it to a place of safety, identifying the manufacturers of engines or recording the reminiscences of veteran workers in a dying or defunct industry.

Within the South-Western counties, the most successful efforts so far to inspire and to co-ordinate amateur activity have been in Gloucestershire and North Somerset. In the first of these areas, the Gloucestershire Council for Industrial Archaeology was set up early in 1964 to decide which projects appeared to be the most urgent, and to organize manpower in a way that would get the work done in the shortest possible time. The Council grew naturally out of two courses run by the University of Bristol's Department of Extra-Mural Studies, and it owes much of its strength to the support it has received from local industrialists, one of whom is its president. The example is one that could be followed with profit elsewhere.

In North Somerset, the driving force has been the Bath and Camerton Archaeological Society. Under the guidance of the chairman, Mr. W. J. Wedlake, members have decided to undertake the formidable task of recording, parish-by-parish, anything and everything connected with the early stages of industrial development in the area, which includes the Bathavon rural district, the urban districts of Keynsham and Norton-Radstock, and parts of Clutton and Frome rural districts. Most of the Somerset coal-field falls within these boundaries, and among the other industrial remains to be sought for are those relating to brickmaking, quarrying, lime-burning, iron-founding, railways and the manufacture of agricultural implements.

One member has accepted the responsibility for sifting the information brought in and recording it in a standard form, and in November 1964 a well-attended meeting was held in Bath, when the summer's efforts and successes were discussed and an exhibition of photographs was arranged.

A Centre for the History of Technology has been established at the Bristol College of Science and Technology, under the direction of Dr. R. A. Buchanan. An important part of the work of the Centre will be to organize surveys and other kinds of research work within the South-West and to make the results easily accessible to students. The new Department of Technology at Bristol City Museum, whose Curator is Mr. Neil Cossons, is also establishing a reference collection of information and photographs which should be of great value to research workers. It is becoming steadily more apparent each month that the bulk of the fieldwork in Industrial Archaeology will inevitably have to be carried out by amateurs. The size and urgency of the

task makes it impossible for the professionals to cope with it on their own without local help; and in Industrial Archaeology it is by no means always certain who the professionals are. By the time that the representative of the Ministry of Public Building and Works, or of the local Planning Authority, hears officially about a venerable steam-engine, or a particularly interesting mill building, the odds are that the important relic will have been demolished, modified in some way, or sent to the scrapyard. Local vigilance and awareness are essential.

There is, however, a real danger that a great deal of amateur enthusiasm and effort will be frittered away through lack of co-ordination and informed direction. The fieldworker must be adequately briefed - that is why a body like the Gloucestershire Council for Industrial Archaeology is so important - and the information that is gathered must be kept where it is readily available to students, and in a form which is intelligible to other people. The system of a central archive based on standard record cards, which has been organized by the Council for British Archaeology and the Ministry of Public Building and Works, under the guidance of Mr. Rex Wailes, is very useful in this connection, and in some areas - Worcester, Liverpool, Manchester and Southampton are cases in point - the local authority is doing a great deal to provide an efficient repository and index within the district. But without more money and staff, this vital part of the work is going to be seriously handicapped and delayed.

It is always desirable to check whether the local archives offices are able to provide additional information on an industrial site. Deeds and inventories (e.g. of an early 18th century cloth merchant of Frome, or a late 18th century soap-making factory in Bristol, both in Bristol Archives Office), can give valuable details of buildings, rooms, and equipment.

IV

ECCLESIASTICAL ARCHITECTURE AND ARCHAEOLOGY

by H. G. M. Leighton, M.A., F.S.A., L. V. Grinsell, F.S.A., and C. David Harley, B.A.

ARCHITECTURE

by H. G. M. Leighton and L. V. Grinsell

This subject has in the Bristol region as elsewhere for many years been studied with erudition by distinguished antiquaries. The region has buildings of all periods of the middle ages and of the highest quality and variety, some of which are indeed internationally famous.

There are many post reformation churches of interest and probably less well known than those of earlier date. For point of illustration Croscombe near Wells, a late perpendicular building, has very complete interior fittings of Jacobean date. Keynsham and Midsomer-Norton in North Somerset have important towers in the gothic style built in the 17th century. Clutton has an 18th century example.

Much good 18th century work has been destroyed, but Redland Green chapel in Bristol remains and is a building of quality. Wooley is a church by Wood the younger of Bath. Badminton is another 18th century church and should be compared with Christ Church in the city of Bristol. The Octagon chapel in Milsom Street, Bath, is now used for secular purposes, but still has its original form. It was the most famous and successful of the proprietary chapels in Bath.

From the end of the 17th century onwards there are an impressive series of nonconformist chapels and meeting houses. The Rook Lane Congregational Chapel at Frome and Lewin's Mead Unitarian Meeting House in Bristol are particularly noteworthy. Highbury Chapel in Bristol is an early work of W. Butterfield the 19th century architect, and the tower was added by E. W. Godwin, whom Max Beerbohm described as "the greatest aesthete of them all" in his remarks about J. McN. Whistler in Chelsea at the end of the last century. In Bath there is the chapel of Lady Huntingdon's connection with manse adjoining. It is a pleasant little Georgian Gothick group which Horace Walpole described as 'very neat'.

The present day archaeologist must appreciate that much of the general ground has been covered already at a high level of scholarship, and that the architectural history and development of individual buildings and descriptions of their contents have often been completed definitively.

There is an ever increasing need for vigilance that buildings and their fittings are not destroyed or lost. Heavy losses have already occurred in part through war, through changing needs and tastes and through unsympathetic restoration. Losses of objects of archaeological importance are seldom intentional and a body of persons who appreciate our heritage of such things is their best insurance for survival. The shift of population from villages and town centres to new housing estates gives a constant danger of churches being declared redundant and possibly their sites sold. It is important that the archaeologist should be watching out for this and ensure that before such sites are redeveloped they are explored and any contents of historic importance preserved.

The study of the different types of stone used in ecclesiastical architecture, and the quarries from which they came, offers abundant scope for collaboration between archaeologist, geologist, and architect, and is treated in more detail in chapter VI.

Much work remains to be done on the study of architectural detail, fittings and furnishings. The church bells of both counties were the subject of volumes in the late 19th century (Ellacombe, H. T., 1875, 1881), compiled largely from information derived from correspondents. Supplementary papers were done for Gloucestershire (Walters, H. B., 1894, 1897, 1920), but a fresh study of the bells of Somerset is needed (Walters, H. B., 1921, discussed this). The monumental brasses of Somerset were covered recently by a series of fine papers (Connor, A. B., 1932-59); those of Gloucestershire have been described less fully (Davis, C. T., 1899). Embroideries have been studied for both counties (Bagnall-Oakeley, M. E., 1887, and Horne, E., 1927, 1931), but probably not exhaustively. The church plate has been treated at length for both counties (Evans, J. T., 1906, and Bates, E. H., 1897-1913); that for the city of Bristol was begun but not completed (Cole, R. T., 1932). It is understood that further work on the church plate of Bristol and Gloucestershire is now under way. The Gloucestershire fonts were exhaustively published many years ago (Fryer, A. C., 1908-28), but slight attention has been paid to those in Somerset (Gandy, V., 1929). Monumental effigies have been surveyed for Bristol and Gloucestershire (Roper, I., 1931), but apparently not yet for Somerset. Some attention has been given to the stone pulpits of both counties (Dobson, D. P., 1932, 1950, 1961), but complete surveys appear to be needed for both counties. The scratch dials of Somerset were listed in a delightful little volume (Horne, E., 1917), but those of Gloucestershire remain to be done. The stained glass of Gloucestershire was published in a workmanlike survey (Pitcher, S. A., 1926); that of Somerset has been the subject of a much more sumptuous and authoritative work (Woodforde, C., 1946). Wall paintings have been surveyed for Gloucestershire (Bird, W. H., 1927) but apparently not for Somerset, excepting for isolated examples.

It remains to discuss ironwork. In the early 18th century, William Edney of Bristol made some fine church gates, and probably also sword-rests and

other wrought ironwork, of which there are splendid examples in St. Mary Redcliffe and other churches in Bristol. These should be preserved at all costs. The firm of Skidmore of Coventry did much ironwork in the mid 19th century, including screens, lecterns, altar rails, and gas candelabra. Although it is at present out of fashion, it is important that it should be preserved because it will probably be appreciated by a later generation of archaeologists and others; while it is out of fashion its chances of survival are at their lowest.

The recording of the more noteworthy churchyard memorials is a matter of urgency in view of the operation of the agents of decay and destruction. The recent book by Burgess, F., (1963) leads the way in this field. A useful paper has appeared on the stone coffins of Gloucestershire (Willmore, H. H., 1940), and a survey of those in Somerset is desirable.

