TRANSACTIONS

OF THE

WOOLHOPE NATURALISTS' FIELD CLUB

HEREFORDSHIRE

" HOPE ON "

" HOPE EVER "

ESTABLISHED 1851

VOLUME XXXIX 1968

PART II

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1967 - 1968

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Industrial Archaeology -	Mr. J. G. HILLABY
Ornithology and Mammals	Dr. C. W. WALKER
Vernacular Buildings - -	Mr. J. W. TONKIN

Address of Hon. Secretary :	*Address of Hon. Asst. Secretary :*	*Address of Hon. General Editor :*
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Proceedings, 1968

SPRING MEETINGS

FIRST MEETING: 20th January: The President, Mr. J. W. Tonkin, in the chair.

Mr. F. Noble, B.A., a member and past-president of the club spoke about the various excavations which had taken place in Hereford and which were proving valuable for working out the history of the city. An account of the excavation in Bath Street was printed in *Trans. W.N.F.C.* (1966), pp. 204-211 and for the Victoria Street excavations in *Trans. W.N.F.C.* (1967), pp. 44-67.

SECOND MEETING: 17th February: The President, Mr. J. W. Tonkin, in the chair.

Mr. W. J. Norton, F.G.S., F.R.E.S., curator of the Ludlow Museum, gave a talk on the "Geology of North Herefordshire". This talk was printed in *Trans. W.N.F.C.* (1967), pp. 23-31.

THIRD MEETING: 9th March: The President, Mr. J. W. Tonkin, in the chair.

The President explained to members that the club was considering the introduction of Junior membership. It was proposed, seconded and agreed that the annual subscription for Junior membership shall be ten shillings; and for those junior members wishing to receive a copy of the "Transactions" shall be seventeen shillings and sixpence for the years 1968, 1969 and 1970, after which it will be reviewed. Rules II and V have been amended accordingly. These will be printed in the 1969 "Transactions".

Mrs. E. J. Coleman, a member of the club, spoke on the manorial history of the parish of Orcop. She traced the descent of the manor from the twelfth century onwards and concentrated on the seventeenth and eighteenth centuries when it was in the hands of the Pyes and Symons. Her talk is printed on pages 354-361.

SPRING ANNUAL MEETING: 6th April: The President, Mr. J. W. Tonkin, in the chair.

The assistant secretary reported that on 31st December, 1967, membership totalled 583.

The President thanked the officers and committee for their work and support during the year. He pointed out how well the club was served by its officers, all of whom are completely voluntary. He also thanked members for their good attendance and support.

The President then gave his address, "An Introduction to the Houses of Herefordshire" which is printed on pp. 186-197.

Mr. Tonkin then installed Mrs. D. McD. Currie as President for 1968-69, the second time that the club has had a lady as President. Mrs. Currie paid tribute to the inspiration and enthusiasm of Mr. Tonkin during his presidential year.

FIELD MEETINGS

FIRST FIELD MEETING: 2nd May: BRECON and MERTHYR

The party travelled through the Golden Valley and Hay pausing for a glimpse of the house, Old Gwernyfed, then through Talgarth and Brecon to Llanfaes.

Newton House, dated 1582, was visited by kind permission of Mr. and Mrs. D. L. Evans. Mr. Powell said that this house was unusual for its period in having a square plan. It was built and lived in by the Games family who took a leading part in Breconshire affairs. At the Brecon Beacons Mountain Centre, Mr. Harper, the acting-warden, explained that it was the only one of its kind in England and Wales. Continuing over the Brecon Beacons and down the Taff valley the party visited the museum at Cyfartha Castle. It was built in 1825 by the Crawshay family, the great iron-masters, and overlooked the famous Cyfartha works which have been demolished. Members saw many exhibits of works of art and iron and steel specimens which were made in the works. Mr. Kendrick explained that the geology of the district was interesting as being where the Old Red Sandstone gave way to the coal-bearing seams and limestone. By the "Heads of the Valleys" road the party climbed up to Blaenavon on to the Blorenge where there are masses of millstone grits, and then down to Abergavenny where they stopped at the site of the old Garnddyrus iron works. Mr. Coleman explained that with the use of coke for iron smelting, the industry had moved from the eastern to the western part of Monmouthshire where coal, ironstone and lime were available. He pointed out the route of the tramway from Blaenavon to Abergavenny and on to Hereford which carried coal in the early-nineteenth century. Using the old road through Llanfihangel Crucorney members were able to see some interesting old houses of north Monmouthshire.

SECOND FIELD MEETING: 18th May: HERGEST and HUNTINGTON

At Hergest Court near Kington, Mrs. Currie spoke about various members of the Vaughan family who had lived there and also about the "Red Book of Hergest". The house which was visited by kind permission of Mr. and Mrs. Williams was described by Mr. Tonkin. He explained that here there had apparently been two large upstairs halls, one of the fifteenth century, now a barn, and the other of the sixteenth century adjoining the present seventeenth-century house. At Huntington Castle Mr. Noble gave a brief history of the castle site and its importance along the border. He pointed out that there had once been a small borough here and that the castle was the centre of the Honour of Huntington. At Huntington church Mr. Powell in describing its architecture said that it was a thirteenth-fourteenth-century building with massive bench-ends, probably of the sixteenth century. Members wandered around Hergest Croft gardens by the kind permission of Mr. R. A. Banks, a member of the club. These gardens are famous for their rhododendrons and azaleas and many rare trees which have been brought from all over the world by the Banks family. The fine collection of fossils was also seen.

THIRD FIELD MEETING: 15th June: FOREST OF DEAN

The route was through Glewstone and Goodrich to Courtfield, rebuilt in 1805, at present occupied by the Society of the Mill Hill Fathers, founded by Cardinal Vaughan, who train young men for missionary work. Father Hart showed members over the hall with its fine staircase, and the chapel. Courtfield was for over 300 years the home of the Vaughan family, who were well-known as Roman Catholics. In the nineteenth century of thirteen children of Col. John Francis Vaughan and his

wife, née Louisa Elizabeth Rolls, six became priests and four nuns. Herbert became Cardinal Vaughan, Archbishop of Westminster and Roger, Archbishop of Sydney. At the Speech House Hotel members saw the court room still used on court days by the Verderers of the Forest. They also visited the nearby arboretum. At St. Briavels, the President read a paper by Mr. Palmer, a club member, on the church clock. He considered that it was 200 years old and was unusual in having only one hand. St. Briavel's Castle, now a Youth Hostel, was visited. It dates from the twelfth century and used to be the residence of the Warden of the Forest. Newland church, known as "The Cathedral of the Forest" was next visited. Preb. Moir described the church which contains much work of the thirteenth century and many interesting tombs and brasses including the "Miner's Brass". The party travelled through the forest stopping at Blackpool Bridge to see a stretch of an uncovered Roman road. The Forest of Dean Central Railway which had a chequered career used to run over this bridge. At Flaxley Abbey members were able to view the exterior.