In recent years, increasing interest has been shown in the study of priests' houses, parsonages, and the like. Some medieval priests' houses of the south-west have recently been published (Pantin, W. A., 1957), and the general subject of parsonages has been treated in a recent book (Savidge, A., 1964). More work doubtless remains to be done in these fields.

ARCHAEOLOGY

by C. David Harley

Prior to 1066 the spread of Christianity through the country had resulted in the foundation of monasteries at Bath, Westbury-on-Trym, Berkeley and Bristol (St. Philip's), and colleges at Wells and Berkeley. Between 1100 and the middle of the 13th century there was a great increase in the number of religious houses; no fewer than twenty monasteries were founded in our small area, and nearly all the extant remains date from this period. The 16th century is noteworthy for the building of hospitals and almshouses, but these were usually small and of wooden structure. After the Dissolution under Henry VIII, all religious houses were evacuated and either partially (at least) destroyed or turned to some other purpose.

Monasteries

Under this heading are all larger religious houses, variously called Abbeys, Priories, Friaries, etc. These were substantial buildings, usually of stone and with a minimum of chapel and living quarters. The more elaborate sites had the standard pattern of cloisters, refectory, kitchen, abbot's house, etc.

(a) Extant or excavated. Among those of which part, at least, remains, the Dominican Friary at Quaker's Friars, Bristol, gives a good impression of a monastic house. Hinton Charterhouse has been extensively excavated

(Fletcher, P. C., 1952, 1959), and the chapterhouse, sacristy, and undercroft of the refectory stand as an impressive reminder of the grandeur of this early priory. Monkton Farleigh nearby has also been excavated (Brakspear, H., 1923). Many of the buildings were lost when the land south of the church was levelled in 1762, but the nave of the church remains to be dug. Excavations at Leonard Stanley have revealed a Saxon apse, but much remains to be done on the whole site. The small priory on Steep Holm has also been explored. Rescue excavations are at the time of writing being undertaken on the site of Keynsham Abbey on account of its disturbance by the construction of the new by-pass road. Parts of the north and south walls of the nave of the Abbey church are believed to have been located.

(b) Available for excavation. At Stanley only the floors of the church and chapel have been excavated; the whole of the cloisters, and the surrounding buildings remain undug and their exact outlines are uncertain, although many of them were standing less than 200 years ago. Very little remains of the Friary at Witham, which was in fact the earliest Carthusian house in the country. The present church is thought to have been the chapel of the Conversi or Lay Brethren. Apart from some literary evidence, our knowledge of the Friary is very limited and excavation on any scale would increase it. North of Weston-super-Mare stand the ruins of Woodspring (Worspring) Priory, partially incorporated into farm buildings. Here again there is scope for excavation. The outlines of the early foundations at Westbury-on-Trym and Berkeley may still be traceable, and if so, their antiquity would render any work done both interesting and valuable in the study of monastic buildings.

(c) Inaccessible at present. The most obvious example is the Benedictine Priory that lies beneath Barrow Court. In Bristol there were many larger establishments, of which the locations are known but built over. From St. Mark's (Lord Mayor's Chapel) to St. James', (Horsefair), and particularly in Lewin's Mead, there was a line of monasteries, and this area should be closely observed during the course of new building projects. In the graveyards of St. Philip's (near Old Market) and St. James' there may be considerable remains of foundations of cloisters etc. There was also a nunnery opposite St. Michael's (on the Hill) and an Augustine monastery by Temple Gate. Similarly there was a small house of Crutched Friars in Long Street, Wotton-under-Edge. All these sites should be kept under regular observation in case they become available. Also in this category, mention should be made of Kingswood Abbey. Considerable remains of this were recorded in 1792, but all have disappeared excepting one gateway. It may be worth adding that there are almost certainly extensive remains of the Saxon church which extended beyond the present Bath Abbey. The earlier church and its remains were described by Peach, R. E. M., 1888.

Smaller Monastic Houses

These are variously called granges or cells, and most need yet to be accurately sited. Apart from those mentioned above, there were three or four other Houses in Bristol (e.g. St. Stephen's), but they seem to have been

considerably smaller. At Horsley there was a small priory for just 120 years, until it was converted into a vicarage in 1380. A small nunnery (Holy Cross) stood at Chew Stoke; the remains are now under the reservoir (mentioned in view of the increased popularity of underwater archaeology). There were granges at Charterhouse, Green Ore, Brent, and Regil, but their positions have not been located and the only evidence available will probably be small finds, if anything. Queen Charlton has the remains of a cell of the Augustinian Abbey at Keynsham, represented by the Norman archway opposite the church.

Hospitals

This is a large field of study and very little work has been done in our region. There are records of at least 14 hospitals in Bristol alone. Most of these sites have been located, but there is a need for a map which marks their positions. The chapels of two hospitals (Gaunt's and the Three Kings of Cologne) and an archway of St. Bartholomew's, near Christmas Steps, are the only extant remains. However, Barstable's or Trinity almshouses have a chapel in Old Market (rebuilt) containing two brasses. The only archaeological report of a local hospital is that by Hudd, A. E. (1888), written after he had witnessed the demolition of St. Katherine's Hospital, Bedminster. Should any site become available, excavation would greatly enhance our knowledge in this field. There were three hospitals in Bath. The chapel of St. Mary's, Holloway, remains, and St. John the Baptist's (still existing on a new site) is known to have stood originally near the Cross Bath. There were also hospitals at Berkeley and Lorwing, and five at Wells. One at Beckington is now incorporated into the left wing of the house called "The Abbey".

Colleges

Smaller colleges were at Frocester, Kinley, and Berkeley, but their positions do not appear to be known. There is a record of a collegiate church at Wells before 1066. But the most important example in our area is obviously that at Westbury-on-Trym. The college was finally destroyed in 1730; but as late as 1894 extensive remains were visible. Excavations here, if rendered possible, should be richly rewarded.

Churches

It is certain that many medieval churches have entirely disappeared. The foundations of one such church lie somewhere in the vicinity of Hazelbury Manor near Box. Others should be found with the aid of air photographs, early maps, and the study of place-names.

Bishops' Palaces, Rectories, etc.

Outstanding in this category is the Bishop's Palace in Bristol, destroyed in the riots of 1831. On all accounts, this site would be worth excavating

if it ever became accessible. The ruins of the Great Hall of the Bishop's Palace at Wells also need further study and perhaps digging. There was also an episcopal palace at Banwell. The site of the very early rectory at Stanley is known and awaits excavation.

In ecclesiastical archaeology the work to be done lies in the categories of fieldwork, observation, and excavation. Many sites need to be accurately located and mapped. Others need to be observed in case they become available for further research. Finally many sites are ready for excavation, conditions and owners permitting. The most pressing need, however, is for more knowledge about medieval rectories and hospitals in general, and the college at Westbury-on-Trym in particular.

V

DOMESTIC ARCHITECTURE

by Leslie Gore, B.A.

(Department of General Studies, Bristol Technical College)

The purpose of a survey of the domestic buildings of the Bristol region would be to determine their characteristics and to determine the existence of a regional style or styles. These might extend beyond the boundaries of the Bristol region or might owe their existence to influences from outside the region. The Bristol region forms part of the Lowland Zone and a Lowland house type with a hall separated from the service end of a house by a cross passage is characteristic of the region. This chapter is not concerned with castles and the greater manor houses. Whilst work remains to be done on the history and archaeology of these buildings they are, like the majority of the pre-Reformation domestic buildings, known and protected. It should, however, be remembered that many architectural details which appear on lesser houses were first introduced in greater and often better dated buildings (covered by Pevsner, N., 1958 and 1963, and Ison W., 1952). The only national study of smaller domestic buildings so far available is that provided by Barley, M. W. (1961).

Pre-Reformation Domestic Architecture

For the Anglo-Saxon period see Rahtz, P. A. (1964). With the exception of the buildings excavated at Cheddar (1960-62) all the known buildings of the 12th and 13th centuries are of stone and have been listed and described by Wood, M. E. (1936) and (1950). The most important of the smaller examples in this region are at Horton Court, Glos., where there is a small aisleless ground floor hall forming part of the west wing, and at Saltford Manor House in Somerset, where there is a first floor hall with later additions. Pevsner, N. (1958) includes a number of houses in North Somerset containing pre-Reformation features of a later date; and in South Gloucestershire the known examples for this period include Wanswell Court and Tudor House, Chipping Sodbury. A pre-Reformation timber-framed tradition including cruck construction exists on Severnside and in the Kings Stanley area where it has been recorded by L. F. J. Walrond, Curator of Stroud Museum. Elsewhere in the region, with the exception of a fragment in the parish of Horton the known timber frame tradition is confined to Bristol and to the market towns of the area and is generally of a later date. It is likely that intensive fieldwork would produce more examples of stone houses and timber framed houses of early date. Very few of the known pre-Reformation examples have been recorded.

Reformation and Post-Reformation Vernacular Tradition.

The term vernacular tradition is used to describe the style or styles

of smaller domestic buildings, farmhouses, farm buildings and possibly cottages which produce regional characteristics and which are particularly exemplified by the large number of buildings dating from the 16th and 17th centuries: buildings which reflect the social and economic changes of the period. In a study of these houses it is necessary to refer to the greater and lesser manor houses of known medieval date and possibly also to barns since these can be expected to provide evidence of the antecedents of the structure and decorative features of a post-reformation regional style. It is likely that the study of the smaller houses is of the greatest use since the distinction between the smaller manor house and the farmhouse is frequently in name only and not in the form and function of the building. The town houses of Bristol and those of the market towns of the area should form the subject of a separate study. Reference to the earlier archaeological notes by Pritchard, J. E. (1898 onwards) in Trans. B. & G.A.S. and Proc. C. A. C., and to those by Pope, T. S. in Proc. C. A. C., to the Braikenridge and O'Neil collections of drawings in Bristol City Art Gallery, and to the Reece Winstone collection of photographs, shows that Bristol had at one time a timber frame tradition of considerable quality. Very little remains. It is likely that there is a typological link between these houses and the timber frame tradition which exists in the market towns of the area.

A post-Reformation timber frame tradition exists on Severnside of which Frampton-on-Severn produces the best known examples. A timber frame tradition for the Vale of Berkeley is attested by Marshall, W. (1789). The reference to poor quality might suggest a late date. A contemporary account of a disastrous flood on Severnside in 1607 suggests the existence of timber framed buildings on the Somerset Levels. It is a reasonable assumption that at some time there was a general transition from timber to stone and it is known from documentary sources and from the results of work undertaken in other areas that a considerable amount of new building and of re-building and improvement took place in the 16th and 17th centuries. This can be defined as :

a) the improvement of an existing medieval hall house by the insertion of ceilings, one or more chimney stacks, and possibly the insertion of glazed windows leaving the original external walls intact;

b) improvements as above plus partial rebuild with new materials, particularly stone, and possibly including the re-fronting of a house and/or raising the roof level but leaving the original shell intact;

c) a completely new house on a new site possibly relegating the earlier house to use as a farm building or service wing.

The pioneer work on the problem of the transition from timber to stone is Fox and Raglan (1951, 1953, 1954). The timber framed house encased in

stone at a later date, recently noted in Marshfield, is part of the tradition of timber framing in the market towns of the area. For the rural parts of the region there is a need to establish a chronology of house types and roof types, particularly of the Reformation and post-Reformation vernacular tradition since these appear most liable to destruction or alteration at the present time. This might be done initially by a study of dated examples of complete buildings. It also needs to be established whether any forms of traditional building continued in the area at times when new fashions in building and decoration were being introduced. Almshouses and schools should not be excluded here since they may represent the introduction of a new feature or style.

No work in the region should be undertaken without reference to M. Jenner, A.R.I.B.A., Director, The Bristol Regional Buildings Record, Department of Architecture, Bristol College of Science and Technology, Kings Weston House, Bristol.

Many photographs of buildings in the Bristol region may be seen in the Library of the National Monuments Record (in which the National Buildings Record is now absorbed), Sanctuary Buildings, Great Smith Street, London, S.W.1. Information on domestic architecture can often be obtained from Probate Inventories, for the use of which see Barley, M. W. (1961). These Inventories are available at Gloucester City Library and the Bristol Archives Office. Most of those of Somerset were destroyed by enemy action in 1942.

VI

MINES AND QUARRIES

by L. V. Grinsell, F.S.A.
(Curator of Archaeology & History, Bristol City Museum)

and R. G. Payne, B.Sc.
(Schools Organiser, Bristol City Museum)

The exploitation of the earth's resources by mining and quarrying in the area covered by this survey appears to have been on a small scale until the Roman period, when there was a considerable intensification of this kind of activity, especially on the Mendip Hills where the silver-lead ores were mined, in the Bath region where the stone quarries were worked extensively, and in other areas producing building stones, including Dundry, which provided stone for the pilasters of the North Gate of the Roman fort at Cardiff (North, F. J., 1957). It is also likely that the North Somerset and Bristol coalfields were exploited on a small scale in the Roman period. It was probably not, however, until after the Norman conquest that larger scale mining and quarrying were developed in our area.

Mines

Silver-lead. The silver and lead in the Carboniferous Limestone areas of Mendip, Broadfield Down, and Clifton and Durdham Downs occur together, but the local Carboniferous Limestones do not usually contain very much silver. Evidence of lead-workings at Stoke Bishop, either at Penpark Hole or on Clifton/Durdham Downs, in Saxon times is provided by the reference to leadgedelf in the Saxon land charter BCS 551, reputed date A.D. 883. The precise identification of the site is uncertain (Gough, J. W., 1930, and Everett, S., 1962). The grant made by Richard I in 1189 of the right of mining lead to the Bishop of Bath may well have been the re-affirmation of an earlier privilege; it is certain that for most of the time since then the Bishops of Bath and Wells have held mining privileges on Mendip. Mendip lead was never of high quality, and some of it was probably used in the manufacture of lead shot. At the time of writing, the Shot Tower in Redcliffe still stands. The history of Mendip lead-mining has been told in much detail by Gough, J. W. (1930 and 1931).

What remains to be done is to make some kind of effort to identify the lead-mining areas worked during the various periods, and this may involve the development of special fieldwork techniques and selective excavation, combined with the closest possible scrutiny of the documentary evidence.

Iron. Iron ores are widely distributed. The most important iron-producing area near Bristol has since Roman times been the Forest of Dean, and the iron-workings in that region are covered by an extensive literature, e.g. Jenkins, R. (1926) and Johnson, B.L.C. (1954). North-east of Bristol,

iron was extensively worked in the regions of Iron Acton, Pucklechurch, and Wick. Domesday Book mentions the raising of 90 blooms of iron from the workings in the Pucklechurch / Wick area. On a fairly small scale iron has been mined in various areas on and around Mendip, and it is still being mined at Winford. The distinction between bloomery cinder (before c. 1500) and blast-furnace cinder (after c. 1500) provides a useful chronological guide when investigating working sites.

Coal. The coalfields of North Somerset and the Bristol / South Gloucestershire region have been the subject of recent studies by Bulley, J. A. (1953, 1954) and Vinter, D. (1964). There is seldom or never any risk of confusing their tip-heaps and other evidences with any other forms of industrial activity. The Bristol Archives Office has several groups of papers and plans relating to coal-mining in South Gloucestershire and North Somerset.

Calamine. The mining of this material (zinc ore) on and around Mendip dates from the reign of Elizabeth I. When mixed with copper it forms brass, and it was therefore much in demand by the brass-making firms of Bristol, especially during the 17th and 18th centuries. It was mined in many parts of Mendip, and also on Broadfield Down; and in 1712 an effort was made to extract it on Durdham Downs.

Other Minerals. Celestine (strontium sulphate) is mined in various areas between Yate and Wickwar, and this area produces the bulk of the world's output. There is occasionally a risk of confusing spoil-heaps from this activity with ancient earthworks. Various other minerals are or were mined locally on a comparatively small scale; they include manganese, used for imparting a black colour to pottery, and ochre which has been exploited in small workings north of Axbridge.

Quarries

Bath Freestone (Great Oolite). The best known quarries of this material have for long been at Hazelbury near Box in Wiltshire. The Saxon church of St. Laurence, Bradford-on-Avon, is of stone from these quarries. In 1221/2 the stone from these quarries was used for columns in Winchester Castle. In 1241 a quarry at Hazelbury was owned by Lacock Abbey. Evidence of the working of this quarry-area during the 14th and 15th centuries occurs in the Tropenell Cartulary (Davies, J. E., 1908). It was thus described by John Aubrey in the late 17th century :

> "Haslebury Quarre is not to be forgott, it is the eminentest freestone quarry in the West of England, Malmesbury and all round the country of it. The old men's story (is) that St. Aldhelme, riding over there, threw downe his glove, and bade them digge, and they should find great treasure, meaning the Quarry".
>
> - Jackson, J.E. (1862), p. 58.