FOURTH FIELD MEETING: 13th July: MONTGOMERY and WELSHPOOL

The party travelled via Eardisley and Knighton and then up the Teme valley to Beguildy, over the Kerry Hills, and down the valley of the Mule. On the road to Montgomery members visited the Iron Age Camp at Fridd Faldwyn. Mr. Stanford explained the layout of the 15 acre site which in 1937-39 had been excavated by O'Neil, who rejected the short chronology proposed by Wheeler at Maiden Castle and asked for at least two hundred years of occupation at Fridd Faldwyn. It can now be said that this place is comparable with the more recent excavations that have been carried out on Croft Ambrey and Midsummer Hill. At Montgomery Castle, Mr. Noble explained that the castle was built in 1223 on a rock above the old town of Montgomery and was the English king's stronghold against the Welsh. It was demolished in 1648. It is thought that the old town of Montgomery with its borough was down below the castle in the vicinity of the present church. After passing close to Hen Domen, an early-Norman motte and bailey members visited the Roman fort at Forden Gaer. Mr. Stanford explained that recent excavation had revealed that this camp had been occupied for a long period and in its history was similar to that at Leintwardine. Powis Castle and its gardens, the home of the Earls of Powis for over 500 years, and now National Trust, was visited. The castle had been much restored in the seventeenth and eighteenth centuries and even as late as 1904. It has some fine plaster ceilings, murals and panelling.

FIFTH FIELD MEETING: 15th August: GROSMONT and HENDRE

Members travelled through Haywood, Kilpeck and Pontrilas to Grosmont. At the castle, Mrs. Currie explained its varied history. Of the ruins that remain are the great hall of about 1210, the curtain wall with its three semi-circular towers and gatehouse built by 1250, and the rooms outside the north curtain and the enlargement of the south-west tower in about 1330. At the church Preb. Moir pointed out its architectural features. He mentioned particularly the twelfth-century font, the thirteenth-century Eleanor Chapel and the fourteenth-century tower. The Hendre, the huge Victorian mansion of the Rolls family, was next visited. Mr. Tonkin

pointed out the three periods of building, the seventeenth century, the mid and the late nineteenth century. This was the home of C. S. Rolls, the famous air and motor pioneer. In the disused church of Llangattock-vibon-Avel members saw many memorials to the Rolls family.

SIXTH FIELD MEETING: 7th September: MUCH WENLOCK and COALBROOKDALE

The party travelled via Leominster, Wigmore, Craven Arms and the Corvedale to Much Wenlock pausing en route to look at Shipton Hall built about 1587 by Richard Lutwyche. At Much Wenlock Abbey Mrs. Currie explained that it was a Cluniac priory dedicated to St. Milburga, a daughter of Merewald, King of Mercia, and was re-founded in the eleventh century on the site of the earlier Saxon nunnery. There are fine remains of the Norman chapter-house and the thirteenth-century church. Mr. Tonkin spoke about the abbot's house which is mainly of the fifteenth century but incorporates the Norman infirmary hall. En route to the Coalbrookdale area a pause was made to view the twelfth-century Cistercian Abbey at Buildwas. At Madeley church which was built in 1796 by Telford, the great road, railway and bridge builder, the vicar pointed out various memorials both inside and outside the church to important ironmasters, e.g., Crannage, Ferriby, Guest and Baldwin. The centre of Madeley itself was being preserved in the development of the Telford new town. Members toured the old industrial areas of Hinksay, Old Dawley and Horsehay and then visited the Coalbrookdale Museum. Mr. Tonkin explained that this area was the cradle of the Industrial Revolution and much was owed to the great Quaker family of Darby. He pointed out various rows of houses with names such as Carpenters' Row, Nailers' Row and Tea Kettle Row, all built for their workpeople. On view outside were exhibits including the first furnace used to make iron by smelting with coke instead of charcoal, early rails and tracks, and inside an exhibition covering the work of the Coalbrookdale Company from 1709-1959. After crossing the River Severn members went down to Ironbridge to have a look at this, the first iron bridge, which was made in 1779 at the Coalbrookdale works. It was made in parts, taken down to the river and assembled. The journey continued through Broseley, once the site of "Iron Mad" Wilkinson's works, to Bridgnorth, Cleobury North, Ludlow and Hereford.

AUTUMN MEETINGS

FIRST MEETING: 12th October: The President, Mrs. D. McD. Currie, took the chair.

Rev. R. W. D. Fenn, M.A., B.D., the vicar of Glascwm, gave a talk on "Christian Beginnings in Herefordshire" with special reference to the Archenfield area and the land of the Magensæte. Much of his research is printed on pp. 333-347.

F. C. MORGAN LECTURE: 16th November in the Town Hall, Hereford. Mrs. D. McD. Currie in the chair.

Mr. C. A. Jewell, B.SC., Keeper of the Museum of English Rural Life at Reading University, gave a talk on "Change and Tradition in Farming". Mr. Jewell explained that English farming had constantly changed over the years, and how

farmers had adapted their ways to meet their needs according to the local area and conditions. As examples he used the water-meadow systems similar to those practised by Rowland Vaughan in Herefordshire, the Cornish shovel and its adaptations, and the Somerset putt.

On behalf of the 130 members present Mr. Tonkin thanked Mr. Jewell for his talk. The club also expressed its thanks to Mr. and Miss Morgan for providing the tea.

THIRD MEETING: 30th November: The President, Mrs. D. McD. Currie, in the chair.

Sectional Recorders for Archaeology, Botany, Dialect and Folk-lore, Entomology, Mammals, Ornithology and Vernacular Buildings read their reports. These are printed on pp. 362-380.

WINTER ANNUAL MEETING: 14th December: The President, Mrs. D. McD. Currie, in the chair.

Officers for 1969-70 were elected.

The assistant treasurer, presented the accounts for 1967. These are printed on pp. 184-185.

Mr. F. M. Kendrick gave a talk on the "Geology of the Wye". He explained that the Wye was a good example of a superimposed drainage system, the upper reaches cutting across synclinal and anticlinal folds and the lower exhibiting incised meanders. Geological systems from the Ordovician to the Carboniferous were represented on its banks, whilst near Builth igneous rocks flanked by graptolitic shales cut across its bed. Glacial action had also taken place.

WOOLHOPE NATURALISTS FIELD CLUB

Deposit Accounts — Year ended 31st December, 1967

General Reserve Account No. 3957

	£	s.	d.		£	s.	d.
Cash at Bank 1st January 1967	1,271	7	9	Transferred to Current Account	900	0	0
L. Richardson Bequest	100	0	0	Cash in Bank 31st December, 1967	1,266	4	1
Repayments of National Savings Certificates	542	15	0				
Tax Recovered under Deeds of Covenant	206	13	0				
Bank Interest Received	45	8	4				
	2,166	4	1		2,166	4	1

Herefordshire Flora Account No. 9503

Cash at Bank 1st January, 1967	100	18	2	Cash at Bank 31st December, 1967	105	0	11
Bank Interest Received	4	2	9				
	105	0	11		105	0	11

Merrick Bequest Fund No. 8291

Cash at Bank 1st January, 1967...	48	12	5	Cash at Bank 31st December, 1967	54	2	10
Interest on 3½% War stock ...	3	10	0				
Bank Interest Received	2	0	5				
	54	2	10		54	2	10

George Marshall Fund No. 9037

Cash at Bank 1st January, 1967	118	14	3	Cash at Bank 31st December, 1967	218	18	9
Interest on 3½% War Stock ...	8	9	8				
Sale of Offprints	86	15	4				
Bank Interest Received	4	19	6				
	218	18	9		218	18	9

Special Publication Account No. 11382

Cash at Bank 1st January, 1967	7	10	10	Cash at Bank 31st December, 1967	7	16	5
Bank Interest Received		5	7				
	7	16	5		7	16	5