Other Bath stone quarries occur at Bathford, Bathampton, Bradford-on-Avon, Corsham, Freshford, Limpley Stoke, Monkton Combe, Monkton Farleigh, South Stoke, Westwood, and Winsley. An account of Bath stone quarries about 1750 occurs in R. Pococke's Travels through England (Camden Society), 1888. Quarries on Combe Down were worked mainly in the 16th century. Those on Bathampton Down were worked by Ralph Allen from 1730 onwards.

Doulting Stone (a crystalline limestone from the middle part of the Upper Inferior Oolite). The quarries are N.E., S.E., and S. of the village. St. Andrew's Quarry, just north of the Abbey Barn Inn, produced the stone for Wells Cathedral and Glastonbury Abbey from the late 12th century onwards. The first use of it at Glastonbury was in 1184. It has been used farther afield, - for example for the windows of the south aisle and nave of Llandaff Cathedral (North, F.J., 1957). It was used in Oxford from 1877/78 (Arkell, W. J., 1947), and the stone is still being quarried.

Dundry Stone (Inferior Oolite). This is a cream-coloured or yellowish rock, and the quarries on the highest part of Dundry Hill west of the village date from A.D. 1300 or earlier. The stone was much used in the buildings of medieval Bristol and North Somerset, and it was also used in Llandaff Cathedral (North, F. J., 1957). It is no longer quarried.

Other Local Stones. Blue Lias was worked in various parts of Somerset between about 1175 and 1300 and was used for architectural features in Bristol and Wells Cathedrals and in many local churches (Donovan, D. T. and Reid, R.D., 1963). Draycott 'marble' (not really a true marble), quarried north-west of Wells, has had a long history and is extensively used at Temple Meads and elsewhere in Bristol. Pennant Stone (or Keynsham Stone) has been used since the Roman period for roofing.

More Distant and Foreign Stones. Purbeck Marble (quarried extensively in the Roman period) was used for certain architectural details in local cathedrals and churches between 1300 and 1330 (Donovan, D. T. and Reid, R. D., 1963). The beautiful Ham Hill Stone (also quarried in the Roman period) has often been used in and around Bristol, and occurs in buildings as recent as the Pro-Cathedral at Clifton and the Colston Hall. The celebrated Caen Stone, from Normandy, was imported to southern England for use as building material from the Norman period until the middle of the 15th century. It was used in the building of Bristol Castle (Wallis, F. S., 1963).

Brick, Tile and Pottery Clays. The local brick-making industry has used a wide variety of brick-clays and marls within the region. Excavations may be found in the clays of the Old Red Sandstone, Trias, Lias, and Alluvium. Coal measure clays are used for the manufacture of engineering bricks and large pipes.

A Programme for Research

There are various reasons why the study of mines and quarries is important. The desirability of trying to achieve a reasonably accurate history of each area of mining and quarrying is self evident. It can probably be done best by combining the study of the actual mines and quarries with the study of their products. In the case of the mines this is very difficult, because the products of mining are so often undatable. In the case of the quarries, it is easier, because much of the stone quarried was used for churches, abbeys, and other important buildings still in existence, whose features can often be closely dated. Methods of study have recently been demonstrated by Arkell, W. J., (1947) and North, F. J., (1957). The importance of examination of building materials by expert petrologists is stressed in Chapter VIII (p. 45).

In the nature of things, the study of the mines and quarries themselves is often thwarted by the fact that traces of earlier mining and quarrying were so often destroyed by later workings. Only when the material mined or quarried in earlier times ceased to be of economic value does the archaeologist have the good fortune to explore a working which was abandoned at a more or less ascertainable period.

The study of the products from the various mines and quarries and their geographical distribution throws much light on early trading and communications; for the quarrying of large quantities of stone often led to the construction of roads designed primarily to facilitate transport of the blocks to their ultimate destination. Normally however water transport was used as far as possible, and light is therefore thrown on the use of the various rivers for transport of bulky materials in medieval and later times.

Finally, a detailed study of the traces of mining on Mendip should contribute materially to a more accurate assessment of sites at present of doubtful origin. Many mounds which bear a striking resemblance to round barrows, or occasionally long barrows, especially on parts of central and eastern Mendip, may be identified with more assurance if only an accurate map of the mining areas, supported by the maximum amount of documentary evidence, can be prepared.

VII

COMMUNICATIONS

by Neil Cossons, B.A.

(Curator of Technology, The City Museum, Bristol)

Research into the history of communications in the area is remarkably inconsistent in its coverage but reflects the variable and often very sparse amount of evidence available.

The continued use of large parts of the Roman road system is, of course well known, while Saxon land charters provide some evidence of the Late Saxon road system. The general subject of English roads and travel in the 14th century was comprehensively reviewed by J. J. Jusserand (1889/1961). John Leland's Itinerary (undertaken between 1535 and 1543) throws much light on roads and travel in that period. The 17th century is covered, to some extent, by Thomas Gerard's description of Somerset in 1633 (Bates, E. H., 1900), and by the writings of John Aubrey, whose unpublished "Monumenta Britannica" in the Bodleian Library contains a chapter on roads. Much useful information for the late 17th and 18th centuries can be gleaned from the writings of travellers such as Celia Fiennes, Daniel Defoe, and (more archaeological) William Stukeley. The various road-books and itineraries are also of much value in this context.

Information on roads in the Bristol area is available from the earliest medieval by-laws (Little Red Book, 1344) to the 19th century rate-books and Paving Commissioners' records. Highway board records, from former local government authorities now absorbed into the City and County of Bristol, are kept at the Bristol Archives Office. Bristol Guides are available in Bristol Reference Library and give much information on coach and carrier services.

In the later periods, documentary and field evidence are still more plentiful although significant gaps still remain in the work done to date. No comprehensive history of the turnpike road system of the region exists although Robin Atthill (1964) provides a well-detailed account of the turnpike roads in North Somerset. The region possesses an interesting turnpike history with a Trust in Bath, the first in Somerset, as early as 1707/8. The Bristol Trust was the largest in the country, maintaining 172 miles of turnpike road in 1825 and having the celebrated road engineer John Loudon McAdam (1756-1836) as its surveyor from 1815.

A survey of physical evidence in the form of bridges, toll-houses, toll boards and gates, milestones, and mounting blocks, would be of great value especially as many of these structures are threatened by road improvements. C. Cox (1965) has made a valuable contribution in his survey of the mile-stones of the Stroud area, and Robin Atthill (1964) has some

interesting observations on the toll-houses.

With regard to rivers, it is important to note that during the medieval period trade along the English rivers was free, and in this respect it differed from the custom on the continent where much of the river traffic was impeded by the payment of tolls etc. Town dues and other records in Bristol Archives Office give information on shipping using the harbour in the 18th and 19th centuries.

With regard to canal and railway communications, several excellent histories exist. C. Hadfield (1955) covers the canals of the region providing detailed accounts of their political and commercial history. Robin Atthill (1964) devotes a chapter to the ill-fated Dorset and Somerset Canal as well as useful notes on various North Somerset mineral railways. E. T. McDermott's (1927, 1931, and 1964) classic of railway histories is the standard work on the Great Western Railway and its early constituent companies, while D. S. Barrie and C. R. Clinker (1959) deal effectively with the Somerset and Dorset railway. Certain records of construction of railways in the area are preserved in the Bristol Archives Office. The various privately published registers of railway station and line closures, notably by C. R. Clinker (1963), provide a complete index to this more recent railway development.

A policy for future research may be conveniently divided into two parts. The first and obvious need is for work of a regional nature to establish a chronological analysis of the pattern of communications. A comprehensive historical geography of communications with the region is necessary to provide a context for more detailed studies. Examples of specific aspects needing attention have already been mentioned, but knowledge of the history of transport throughout the medieval period is very meagre. Collections of maps held by local archives departments, museums and libraries are a potentially useful source of information.

The other and equally important need is for field survey work within the area to ascertain the exact extent of the various physical remains of dead or dying forms of transport, and to record and if necessary preserve them. In the light of railway and road nationalization and modernization, and the virtual extinction of canals, this need cannot be overstressed and already important items are disappearing at a rapid rate. This latter aspect of the study of communications is benefiting from the increasing interest in industrial archaeology, of which it must be regarded as an important branch. Recent industrial archaeology conferences and lecture courses have shown that there is plenty of interest in this type of work and there is a good possibility that a pilot survey may be carried out in the next few months.

The more spectacular features such as Rennie's Pumping Station on the Kennet and Avon Canal at Claverton, or Brunel's famous roof at Temple Meads, are well known. A detailed regional survey would not only provide a clearer picture of the existence of the numerous smaller items but enable a scale of priorities to be established for further research.

VIII

SCIENTIFIC AIDS

by Charles Browne and M. G. Smith, M.Sc.

Introduction

This chapter draws attention to some of the more promising lines along which the application of scientific aids may help to resolve outstanding archaeological problems in our region. It is not concerned primarily with the techniques to which the excavator may have recourse, and which are so well described by Biek, L. (1963). Neither does it attempt to be a compendium of all possible lines of enquiry. The voluminous literature on the subject which has appeared in the past few years, shows that there are immense possibilities of development and refinement of methods of studying the past.

Geophysical Aids

The methods of geophysical prospecting described in Part I of this work (Smith, M. G., 1964) are applicable to many sites covered by Part II. But special attention should be drawn to the use of the magnetometer in locating kiln sites. Its particular value is in pin-pointing actual kilns when the general site has been discovered by other means, for example, by the finding of 'wasters'. The important medieval type-site at Ham Green will almost certainly yield more kilns if surveyed in this way. Other kiln sites should be looked for. The finding and excavation of more kilns of all periods would promote great progress in ceramic studies.

Archaeomagnetic Dating

Closely related to the above-mentioned technique is the determination of the magnetic field of burned areas such as kilns and hearths for dating purposes. This is a technique in which the excavator and the scientist can mutually benefit by co-operation. Excavators are reminded that the Research Laboratory for Archaeology and the History of Art, at Oxford, will assist in the sampling and analysis of such material (Archaeometry, 5, 1-27). In time, if more kilns can be discovered, it should be possible to attain very close dating for medieval and post-medieval ceramics. For a summary of the sort of results obtainable, see Hurst, J. G., (1963).

Petrological Examination

(a) Artifacts. Dr. J. W. Cowie and D. Grant King are giving a lead in the petrological examination of querns. Other suitable artifacts are schist hones, which have occurred in many medieval sites including Bristol. Schist hones from a Breton rock-source have been the subject of a special study (Dunning, G. C., 1937).

(b) Building Materials. The petrological study of the use and distribution of building materials would be a profitable line of enquiry. Freestones, such as Dundry, Bath and Ham Hill stones, and Pennant sandstone from the coal measures, have been used locally and exported from the region as early as prehistoric times (see chapter VI). Church building during the middle ages called for the transportation of suitable stone over great distances. Dundry stone was used in South Wales and Ireland. It is unlikely that much evidence of medieval quarrying remains in the Bristol region, since nearly all of the known sites have probably been exploited for stone up to the present day. The evidence will mostly be found in the buildings themselves.

While on the subject of building materials, mention should be made of the study of the composition of mortars and concretes. For the excavator this can help to relate various parts of buildings. Mrs. H. E. O'Neil (1946) pioneered the use of such analysis in this country, at the Park Street Roman Villa, St. Albans, based on the work of Norman Davey. A comparative study of medieval and later material might assist dating or provenance, despite local variations in composition. Hitherto, analysis has been concerned with grading the aggregates without reference to the lime matrix, but it should not be overlooked that trace elements may be important factors in finding sources of materials.

Dendrochronology

For the study of buildings, particularly vernacular architecture, dendrochronology can be a valuable aid (Schove and Lowther, 1957). Barns, which are now receiving belated attention, are usually difficult to date, and dendrochronology would provide at least a terminus post quem for their construction. If it can be shown that the timber is original, or has not been re-used, a closer dating could be taken. Medieval records of royal grants of standing timber for the building of monastic establishments seem to imply that the timber was used green, so a close dating might be expected. A tree-ring sequence for the southern part of the Severn basin needs to be established.

Analysis of Glazes and Ceramics

Particularly in the post-medieval period the analysis of glazes offers fruitful possibilities. It is now possible, by means of the X-ray fluorescence spectrometer, to carry out such analyses without damage to the pots. The technique has been described recently (Hall, E. T., 1960). It offers a basis for grouping and dating pottery which, though apparently similar, derives from various sources. A comparable study of Bristol Blue glass, by X-ray fluorescence, has been made by Banks, Elphinstone, and Hall (1963). This emphasizes the value of such non-destructive methods of analysis of museum specimens. Not only pottery and glass, but also glazed building materials such as tiles and finials are suitable subjects for this technique.

The study of the fabric of pots is a field in which much development is called for. This includes thin-sectioning and analysis of composition. Again, trace elements may give the clue to the sources of materials.

IX

FACILITIES FOR RESEARCH

by Frances Neale, B.A., A.K.C.
(formerly Assistant Archivist, Bristol Archives Office)
and L. V. Grinsell, F.S.A.

For the period from 1066 onwards - and indeed from post-Roman times - it becomes increasingly important to study original sources, because there begin to survive documents about the places with which the archaeologist or field worker is dealing, written by those who were concerned with the site or subject during its active existence. The information to be gleaned from original manuscripts may be meagre, or difficult to find; but it can be used in conjunction with the archaeological evidence obtained from the site, and the two together will provide a far fuller and more penetrating record of a site than would either separately. The documentary evidence for a site can be as integral a part of the archaeologist's report as his coin-lists and plans. The information from original sources may provide an essential clue in interpreting archaeological evidence on the site. This process of bringing together two fields of inquiry which have hitherto been treated as separate, is a recent development in local history studies (see Hoskins, W. G., 1955).

This chapter is intended to outline certain methods and possibilities for research of this kind, among both manuscript and printed records, in the area covered by the Survey. It should be emphasized that the local librarian or archivist will, in every case, be the best qualified person to suggest record sources that may be useful to the specific enquiries of the archaeologist or field worker. Guides to local libraries and record offices, or to certain classes of records held by them, should be used where available to give the enquirer some preliminary idea of what he may expect to find.

A. Records Offices

The following records offices cover the area of this Survey :

Bristol. The Bristol Archives Office, The Council House, College Green, Bristol, 1. Archivist : Miss E. Ralph, M.A., F.S.A. This office has custody of all the original records of the Corporation of Bristol, covering the City and County of Bristol; records of earlier local government bodies now absorbed into the City; records of many Bristol churches and other religious bodies; records of the Diocese of Bristol (including tithe maps of Bristol archdeaconry); and private family collections relating to areas in North Somerset and South Gloucestershire as well as Bristol. Guide in preparation. Detailed catalogues and indexes available in office.

Gloucestershire. The County Records Office, the Shire Hall, Gloucester. Records Officer : I. E. Gray, M.B.E., M.A., F.S.A. This office has custody of all the records of the county administration and quarter sessions, together with many Gloucestershire parish records, estate and family collections, deeds and maps relating to Gloucestershire. Guide (1958).
Other records, including Gloucester Diocesan archives and wills, are also held at Gloucester City Library, Brunswick Road, Gloucester.

Somerset. The Somerset Record Office, Obridge Road, Taunton (near the Railway Station). County Archivist : I. P. Collis, F.S.A. This office holds records of the county administration, certain parish records, and many private family collections relating to the county. Guide: Somerset in Manuscript (1959). Annual additions are published in Proc. Som. A. S., and these lists are obtainable in offprint form at the Somerset Record Office.
Certain other records are held at the Victoria Art Gallery and Municipal Libraries, Bath.

London. The Public Record Office, Chancery Lane, W. C. 2. Records of the Crown and central government are kept here. As Bristol was originally a royal manor, many of the early records of the city are housed here, e.g. those relating to Bristol Castle, early Port books, Pipe Rolls (Sheriffs' Accounts). Other royal or legal records may contain valuable references to sites within the area, e.g. Inquisitions post Mortem, various taxation inquests, Charter Rolls, Letters Close, Letters Patent, etc. Many of these records have been published in abstract form and indexed, the published volumes being available in the main libraries.
Guide to the Public Record Office (1963).