Honorary Treasurer's Cash Account for the Year Ended 31st December, 1967

	£	s.	d.	£	s.	d.
Balances 1st Jan., 1967						
Cash at Bank ...	353	4	9			
Cash in Hand ...	9	12	1			
				362	16	10
Interest on £590/6/6 3½% War Loan				20	13	2
Interest on Herefordshire County Council Deposit ...				12	7	1
Subscriptions ...	697	17	0			
Less Refunds ...	5	0	0			
				692	17	0
Transfers from Deposit Account				900	0	0
Leintwardine Excavations						
Ministry of Works Grant	120	0	0			
Less Expenses ...	35	10	0			
				84	10	0
Sale of Off Prints						
Less transferred to George Marshall Fund	89	15	4			
	86	15	4			
				3	0	0
Surplus on Field Meetings	31	16	11			
				31	16	11
				2108	1	0

	£	s.	d.	£	s.	d.
Purchase of Herefordshire C.C. Deposit Loan				1040	0	0
Fire Insurance ...				6	2	6
Printing, Binding, etc.						
Transactions ...	360	7	6			
Stationery	33	8	6			
Postage and Telephone ...	35	0	3			
				428	16	3
Subscriptions, etc.						
Council for British Archaeology H.Q.	3	0	0			
Cambrian Archaeological Assn. ...	2	0	0			
Prehistoric Society	3	13	3			
Harleian Society ...	2	2	0			
British Mycological Society ...	1	11	6			
Herefordshire Community Council	2	10	0			
Cornish Nature Trust	10	0	0			
Cotteswold Naturalists	3	0	0			
Cardiff Naturalists						
Kent Archaeological Society	2	9	6			
Riverside Press ...		14	4			
British Association	2	0	0			
Antiquaries Journal	2	0	0			
Archaeologia ...	3	13	6			
Oxford Archaeology Society ...	1	5	6			
Bishops Appeal ...	10	0	0			
Medieval Archaeology	4	4	0			
				55	16	7
Woolhope Archaeological Research Group				10	0	0
C. W. Meredith Fund for Kington Tram ...				14	0	0
Honoraria				40	0	0
Bank Charges and Cheque Book ...		17	0			
Lecture Expenses ...	33	13	0			
Covenant Scheme						
Professional Charges	21	0	0			
Disbursements ...		1	4			
				55	11	4
Balances 31st Dec., 1967						
Cash at Bank ...	452	7	6			
Cash in Hand ...	5	6	10			
				457	14	4
				2108	1	0

Auditor's Certificate

I have audited the above Honorary Treasurer's Account together with the Leintwardine Account, the General Reserve Account, the Herefordshire Flora Account, the Merrick Bequest Fund and the George Marshall Fund and certify them to be in accordance with the books and vouchers of the Woolhope Naturalists Field Club.

(*Signed*) Herbert T. Widgery,
Honorary Auditor.
17th July, 1968

Presidential Address

An Introduction to the Houses of Herefordshire

By J. W. TONKIN

THE buildings of any area are bound to be influenced by the natural factors, the geology, the vegetation and the way in which people earn their living, and, for that matter, how much they earn. Thus before thinking about the houses it is necessary to look briefly at this background against which they are built.

GEOLOGY

Basically the county can be considered as a rim of hills around the basins of the Rivers Wye and Teme. Of these hills the Pre-Cambrian Malverns are the oldest. Bringewood, the Wigmore Rolls, Gatley Coppice and Bircher Common in the north of the county are of Silurian limestone and shales as are the Woolhope dome south-east of Hereford. The Doward area in the extreme south is of carboniferous limestone. In the south-west the great scarp of the Black Mountains is of old Red Sandstone, while in the very north and again around Ledbury is the Downtonian sandstone.

As building stones the Pre-Cambrian and the Silurian limestone are poor. Both are very hard and are found only as rubble in smaller buildings. The Old Red Sandstone is found in a variety of hues, but a lot of it is very soft and not much used as a building stone. Occasional pockets of it are very good and it was one of these which was used by the Norman builders of Kilpeck church. Where it is used it is normally in small, thin blocks. The Downtonian sandstone is quarried in a number of places, again occurring in a variety of colours, but is usually grey or yellow-green sometimes with a reddish tint.

The river basins are rich farming land producing apples and hops as well as cattle and grain, though the hops seem to be a comparatively recent crop. Sheep and cattle rearing is carried on in the hills and there has always been plenty of timber.

NATURAL VEGETATION

The natural vegetation of the county is oak and slowly the county would revert to this if it was left to nature.

The pedunculate oak with its curved branches grows best on the marls providing timber which could be used in its natural shape by the builders. Oak was the natural building material to use, but elm is also plentiful and was used in some cases where long beams were required. Ash also was used and occasionally chestnut.

ECONOMIC FACTORS

The great period of building and rebuilding in Herefordshire as in most parts of Britain was during the late-16th century and the first-half of the 17th century. An analysis of wills and inventories and some other documents for the period 1600-1688 shows that 54% left "goods, cattles and chattels" worth less than £50, but 10% were under £10 value. 23% of the inventories were valued between £25 and £50 and 27% were over £100. Probably those leaving over £25 could be considered reasonbly-placed small-holders.

The Black Mountains area was obviously poorer than elsewhere in the county and in proportion grew much less grain. Sheep and cattle were held in the proportion of 2 to 1 there whereas in the county as a whole it was nearer 3 to 1. In the Black Mountains there appear to have been no horses during this period whilst on the immediate fringe of the Wigmore Basin there seem to have been more horses in proportion than anywhere else in the county.

These figures are useful in giving an economic picture at the time of the great building, but they probably show only the better-off people for a small percentage only left wills and on the whole these would be the wealthier. In Wigmore, for example, there were 1197 deaths between 1572 and 1688 but only 71 wills.

PLAN TYPES

MEDIEVAL

Almost all the houses built in Herefordshire before the 16th century and many built during that century had an open hall. This was the main room of the house with a hearth in the middle with no chimney or means of getting rid of the smoke other than a louvre in the roof. These halls were the full height of the house from the ground to the ridge of the roof.

The superior plan found in houses such as Old Court, Longtown, and Amberley Court, Marden, is an open hall with a service cross-wing at one end and a parlour or solar cross-wing at the other. Between the hall and the service-wing is a screens-passage with front door at one end and back door at the other. In most of these houses the parlour-wing had two rooms on the ground-floor, the parlour itself and a smaller unheated room. See fig. 1. The wings were both of two storeys having open chambers on the first-floor. The ground-floor rooms in the service-wing were known often as buttery and pantry, but a variety of other names is met with of which dairy is the most common.

A rare type of hall and two cross-wing house in Herefordshire is that which takes its name from the Weald of Kent and Sussex. So far only two possibly three have been found in the county. Two are in Weobley and there is a possible third in Pembridge. The essential feature is a continuous eaves-line although the two end-bays are jettied forward of the upper-part of the hall causing this to be recessed. The two Weobley examples are the western-end of the Unicorn Inn and Edge's shop in Broad Street.

Kitchens were usually external and at Swanstone Court, Dilwyn, the old external-kitchen built facing the back door of the screens-passage has been joined to the house and is still in use.