Four principal classes of record that may be of use to archaeolgists are now described :

i. Maps. These are of prime importance to the archaeologist in both town and country, for information on sites, dates, roads, fields, field-names, and other items. Maps in the Bristol Archives Office include Plan Books of Corporation property in the city from 17th century onwards, often giving much detail about city building; maps of Corporation country estates in North Somerset and South Gloucestershire 1736-40; these large scale maps antedate most enclosures; 19th century tithe maps for parishes within the archdeaconry of Bristol (but not the central part of the city). Tithe maps are large scale accurate surveys, and the accompanying schedules give full details of buildings, fields, field-names and land usages. Family collections include some fine maps of estates in North Somerset.
Printed maps of the City of Bristol and its environs from the 16th century onwards may be seen at either Bristol City Museum or Bristol

Central Library. James Millerd's Map (1673), the first large scale picture-map of the city, has on several occasions been proved accurate in detail both by excavation and by comparison with contemporary property deeds.
Topographical drawings also provide useful information. The best local collection is the Braikenridge collection in the City Art Gallery, Bristol. This collection and kindred material may be consulted on application by bona-fide students.
County and local maps for Somerset and Gloucestershire can be seen at the various record offices and libraries listed. Most of the tithe maps for Gloucestershire are kept at the Gloucester City Library. Permission to consult them can be obtained from the Diocesan Registrar, c/o Messrs. Madge, Lloyd and Gibson, 34 Brunswick Road, Gloucester. For tithe maps for Somerset, enquiries should be addressed to the Somerset Records Office, Obridge Road, Taunton. A handlist of Somerset Enclosure Awards, with list of maps, was published by W. E. Tate in 1948. (See also under Church Records, below). Enclosure awards from about 1780 normally have well-drawn maps showing the parish or area after enclosure. The First Edition 6" and 25" O.S. maps/plans, surveyed around 1880 for this region, are often valuable for details of areas since built over.
At the Map Room, British Museum, the services of an expert staff are available, and the collections of printed maps of all parts of Britain are unrivalled. It will sometimes happen that certain maps contain such a wealth of fresh information that it is desirable to obtain a photocopy for continual use. Photocopying facilities are available at the British Museum and most large libraries and record offices.
For air-photographs, see Grinsell, L. V. (1961).

ii. Deeds. Property deeds, used on their own or in conjunction with the available maps, can provide valuable information on ownership, usage, layout and date of sites. Some later deeds include plans. It is always worth checking whether the local archives contain any deeds of the specific site under investigation. In Bristol, many thousands of property deeds within the city from 12th century onwards are preserved at the Archives Office. It has sometimes been possible to reconstruct streets of medieval Bristol from these deeds. Indexes are available in Bristol Archives Office. Deeds can occur in considerable numbers in family collections and solicitors' deposits in all the archives offices. Another series of Bristol records, the City Bargain Books and Rentals, gives copies of leases and building leases from 17th century onwards, and often includes information about the site and building concerned.
Under this heading may also be included Saxon charters, the earliest of all English records of property. The boundary descriptions in those charters may contain useful archaeological information. The

pioneer surveys of the Saxon charters of Somerset and Gloucestershire, by Grundy, G. B. (1935, 1936), have recently been supplemented by calendars of charters by Finberg, H. P. R. (1961, 1964).

iii. Church Records. This class of source material might not at first sight appear relevant to the archaeologist. In fact however the church owned much property in the middle ages, and proved a careful custodian of its own records. Consequently many of the earliest deeds survive among parochial, diocesan or monastic records, whether in the archives offices or in individual parishes. Parish records may also contain glebe terriers, tithe maps and other material of use to the archaeologist.
Guide to Parish Records of Bristol & Glos., and King, J.E. (1938).

iv. Family Collections. Every archives office contains some collections comprising the original records of family or estate. They may range from a few documents to many hundreds; and they form coherent groups of documents which in addition to maps and deeds, as mentioned above, also include letters, accounts, family papers, etc. If the family or estate is associated with a site or area under investigation, these papers may well repay study. Archivists will be able to advise enquirers of the relevance of any such collections to their research.

B. Libraries

The central public libraries in Bath, Bridgwater, Bristol, Gloucester and Taunton are largely complementary. Smaller libraries exist at Stroud, Wells, and elsewhere. The libraries of the Bristol & Gloucestershire Archaeological Society (Brunswick Road, Gloucester;, small subsidiary library in Bristol City Museum) and the Somerset Archaeological Society (Taunton Castle) are especially useful by reason of their open access facilities to members. There is also a useful library of the Wells Archaeological Society and Mendip Nature Research Committee in Wells Museum. The most complete archaeological library in Great Britain is that of the Society of Antiquaries, Burlington House, Piccadilly, London, W. 1., which has very thorough card catalogues. The most recent published catalogue of Bristol Central Library was 1916, but that library maintains an up-to-date card catalogue. This library includes the Braikenridge collection of Mss. relating to Bristol, and much of the Green collection of Somerset material. The last published catalogue of the Gloucestershire collection in Gloucester City Library was 1928; catalogues from 1929 onwards may be consulted at that Library.
Much information (often inaccurate or in need of re-interpretation) is to be found in the great local and county histories produced mostly in the 18th and 19th centuries. Among these may be mentioned Seyer, S. (1821); Latimer, J. (1893-1902); Rutter, John (1829); and Rudder, S. (1769); but there are many others. The Victoria County Histories are now being completed

for Gloucestershire and Somerset after having been dormant for half a century.

It is essential for the researcher to work through the annual volumes of Trans. B. & G.A.S., Proc. Clifton A.C., Proc. Som. A.S. (including the Bath branch 8 volumes 1904-47), Glos. N.Q., N.Q.S.D., and the smaller periodical publications. It is equally important to work through Med. Arch., and the recently started Jour. Indus. Arch. Articles on industrial archaeology also occur sometimes in the Transactions of the Newcomen Society.

C. Museums

The City Museum, Bristol, has an Assistant Curator of Archaeology whose special concern is with the medieval and later periods. All the larger museums in the area (Bath, Bristol, Gloucester, Stroud, Taunton, and Weston-super-Mare) contain medieval material both on display and in reserve, and the latter can usually be seen by bona-fide students if reasonable notice is given. The smaller museums (such as Axbridge and Glastonbury) should not be overlooked. The British Museum has recently started forming a National Reference Collection of Medieval Pottery.

D. Exploring in Town and Country

What was written under this heading in Part I applies equally to this Part. Fieldwork should whenever possible be carried out with maps on the scale of 6 inches to the mile, but much useful work can also be done with the $2\frac{1}{2}$ inch to the mile maps. For industrial archaeology in particular, possession of a photocopy of the 1st edition 1" O.S. maps, issued between 1810 and 1820, is highly desirable.

BIBLIOGRAPHY AND REFERENCES

A. General

Bristol and its Adjoining Counties (1955), edited by C. M. MacInnes and W. F. Whittard for the British Association Meeting in Bristol, contains chapters on the Bristol area in the Middle Ages and later. The Victoria County Histories of Gloucestershire and Somerset (volume 2 in each case) contain long sections on ecclesiastical history and industries (including mining and quarrying). The "Bristol Archaeological Notes", contributed by J. E. Pritchard between about 1898 and 1935 to Proc. Clifton A.C. and Trans. B. & G.A.S., contain much useful relevant information.

B. Particular

I. The Medieval Period

Barton, K.J. (1960). "A Group of Medieval Jugs from Bristol Castle Well". Trans. B. & G.A.S., 78, 169-74.

Barton, K.J. (1961). "Excavations at the Back Hall, Bristol, 1958". Trans. B. & G.A.S., 79, 251-86.

Barton, K.J. (1964). "The Ham Green Medieval Pottery Kiln". Trans. B. & G.A.S., 82, 95-126.

Barton, K.J. (1965). "Excavations at St. Nicholas' Almshouses and Bastion, Bristol". Med. Arch., forthcoming.

Beresford, M.W. (1954). The Lost Villages of England.

Bowen, H.C. (1961). Ancient Fields. British Association. Contains good account of medieval cultivation.

Boon, G.C. (1954). "Excavations in the Earthwork at Bitton, Glos." Trans. B. & G.A.S. 72, 45-8.

Cardew, G.A. (1898). "The Moats or Waterforts of the Vale of the Severn". Trans. B. & G.A.S. 21, 58-69. Old, but still useful.

Colvin, H.M. (ed.) (1963). A History of the King's Works.

Crawford, O.G.S. (1953). Archaeology in the Field. Chapter 18 deals with medieval castle mounds and parks.

Dallaway, J. (1834), ed. Antiquities of Bristow in the Middle Centuries, including the Topography by William Wyrcestre.

Douglas, D.C. (1958). "Gloucestershire and the Norman Conquest". Trans. B. & G.A.S. 76, 5-20.

Dunning, G.C. (1951). "Report on the Medieval Pottery from Selsley Common, near Stroud". Trans. B. & G.A.S. 68, 30-44.

Gracie, H.S. (1951). "(Medieval) Hut Sites on Selsley Common near Stroud". Trans. B. & G.A.S. 68, 22-9.

Jope, E.M. (1952). "Regional Character in West Country Medieval Pottery". Trans. B. & G.A.S. 71, 88-97.

Jope, E.M. (1963). "The Regional Cultures of Medieval Britain", in Culture and Environment (ed. Foster and Alcock), 327-50.