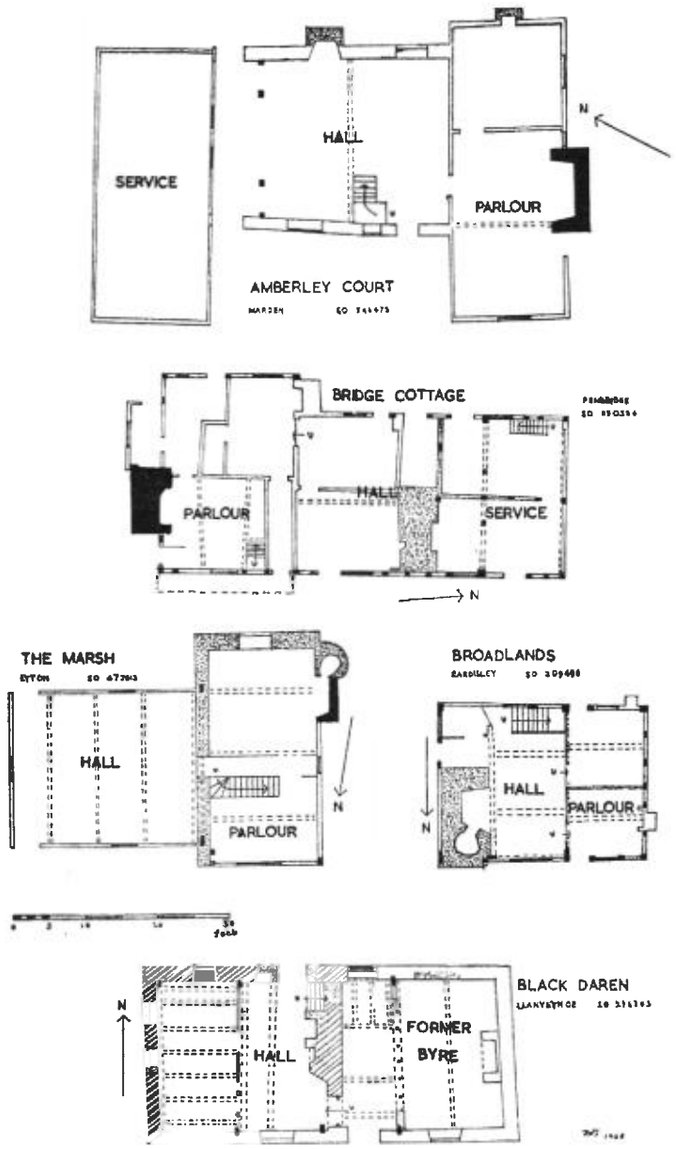


FIG. 1. Medieval Open-hall Houses

In the slightly less-important house the service-wing was replaced by an extra bay, but of two storeys not open like the hall. See fig. 1. Good examples of this are Bridge Cottage at the bottom of Bridge Street, Pembridge, and Pool Farm, Hereford. Often in these houses there were two rooms on the ground-floor in the parlour-wing.

A variant of this is the three-cell block, a long building with an open-hall in the middle and a two-storey bay at each end, one a service-bay and the other a parlour-bay. In these there is only one room on the ground-floor in the parlour-bay. Grafton House, Leominster, and Old Hall, Adforton, are examples of this.

The next stage is reached in such houses as Lower Brockhampton and Lower Poswick, Whitbourne, which have an open-hall and one wing which at Lower Brockhampton, and no doubt elsewhere also, contained service-rooms on the ground-floor and a great-chamber above. See fig. 1.

The smallest of these hall-houses is found in Broadlands, Eardisley, and Upper Poswick, Whitbourne, where there is an open-hall and one bay. At Broadlands this has two small rooms down and chamber above. See fig. 1.

LONG HOUSES

The early long-house with an open-hall is found in the Black Mountains area at Black Daren and Great Turnant. In these houses cattle and people were housed under the same roof. See fig. 1. Later additions and alterations have no doubt made a number of other early long-houses almost unrecognisable.

LATE-16th AND 17th CENTURIES

By the reign of Elizabeth most houses were being built with two storeys. There was still a hall but above it a chamber or chambers used space which was lost in earlier houses. With the coming of two-storeyed houses the central hearth disappeared and fireplaces and chimneys came into general use.

This is not to say that hall-houses did not continue in use as such for a long time. It is clear from the inventories that many were still in use in the late-17th century. Many others, as at Dairy Farm, Weobley, and Pool Farm, Hereford, were divided horizontally to give an upper-floor and had fireplaces and chimneys inserted. Very few indeed have retained their open-hall. Burton Court, Eardisland, and The Marsh, Eyton, are two examples of houses which have done so.

For a time the two-storeyed houses differed little in plan from the earlier hall-houses and examples of hall and two-wings, hall and bay and wing and hall and bay either side are all found as shown in the plans in fig. 2. In most of these one-third of the house is the service portion. Houses in fig. 2 have the chimney either laterally or at the gable.

Gradually, however, there was a move away from the basically medieval plan and the cross-passage began to disappear. Houses are found with an entry directly into the hall as at Snodhill Court, Peterchurch, or into a cross-passage which instead of leading to a back doorway leads to a stairwell as at Upleadon, Bosbury. The hall gradually became less important and in some cases became little more than an entrance hall, e.g. Oldfield, Leinthall Earles.

Another type found is the house with a central chimney, the entrance opening on to it as a sort of lobby. For this reason it is sometimes known as a lobby or baffle entrance. These houses with central chimneys seem to be found mainly in the

north of the county, as at Grendon Manor, Grendon Bishop, and the Old Post Office, Wigmore.

The smaller houses are on a two-room plan. They mainly consist of one heated room, a hall-kitchen, and an unheated parlour. The chimney is often at the gable, but is occasionally lateral, e.g. a cottage at The Mounts, Bishop's Frome, and again the lobby type is found, e.g. Brook Farm, Wigmore. See fig. 2.

This type goes on for a long period and was still being built in the 19th century. Excellent examples can be found on Deerfold, Wigmore, enclosed 1828, on Newton Common, enclosed 1816, and at Cuckoo's Nest, Longtown.

HOUSES WITH GABLE-ENTRANCE OR WITH FIREPLACE BACKING ON TO THE CROSS-PASSAGE

A number of houses of this period were built with a gable-entrance by the fireplace, e.g. the Old Parsonage, Burrington, now a farm building. This house appears to be of late-16th century build.

Of similar date is Ford Street Cottage, Wigmore, where there is a cross-passage outside the hall space and the hall is entered through a doorway by the fireplace. Ford Farm, Wigmore, is similar, but of two-room plan.

These seem to be variants of the long-house plan where the house part of the building was entered from the passage by a doorway in the fireplace wall. Late examples of gable-entrance houses built late in the 18th century and probably early in the 19th century are to be found in the Olchon Valley, e.g. Blaen and The Place, Llanveynoe.

OTHER VARIANTS OF THE LONG-HOUSE

The long-house with cattle and people under one roof and with direct access from house to byre continued quite late and is found at Lower House, Burrington, in the mid-17th century and at The Farm, Adforton, in the early-18th century. The last is quite a big, elaborate house, but still has all the essential features of the long-house.

SINGLE-CELL HOUSES

No true cottage of the medieval period remains. The earliest buildings remaining which were truly the homes of landless labourers seem to be the one-room up and one-room down cottages of the late-17th century. A good example is Court Barn Cottage, Wigmore, but many others were built later as on Vowchurch Common and at Maescoed.

TOWN HOUSES

Herefordshire towns were very small and with the exception of Hereford, Bromyard, Leominster, Kington and Ross the normal rural house built parallel to the street seems to have been the rule. Weobley has one or two exceptions to this but that is all. Even in the towns mentioned there are houses built in the rural fashion and parallel to the street.

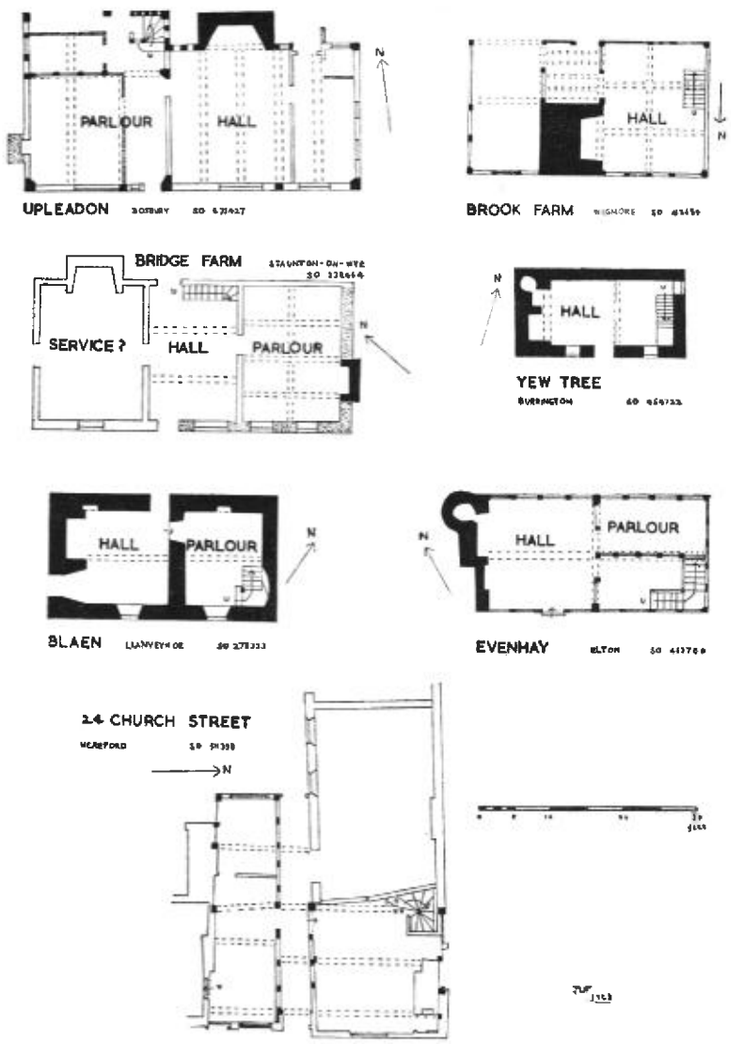


FIG. 2. Two-storey Houses

A few of these save some space by having the screens-passage in the service-wing or bay so that the chamber at that end projects out over the hall. An excellent example of this is "Aroha", Kington Road, Weobley.

Little of the medieval period remains in the towns, but there is a considerable number of buildings with some 16th-century work and even more dating from the 17th century. These are at right-angles to the street, some having a passage-way

alongside them and under the upper storey to the yard at the rear as in 24 Church Street, Hereford. Some, as in High Street, Leominster, are only of two-rooms depth, others are three or four rooms deep. Most of these houses are of two storeys plus attics plus a cellar. In Broad Street, Bromyard, are two houses at least which show another feature sometimes found in towns; this is a great-chamber over the shop at right-angles to the other part of the building behind. The chamber itself is parallel to the street, the other parts of the building at right-angles. No. 3 High Street, Hereford, had the same feature.

Most of these are jettied at each storey. There is a fine medieval example on the corner of School Lane and Corn Square, Leominster, deeply jettied on both sides.

EVIDENCE FROM DOCUMENTS

From the inventories it is clear that the two-room plan was common in the 17th and 18th centuries. These two rooms are usually hall-kitchen and an unheated parlour, often with a bed in it. Some appear to have a lean-to buttery or dairy. The main room is usually called the hall, but it is quite clear from the goods in it that it was used as a kitchen as well.

The three-room plan is also common. Some of these have a hall, parlour and buttery, others a hall, parlour and kitchen. The former seems to indicate a hall-kitchen and is usually less wealthy than the latter. The cellar is common in the three-room plan and was presumably where it is still to be found today, under the parlour. Some of the three-room houses have attics and it is clear from the references that some of these were for servants.

From the order of rooms it seems that in a number of cases the kitchen is still separate from the house.

Unfortunately no inventories for Herefordshire have yet been found for the years 1539-1662. It is hoped that these will turn up one of these days. The wills exist, but are not as useful as the inventories for finding out about the houses.

BUILDING MATERIALS AND CONSTRUCTION

TIMBER

The buildings which catch the eye are the black-and-white timber-framed houses for which the county is so well-known. As stated in the introduction oak was plentiful and is the timber normally used.

The cruck-type of construction used to be assumed to be the oldest method and one that died out early, but it is now realised that variants of the cruck were still in use in the 19th century. The cruck-truss with its two great, curved timbers starting from the ground and meeting at the ridge is well-enough known and a fairly complete list of such buildings was published in these *Transactions* in 1938 (1). See fig. 3.

A type of construction not so well-known is the base-cruck. See fig. 3. In this the cruck finished at the collar-beam and a separate roof is built above this level. This gives a maximum amount of space beneath. Good examples of the base-cruck are to be found at Lower Brockhampton, near Bromyard, and Amberley Court, Marden. Mr. Barley and Dr. Alcock have drawn up a list of about eighty of these

in the country and about nine of these are in Herefordshire. It seems to be an early method of building, late-14th and perhaps early-15th centuries, and is found in this county, at any rate, in houses which were built by people of some considerable wealth. It is often, though not always, associated with a spere truss, i.e. an arched entrance to the hall from the screens-passage in the form of a nave and aisles. See fig. 3. At Swanstone Court and Wellbrook Manor there is also a similar type of of aisled-truss at the solar-end of the hall.

A later form of cruck construction is the upper-cruck starting at first-floor level and often only going as far as the collar. It is found in the late-18th-century wing at Upleadon, Bosbury, and in many granaries and hop-rooms where it gives strength and more head room. See fig. 3. Very heavy, full upper-cruck trusses occur in the granary at The Marsh, Eyton, which was built in the 19th century.

The more usual method of construction is the box-frame or post-and-truss, where a triangular roof is placed on a rectangular timber-framed box. See fig. 3. Some of the earliest buildings in the county, e.g. Wigmore Abbey gatehouse, are built in this way and by the 16th century at least it was the usual form of construction. With one possible exception all the cruck-halls of the county which have a cross-wing adjoining have the latter as a box-frame construction.

In the great majority of buildings the longitudinal roof members are of the through-purlin type, i.e. carried on the principal rafters or blades. Comparatively few have the butt-purlins where the purlin is tenoned into or passes through the principal rafter.

The crown-post roof is very rare in the county. So far only one definite instance has been recorded in a house, though no doubt a few others exist. The one recorded instance is at Brinsop Court where the struts are heavily cusped, giving quite a West-Midlands appearance to the roof.

Timber-framed partitions are common in stone and brick buildings even in the 18th century, so the timber-frame tradition continues in buildings which externally do not appear to use it at all.

A few buildings are not black-and-white, but are grey-and-white. A notable example of this is The Ley, Weobley, built in 1589, where the timbers have been allowed to weather to their natural grey colour. In the great majority of cases the timber has been blackened. This was thought to preserve the timber and has since become the fashion; one grey-and-ochre house in West Street, Pembridge, has very recently been smartened to black-and-white.