Marshall, K. (1952). "Excavations in the City of Bristol, 1948-51". Trans. B. & G.A.S. 70, 5-50.
O'Neil, H.E. (1958). "Prestbury Moat". Trans. B. & G.A.S. 75, 5-34.
Rahtz, P.A. (1961). "Excavations by the Town Wall, Baldwin Street, Bristol, 1957". Trans. B. & G.A.S. 79, 221-50.
Rahtz, P.A. (1964). "The Saxon and Medieval Palaces at Cheddar, Somerset: an Interim Report of Excavations in 1960-62". Med. Arch., 6-7, 53-66.
Renn, D.F. (1959). "Mottes : a Classification". Antiquity, 33, 106-112.
Rennie, D.M. (1960). "Excavations of an Earthwork on Rodborough Common in 1954-55". Trans. B. & G.A.S. 78, 24-43.

II. The Post-Medieval Period

Atthill, R. (1964). Old Mendip.
Barton, K.J. (1962). "Some Evidence of Two Types of Pottery manufactured in Bristol in the early 18th century". Trans. B. & G.A.S. 80, 160-8.
Barton, K.J. (1963). "A Late 15th century well at Tarring", in "Worthing Museum Notes for 1961". Sussex Arch. Colls. 101, 28-34.
Barton, K.J. (1965). "Excavations at St. Nicholas Almshouses and Bastion, Bristol". Med. Arch., forthcoming.
Chadwick Healey, C.E.H. (1902). Bellum Civile. Somerset Record Society, vol. 18. (An account of the Civil War campaign in the West Country).
Dunning, G.C. (1961). "Medieval Chimney Pots". Studies in Building History (ed. E. M. Jope), 78-93.
Higgs-Coulthard, A.J. (1951-4). Lists of Somerset Windmills. N.Q.S.D., 26.
Jones, B. (1953). Follies and Grottoes.
Kenyon, K.M. (1948). Excavations at the Jewry Wall Site, Leicester.
Marochan, K. (1963). "Crews Hole Pottery, St. George, Bristol". Trans. B. & G.A.S. 81, 189-93.
O'Neil, B.H.St. J. (1960). Castles and Cannon.
Oswald, A. (1960). "The Archaeology and Economic History of English Clay Tobacco Pipes". Jour.B.A.A. 3s., 23, 40-112.
Owen, H. (1873). Two Centuries of Ceramic Art in Bristol.
Pountney, W.J. (1920). Old Bristol Potteries (1650-1850).
Pritchard, J.E. (1923). "Tobacco Pipes of Bristol of the 17th century and their Makers". Trans. B. & G.A.S. 45, 165-91.

III. Industrial Archaeology

Green, E.R.R. (1963). The Industrial Archaeology of County Down. Belfast. H.M.S.O.
Hudson, K. (1963). Industrial Archaeology.
Hudson, K. (1964). "Industrial Archaeology in the South-West". Cornish Archaeology, no. 3, 80-3. Much of this paper is concerned with the Bristol region.
Powell, A.C. (1925). "Glass-making in Bristol". Trans. B. & G.A.S. 47, 211-58.

Rix, Michael (1955), in the Amateur Historian, Autumn number.

IV. Ecclesiastical Architecture and Archaeology

(An immense amount has been written on this subject and this list is necessarily highly selective. See Also V. Domestic Architecture).

Allen, F.J. (1932). The Great Church Towers of England.
Bagnall-Oakeley, M.E. (1887). "Ancient Church Embroidery in Gloucestershire". Trans. B. & G.A.S. 11, 246-59.
Bates, E.H. (1897-1913). "An Inventory of Somerset Church Plate". Proc. Som. A.S. 43-49, 59.
Bird, W.H. (1927). The Ancient Mural Paintings of Gloucestershire.
Bird, W.H. (1928). Old Gloucestershire Churches.
Brakspear, H. (1923). "Excavations at some Wiltshire Monasteries". Archa. 73, 235-44.
Brock, E.P.L. (1875). "Keynsham Abbey". Jour.B.A.A. 31, 195-206.
Burgess, F. (1963). English Churchyard Memorials.
Clark, E.V. (1958). "Somerset Piscinas". Proc. Som. A.S. 101/2, 108-33.
Cole, R.T. (1932). The Church Plate of the City of Bristol. Part I (all published).
Connor, A.B. (1932-59). "Monumental Brasses in Somerset". Proc. Som. A.S. 77-98; index in 103.
Davis, C.T. (1894). Monumental Brasses of Gloucestershire.
Dobson, D.P. (1932). "Stone Pulpits of Gloucestershire. Trans. B. & G.A.S. 53, 251-5.
Dobson, D.P. (1950, 1961). "Stone Pulpits of Somerset". Proc. Som. A.S. 94, 71-80; 105, 106-9.
Ellacombe, H.T. (1875). The Church Bells of Somerset.
Ellacombe, H.T. (1881). The Church Bells of Gloucestershire.
Evans, J.T. (1906). The Church Plate of Gloucestershire.
Fletcher, P.C. (1952, 1959). "Excavations at Hinton Charterhouse". Proc. Som. A.S. 96, 160-5; 103, 76-81.
Fryer, A.C. (1925). "Monumental Effigies made by Bristol Craftsmen, 1240-1550". Archa. 74, 1-72.
Fryer, A.C. (1908-28). "Gloucestershire Fonts". Trans. B. & G.A.S. 31-49.
Gandy, V. (1929). "Somerset Fonts". Proc. Som. A.S. (Bath Branch), 6, 254-62.
Graham, Rose (1906). "Ecclesiastical History". V.C.H. Gloucestershire, 2, 1-126.
Harvey, A. (1908). Papers on Westbury-on-Trym, in Proc. Clifton A.C., 6, 36-40, 204-7.
Horne, E. (1917). Primitive Sun Dials or Scratch Dials.
Horne, E. (1927, 1931). "Medieval Embroidery in Somerset Churches". Proc. Som. A.S. 72, 46-51; 76, 103.
Hudd, A.E. (1888). "The Hospital of St. Katherine, Brightbow, Bedminster". Proc. Clifton A.C. I, 257-76.

Knowles, D. & Hadcock, R.N. (1953). Medieval Religious Houses: England and Wales.
Knowles, D. & St. Joseph, J.K. (1952). Monastic Sites from the Air.
Ordnance Survey (1954/5). Map of Monastic Britain. 2nd edn. South sheet.
Pantin, W.A. (1957). "Medieval Priests' Houses in South West England". Med. Arch. 1, 118-146.
Peach, R.E.M. (1888). Bath Old and New.
Pevsner, N. (1958). The Buildings of England : North Somerset & Bristol.
Pevsner, N. (1963). The Buildings of England : Wiltshire.
Pitcher, S.A. (1926). "Ancient Stained Glass of Gloucestershire". Trans. B. & G.A.S. 47, 287-345.
Pryce, G. (1850). Notes on the Ecclesiastical and Monumental Architecture and Sculpture of the Middle Ages in Bristol.
Radford, C.A.R. (1962). "The Church in Somerset down to 1100". Proc. Som. A.S. 106, 28-45.
Roper, I. (1931). Monumental Effigies of Gloucestershire & Bristol.
Savidge, A. (1964). The Parsonage in England.
Swynnerton, C. (1921). "The Priory of St. Leonard of Stanley". Archa. 71, 199-226.
Taylor, C.S. (1900). "The Church & Monastery of Westbury-on-Trym". Proc. Clifton A.C. 4, 20-42.
Taylor, John (1895). "Westbury Monastery", in Antiquarian Essays.
Thompson, E.M. (1895). A History of the Somerset Carthusians.
Walters, H.B. (1894-1920). "Church Bells of Gloucestershire". Trans. B. & G.A.S. 18, 20, 42.
Walters, H.B. (1921). "Church Bells of Somerset". Proc. Som. A.S. 66, 127-33.
Watson, W.G.W. (1908). History of Woodspring Priory.
Wickham, A.K. (1953). The Churches of Somerset.
Willmore, H.H. (1940). "Stone Coffins, Gloucestershire". Trans. B. & G.A.S. 61, 135-77.
Woodforde, C. (1946). Stained Glass in Somerset, 1250-1830.

V. Domestic Architecture

Barley, M.W. (1961). The English Farmhouse and Cottage.
Foster, I. Ll. and Alcock, L. (1963), editors. Culture and Environment : Essays in Honour of Sir Cyril Fox. Includes essays by M.W. Barley on the names of the rooms in houses of 16th and 17th centuries, and by W.A. Pantin on medieval English town houses, which includes mention of Canynge's House and Colston's House, Bristol.
Fox, Sir Cyril, and Raglan, Lord (1951, 1953, 1954). Monmouthshire Houses, Parts I, II, and III.
Ison, W. (1948). Georgian Buildings of Bath.
Ison, W. (1952). Georgian Buildings of Bristol.
Jope, E.M. (editor) (1961). Studies in Building History.