Weather-boarding as a means of covering houses seems to have been very rare. An example, once again in West Street, Pembridge, has recently had the boarding removed and a modern infilling has been used for the panels. It is, however, still to be found on a number of barns and farm buildings. In many cases the distinction between the black-and-white house-end of a range and the heavy wattle or weather-boarded farm-end is quite a feature.

WATTLE AND DAUB

This is the usual infilling in timber-framing, not only externally, but in internal partitions also. The good quality wattle of split staves seems to be the more usual

form, but twig-wattle is found in poorer quality buildings and also as a later replacement for the other. The daub of red clay was covered by plaster and then whitewash.

In some farm buildings a very heavy wattle is found and this was clearly never intended to be covered.

STONE

There are many quarries in the Old Red Sandstone. The best known are probably Downton, Cusop, Rowlstone, Cefn Hill, Brilley, Dorstone and Meerbach. The stone was very rarely transported far and even in the late-18th century the great houses of Downton and Berrington were built of stone from quarries on the estates. Some of these quarries produced good ashlar but most of the building is in a thin sandstone rubble.

In many parts of the county stone was used only as a footing for timber-framed buildings and for chimneys. In these cases local shales or limestone were used and many of them have worn very badly.

BRICK

The Downtonian Marls make very good bricks, but quite expensive ones. There were quite big brickyards in Hereford, Grafton, Ledbury and several in and around Leominster, while many farms have their Brick Close or Brick Field where bricks were once made for the farm's own use.

There is little documentary evidence for early use of brick. Hellens, Much Marcle, c. 1600, and Gatley Park, Leinthall Earles, 1634, are the first houses of any size to be built of brick in Herefordshire. Its use was not common for smaller buildings until well into the 18th century, though a few houses, such as Steps House, Wigmore, are built of quite small bricks and appear to be of 17th-century construction.

In the 18th and early-19th centuries a considerable number of timber-framed houses were re-fronted in brick. This happened to some, e.g. Harbour House, Kingsland, as early as the late-17th century. The main street of Kingsland village contains a number of re-fronted houses and Bridge Farm and Bull Farm at Letton are also good examples.

COB

So far neither cob, nor any of the baked earths have been recorded in the county.

ROOFING MATERIALS

The wealthier houses seem to have used stone as a roofing material. There was a good quarry at Reeves Hill in the north of the county as well as those mentioned above.

Thatch must almost certainly have been the commonest roofing material. From the evidence of existing roofs it would seem that wheat thatch was most used.

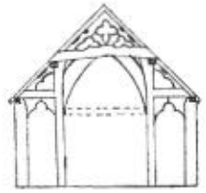
Clay tiles are found in the county but there is little evidence as to when they were first used.

Slate came into common use in the 19th century and for a time was virtually the only roofing material used.

CRUCK
BLACK DAREN

BASE CRUCK
AMBERLEY COURT

UPPER CRUCK
UPLEADON



SPERE
AMBERLEY COURT

BOX FRAME
EVENHAY

BOX FRAME JETTIED
FORD COTTAGE

FIG. 3. Typical Trusses

DETAIL

Cusping is common in the open roofs of the medieval houses from the late-14th century through a large part of the 15th. Some of it, as at Swanstone Court, is very carefully chamfered, some is very heavy as at Bridge Cottage, Pembridge, some is quite light as at The Marsh, Eyton. It seems that when enough examples have been collected it may be possible to work out some sort of dating sequence. Cusping is used on wind-braces, on struts above collar-beams and occasionally in outside bracing as at Pool Farm, Hereford.

A later form of cusping on small braces in the square panels of the timber-framing is found in 17th-century buildings, e.g. Old Farm, Leinthall Starkes and houses in High Street, Leominster.

A variety of mouldings and stops is found, but the detail would be too great to deal with here. However, two mouldings do need mentioning. The first is the quarter-round, which is normally regarded as being a 14th-century type. This is found in only a comparatively few buildings, e.g. Red Lion, Weobley and Court Farm, Preston Wynne. The other is the ovolo-moulding which seems to have reached Herefordshire early in the 17th century and is useful as a dating feature.

There is little close-set timber-framing and where it does occur seems to mark out the more important room or rooms of a house as at Upleadon, Bosbury, where it is found in the parlour and chamber over the parlour.

The bigger panels, often not regular in size and in heavy timber-framing, seem a feature of the earlier houses, e.g. Peg's Farm, Wellington Heath and Tudor House, Weobley. Panelling seems to have become more regular and squarer as time went on until in the late-17th century is found the very regular square panelling of such houses as Burrington Manor and the Grammar School, Eardisland.

Herefordshire builders seem to have been lavish in their use of timber and even in the 17th century the timber used for beams is often a foot square and for studs eight inches wide.

Carpenters' assembly marks appear from the earliest times, though their use perhaps gets more complicated as the buildings grow in size. A wide variety are found and although as a general rule the long, scratched marks are early and the short, deep ones late a lot of work still needs to be done on this subject.

One late feature worth noting is the big central dormer, much bigger than was needed for a window. This appears in houses of the later part of the 17th century, e.g. the last house in West Street, Pembridge. A similar feature was noted by Fox and Raglan in Monmouthshire ([2]).

OUTBUILDINGS

There are some very well-built farm buildings in the county which deserve a lot of study. The use of the cruck seems to have been continued in barns, where a big open space was needed, longer than in houses. Good examples are Old Hall, Kingsland, and Court Farm, Aylton. There are some excellent timber-framed ranges of buildings and barns in many of the farms.

Mention has already been made of hop-rooms and granaries. The conversion of existing buildings to take hop-kilns and the changing type of kiln and consequently of building is another study which needs doing.

The dovecotes of the county are a noticeable feature of many of the farms and have already been listed in these *Transactions* ([3]). Stone, brick and timber are all used in their construction.

All three are also used in the mills and the mill-houses which often adjoin them. These all seem to be of 17th-century date or later. Presumably the earlier ones were not adequate to take newer and more complicated mill machinery.

CONCLUSION

I called this an "Introduction to the Houses of Herefordshire". It is hoped that in the years to come a detailed study will be made of these area by area. If it is it is hoped also that year by year you will be able to read the results in these Transactions.

[1] F. C. Morgan, Cruck-framed buildings of Herefordshire, *T. Woolhope N.F.C.* (1936), p. 99.
[2] Fox and Raglan, *Monmouthshire Houses*, Vol. III (1954), p. 127.
[3] Watkins, *T. Woolhope N.F.C.* (1890-92), pp. 9-22.

Aspects of the Glacial Geomorphology of the Wigmore and Presteigne Districts

By PETER CROSS

INTRODUCTION AND HISTORY OF RESEARCH

THE area described includes those parts of the valleys of the Lugg, Clun and Teme which form the Wigmore and Presteigne Basins. This area lies near the limit of Charlesworth's (1929) "newer drift" and the freshness of many of the glacial features probably indicates a late glacial age.

The diversion of the Teme from its former course southwards through the Aymestrey Gap to the present course via Downton was first suggested by Grindley (1915). He noted the gravels at Aymestrey, the drifts blocking the Covenhope valley and drift at Shirley. He first suggested that the Wigmore Basin once contained a glacial lake.

Pocock (1925, pp. 27-33) described terraces and drifts of the Teme, Lugg, Clun and Onny. He regarded the terrace at Brampton Bryan as a delta at the margin of the Wigmore lake (p. 29). He also mentions drift blocking an old course of the river at Byton (p. 30), the Orleton moraine (p. 32) and the glacial deposits at Aymestrey (p. 29).

Charlesworth (1929, pp. 348-349) traced his limits (though not in the field in detail) through the district.

Dwerryhouse and Miller (1930) examined the glaciation of a thousand square miles of the Welsh Borderland including the area described in this paper.

Brown (1960) comments upon the drainage evolution of the district (pp. 139-141).

METHODS

Features relevant to the glaciation of the area have been surveyed and mapped on Ordnance Survey 6 inch and 2½ inch sheets. Stereoscopic aerial photographs (Scale 1:10,000) were used to map the terraces, meltwater channels and drift forms observed in the field. Key glacial features have been surveyed with staves, hundred foot tape measure and an Abney level checking where possible with spot heights and bench marks. Errors in height where checked have been less than 3 feet.

A two inch diameter extendible earth borer has been used for sampling deposits and pollen analysis of peats and clays has been undertaken by Dr. Isles Strachan at the University of Birmingham. Assistance with the identification of erratics has been given by members of the Ludlow Research Group.

PHYSICAL FEATURES AND SOLID GEOLOGY

Only the old series Geological Survey Map (No. LV.N.W.—Leominster) is available for the district but parts of the area have been mapped recently by Holland, Lawson and Walmsley (1963) and by Whitaker (1962). Alexander (1936) and Elles and Slater (1906) also carried out geological research in the area.

The dominant geological structure is the Ludlow Anticline the centre of which has been denuded and differential erosion has resulted in infacing scarps in the

Wenlock and Aymestry Limestones with intervening vales or benches in the Lower Ludlow and Wenlock Shales. The higher outer scarp feature (generally in Aymestry Limestone) rises to 1,192 ft. O.D. on Bringewood Chase, 1,235 ft. O.D. on High Vinnals and over 1,000 ft. O.D. on Mary Knoll. The lower Wenlock feature (about 800-900 ft. O.D. in the east) descends to less than 500 ft. O.D. near Burrington in the west. The Wenlock Shale lowland at the centre of the anticline is largely covered by superficial deposits.

Near Nacklestone river erosion interrupts the subdued Wenlock Limestone feature. Whitaker has shown that east of Leintwardine there is an asymetrical syncline complementary to the Ludlow Anticline. West of the river, near Downton, the Aymestry Limestone no longer forms the higher scarp but a lower feature which disappears on the southern slopes of Tatteridge Hill. Whitaker has shown the absence of Bringewood Beds (Aymestry Limestone) is due to sub-marine channelling in Ludlovian times.

Ludlovian and Wenlockian rocks outcrop in Wigmore Rolls and Deerfold but to the south and east there are dips of 10 to 20 degrees in directions between south and east. Near Upper Lye immediately north of the major fault the structure is less clear and the strata dip to the north-west. Cole's Hill (over 1,000 ft. O.D.) and the western side of Harley's Mountain (1,250 ft. O.D.) are in Ludlow rocks.

The western boundary of the area is the continuation of the Church Stretton fault beyond which Downtonian rocks outcrop. Associated with this fault belt is an inlier of Longmyndian, Cambrian and Ordovician rocks near Pedwardine.

On the southern limb of the Ludlow Anticline near Gatley another major fault results in the repetition of the Aymestry Limestone and Wenlock Limestone features. The escarpment continues in the south-east dipping Ludlow rocks along the southern boundary through Mere Hill, Shobdon Hill and Wapley Hill towards Kington. The fault follows the Lugg valley and passes through the col north of Byton.

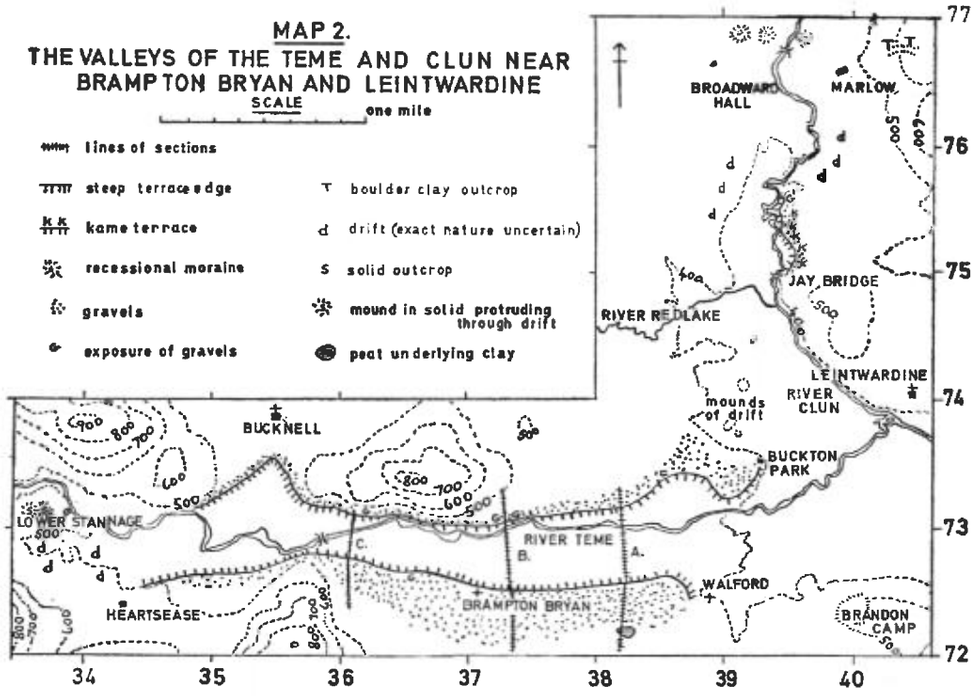
West of Aymestrey the Aymestry Limestone passes into less calcareous beds and the lithological division can no longer be recognised.

A small outcrop of Llandovery rocks occurs near Rodd south of Presteigne.

The solid geology of the Presteigne Basin and the area between Lingen and Brampton Bryan is probably Wenlock Shale but it is obscured by superficial deposits.

THE WIGMORE BASIN AND ADJACENT AREAS

The western half of the Vale of Wigmore is completely covered with thick deposits of gravels, silts and alluvium. The occurrence of erratics in the col (406681) near New Barn Farm and the presence of an ice-moulded hummock in solid rock (423666) to the north of Pyon Wood suggests ice entered the Wigmore Basin through cols in the hills between Wigmore and Aymestrey but the main ice came down the Clun and Teme valleys and from the south through the Aymestrey Gap. This southern ice emerged from the narrow valley to the north-west of the Black Mountains and augmented by ice passing over cols in the high ground to the west spread out from Wales in a great lobe over the North Herefordshire lowland.



Extensive deposits of drift from this Wye Glacier ice occur on the dip slopes of the escarpment between Kington and Orleton where a crescent-shaped ridge of drift appears to mark the limit of the ice at one stage.

To understand the relationships of the glacial deposits and landforms in the Wigmore lowland the Teme valley has been examined upstream as far as Lower Stannage (333731) and the Clun valley as far north as the bridge (395767) near Marlow.

THE TEME VALLEY BETWEEN LOWER STANNAGE AND LEINTWARDINE

Near Lower Stannage two hillocks in solid protrude out of the surrounding drift (336732) and a riverbank exposure shows 20 or more feet of coarse-bedded glacial gravels mainly of Ludlow rocks with some striated stones. These gravels appear to block a former course of the river and to have diverted it northwards where it cut a new course into solid rock near Cabbage (336734).