Marshall, W. (1789). Rural Economy of Gloucestershire, vol. 2.
Pantin, W.A. (1964). "Medieval English Town House Plans". Med. Arch. 6-7.
Pevsner, N. (1958). The Buildings of England : North Somerset and Bristol.
Pevsner, N. (1963). The Buildings of England : Wiltshire.
Pope, T.S. (1888). "Notes on Old Bristol Houses". Proc. Clifton A.C. 1, 172-4.
Pritchard, J.E. (1900). "Vanishing Bristol : a plea for the more careful recording of existing relics of old Domestic Architecture in Bristol". Proc. Clifton A.C. 4, 48-57.
Pritchard, J.E. (1900, 1904). "Archaeological Notes". Proc. Clifton A.C. 4, 158-61, 257-63; 5, 43-56, 128-40, 238-52.
Rahtz, P.A. (1964a). "The Sub-Roman and Anglo-Saxon Periods". B.A.R.G. Survey and Policy, Part I, 39-41.
Rahtz, P.A. (1964b). "The Saxon and Medieval Palaces at Cheddar, Somerset : an Interim Report of Excavations 1960-62". Med. Arch. 6-7, 53-66.
Wood, M.E. (1936). "Norman Domestic Architecture". Arch. Jour., 92.
Wood, M.E. (1950). "Thirteenth Century Domestic Architecture in England". Supplement to Arch. Jour., 105.
Wood-Jones, R.B. (1963). Traditional Domestic Architecture in the Banbury Region.
Worsley, G.L. (1956). "Traditional Domestic Architecture in the Cotswold Region". Manchester University thesis, which deals mainly with the North Cotswolds.

In addition, J.T. Smith and others have prepared Lists of books and articles on vernacular architecture, which are obtainable from Sir R. de Z. Hall, Hon. Secretary of the Vernacular Architecture Group, Cross Farm, West Coker, Yeovil, Somerset.

VI. Mines and Quarries

Arkell, W.J. (1947). Oxford Stone.
Bromehead, C.N. (1956). "Mining and Quarrying to the 17th century", in Singer, C. and others, A History of Technology, 2, 1-40.
Bulley, J.A. (1953, 1954). "To Mendip for Coal". Proc. Som. A.S. 97, 46-78; 98, 17-54.
Cotterell, T.S. (1905). "Bath Stone". Jour. B.A.A. New Series, 11, 49-58.
Davies, J.S. (editor) (1908). Tropenell Cartulary. 2 vols. Wiltshire Archaeological Society.
Donovan, D.T. and Reid, R.D. (1963). "The Stone Insets of Somerset Churches". Proc. Som. A.S. 107, 60-71.
Gough, J.W. (1930). Mines of Mendip.
Gough, J.W. (1931). Mendip Mining Laws and Forest Bounds. Somerset Record Society, 45.
Jackson, J.E. (editor) (1862). John Aubrey's Wiltshire Collections.
Jenkins, Rhys (1926). "Ironmaking in the Forest of Dean". Trans. Newcomen Society, 6, 42-65.

Johnson, B.L.C. (1954). "New Light on the Iron Industry of the Forest of Dean". Trans. B. & G.A.S. 72, 129-43.
Lewis, G.R. and Vellacott, C.H. (1906). "Industries", in V.C.H. Gloucestershire, 2, 215-38.
Loupekine, I.S. (1956). "Mining and Quarrying in the Bristol District, 1955". Proc. Bristol Naturalists' Society, 29, (ii), 155-61.
North, F.J. (1930). Limestones.
North, F.J. (1957). The Stones of Llandaff Cathedral.
Salzman, L.F. (1923). English Industries in the Middle Ages.
Salzman, L.F. (1952). Building in England down to 1540.
Vellacott, C.H. (1911). "Industries", in V.C.H. Somerset, 2, 353-434.
Vinter, D. (1964a). "The Archaeology of the Bristol Coalfield", J. Indus. Arch. 1(i), 37-47.
Vinter, D. (1964b). Some Coalpits in the Neighbourhood of Bristol and Kingswood.
Wallis, F.S. (1950). Appendix on petrology, in Dobson, D.P. "Stone Pulpits in North Somerset Churches". Proc. Som. A.S. 94, 71-80.
Wallis, F.S. (1963). "Petrological Identification", in Science for the Archaeologist (ed. E. Pyddoke).
Woodward, H.B. (1876). Geology of East Somerset and the Bristol Coalfields. Chapter X covers minerals.

VII. Communications

Atthill, R. (1964). Old Mendip.
Barrie, D.S. and Clinker, C.R. (1959). The Somerset and Dorset Railway.
Bates, E.H. (editor) (1900). The Particular Description of the County of Somerset drawn up by Thomas Gerard of Trent, 1633. Somerset Record Society, vol. 15.
Clinker, C.R. (1963). Register of Closed Passenger Stations and Goods Depots in England, Scotland, and Wales.
Cox, C. (1965). "Milestones of the Stroud District". Trans. B. & G.A.S. 83, 119-142.
Elton, Sir A. (1963). "The Pre-history of Railways". Proc. Som. A.S. 107, 31-59.
Fordham, Sir H.G. (1924). Road-Books and Itineraries of Great Britain, 1570-1850.
Fussell, G.E. (1935). The Exploration of England : A Select Bibliography of Travel and Topography, 1570-1815.
Gentry, P.W. (1952). "The Bristol Local Tramroads". Railway World, Aug. and Sept. 1952.
Gentry, P.W. (1953). The Tramways of the West of England.
Grundy, G.B. (1939). "Ancient Highways of Somerset". Arch. Jour. 96, 226-97.
Hadfield, C. (1955). The Canals of Southern England.
Jusserand, J.J. (1889/1961). English Wayfaring Life in the Middle Ages.
McDermott, E.T. (1927, 1931, and 1964). History of the Great Western Railway (1927 and 1931). Volumes 1 and 2 re-published 1964 with revisions by C.R. Clinker.

Thomas, D. St. J. (1960). A Regional History of the Railways of Great Britain. Vol. I, The West Country.

VIII. Scientific Aids

Banks, M., Elphinstone, N., and Hall, E.T. (1963). "Bristol Blue Glass". Archaeometry, 6, 26-30.
Biek, L. (1963). Archaeology and the Microscope.
Brothwell, D. and Higgs, E.S. (1963), ed. Science in Archaeology.
Dunning, G.C. (1937). "Pottery and other finds from the Middens". Proc. Isle of Wight N.H. & Arch. Soc. 2, 682.
Hall, E.T. (1960). "X-ray fluorescent analysis applied to archaeology". Archaeometry, 3, 29-35.
Hurst, J.G. (1963). "Post-Roman archaeological dating and its correlation with archaeological results". Archaeometry, 5, 6.
O'Neil, H.E. (1946). "The Roman Villa at Park Street, near St. Albans, Hertfordshire". Arch. Jour. 102, 103-9.
Schove, D.J. and Lowther, A.W.G. (1957). "Tree-rings and medieval archaeology". Med. Arch. 1, 78-95.
Smith, M.G. (1964). "Geophysical Aids to Site Investigation". B.A.R.G. Survey and Policy, Part I, 44-46.

IX. Facilities for Research

Finberg, H.R. (1961). The Early Charters of the West Midlands.
Finberg, H.R. (1964). The Early Charters of Wessex.
Gloucestershire Quarter Sessions Archives 1660-1889 and other Official Records (1958).
Grinsell, L.V. (1961). A Guide to Air-Photographic Archaeology in the South-West. Price 6d., from Bristol City Museum.
Grundy, G.B. (1935). The Saxon Charters of Somerset.
Grundy, G.B. (1936). The Saxon Charters of Gloucestershire.
Guide to the Contents of the Public Record Office (1963). H.M.S.O. 2 volumes.
Guide to the Parish Records of Bristol & Gloucestershire. ed. by I.E. Gray and Miss E. Ralph. B. & G.A.S. Records Section, vol. 5, 1963.
Hoskins, W.G. (1955). The Making of the English Landscape.
King, J.E. (1938). Somerset Parochial Documents.
Latimer, John (1893-1902). Annals of Bristol. (16th to 19th centuries, in separate volumes).
Rudder, Samuel (1769). History of Gloucestershire.
Rutter, John (1829). Delineations of the North-Western Division of the County of Somerset.
Seyer, Samuel (1821). Memoirs ..... of Bristol.
Somerset in Manuscript (1959). (A summary guide in the form of notes on the main classes of archives in the Somerset Records Office).