At Stannage Farm (333731) several feet of boulder clay rests on solid rock at river level. This was well exposed during the dry summer of 1964 when for a short period the river dried up. The deeply striated boulders mainly of Ludlow rocks are

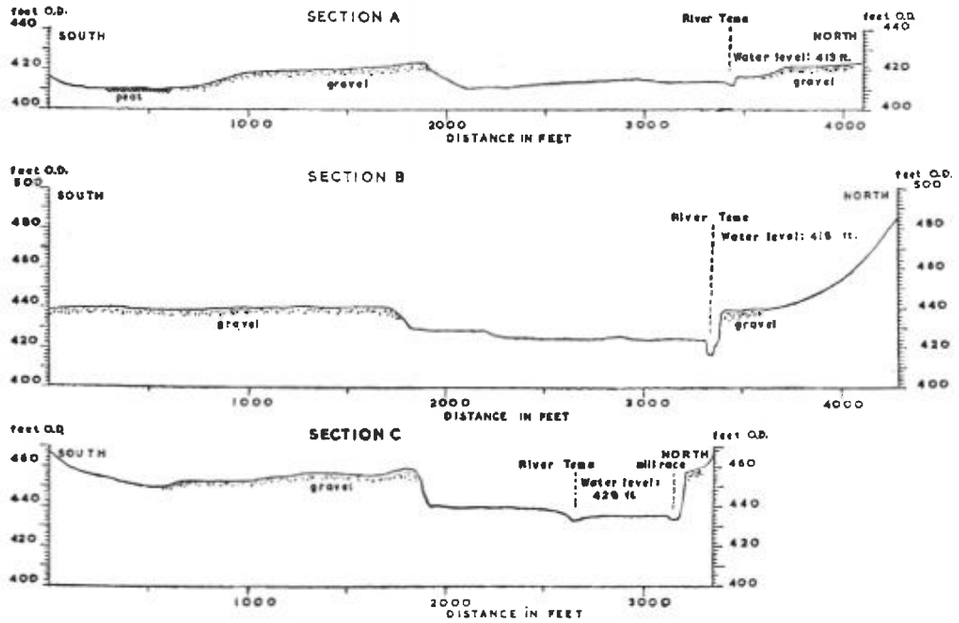
set in a matrix of heavy greyish-brown clay. The deposits are overlain by gravels similar to those described in the river-bank exposure.

A gravel terrace extends downstream from Lower Stannage for about two miles to Walford and Buckton Park (393735) downstream from which the terrace gives place to drift mounds and marshy ground in the Clun valley. The terrace is not well marked on the north bank near Lower Stannage because of river erosion and to the south upstream from Heartsease (343724) it grades into the morainic deposits already described.

East of Heartsease the terrace edges become well defined and on the north bank of the river below Lingen Bridge there is an exposure showing coarse sands and gravels almost entirely of Ludlow rocks (361731). Numerous other exposures occur in the steep terrace edge on the north bank from here downstream to Buckton Park all showing very coarse gravels with some boulders more than a foot in diameter.

Three sections across this terrace are shown in fig. 1 and the lines of sections on Map 2. Section A shows that the surface near Walford and Buckton Park is at about 420 ft. O.D. on both sides of the river. In the field corner near the Mill Race (381732) 270 yards upstream from the motte at Buckton an exposure in the terrace

SECTIONS ACROSS THE TEME VALLEY NEAR BRAMPTON BRYAN FIG. 1
LINES OF SECTIONS ARE SHOWN ON MAP 2



edge shows gravels resting on solid rock 3 feet above flood-plain level. Section A across the terrace 150 yards downstream shows the flood-plain at 414 ft. O.D. and the surface of the gravels at about 423 ft. O.D. A well boring at (384734) at Buckton revealed 9 feet of gravels overlying 36 feet of drift material before solid rock was reached. Section A also shows the gentle southward slope of the terrace surface to a peat filled depression (383722) south of the Leintwardine to Brampton Bryan road. This depression was crossed by the Elan aqueduct and the excavations showed a depth of 14 feet of peat in the centre thinning out towards the edges. The excavations stretched eastwards from near the Deer Shelter (361723) to a point (390722) south of Walford and elsewhere along this line only gravels and clay were excavated.

Near Brampton Bryan (Section B) the terrace has risen to about 440 ft. O.D. and downstream from Lingen Bridge (Section C) it is at about 456 ft. O.D. The long profile steepens upstream from this point as the terrace grades into drift deposits which rise to about 500 ft. O.D. at Lower Stannage.

The evidence suggests an outwash terrace the very coarse gravels of which were deposited by meltwaters from stagnant and slowly dwindling ice in the Teme valley at a late stage in deglaciation. The backward slope of the terrace surface (Section A) could be accounted for by slow melting of ice buried beneath the gravels. The height of the terrace (420 ft. O.D. near Walford and Buckton) appears to be of special significance and this will be discussed later.

THE CLUN VALLEY

The broad north-south section of the Clun valley between Leintwardine and Marlow has been examined in detail. North of Marlow it narrows and then changes direction westwards near Aston-on-Clun where a well boring (394817) revealed 80 feet of drift. Upstream near Oaker there are drift deposits exposed in a roadside cutting (382816) which form part of a recessional moraine.

Though most of the drift appears to be of local origin erratics of Longmyndian rocks and Eskdale granite occur in the Clun valley south of Aston-on-Clun. This could be outwash material from the north.

Between Leintwardine and Marlow well marked terraces similar to the Brampton Bryan terrace are absent. It seems probable that ice occupied the lower Clun valley while outwash which now forms the Brampton Bryan terrace was coming down the Teme valley. Drift mounds occur north of Buckton and there is much drift material on the west side of the valley. North of Leintwardine the Clun flows close to the eastern valley slopes where it cuts outcrops of Wenlock Shale and Limestone.

North of Jay Bridge (394750) there is a gravel terrace with a steep well-defined edge extending northwards for over a quarter of a mile. The surface of the terrace is uneven but kettle holes are lacking. A 20 ft. exposure in an undercut bank of the Clun at 394756 shows 15 feet of fine false-bedded sands overlain unconformably by gravels. Slumping has occurred making observation difficult but the original dip appears to be variable in direction. The upper gravels include pebbles of Eskdale granite and a light yellowish-grey Carboniferous sandstone both of northern origin. The height of this terrace is between 420 and 430 ft. O.D. which approximates to

that of the Brampton Bryan terrace of the Teme and gravel deposits not yet described at Downton.

Mounds of drift at (395767) form a ridge across the valley related in height (420-430 ft. O.D.) to the Jay Bridge terrace. Very coarse gravels are exposed in one of the mounds at (391769).

Several feet of boulder clay are exposed in an old sunken lane at (404678). Almost all the pebbles and boulders are of Downtonian and Ludlovian rocks. It seems probable that this drift is older than that found lower in the valley. Ice of western origin at its maximum rested at a high level against the west-facing scarp slopes of the Leintwardine-View Edge escarpment. A series of parallel valleys which are dry or carrying very little drainage dissect the dip slopes. Most originate in cols at the crest of the escarpment (for example in cols at (420790) (419779) (422755)) and are probably old meltwater channels. The cols near Lawnwell Barn (423767) and Brandhill (420790) are at over 900 ft. O.D.

THE TEME VALLEY SOUTH OF LEINTWARDINE

Between Leintwardine and Criftin Ford Bridge (420720) the Teme meanders across a flood-plain covered with coarse gravels and alluvium. A steep bluff marks the edge of the flood-plain from Criftin Ford Bridge to Graham's Cottage (416726) beyond which the bluff is more broken and irregular. Boulder clay similar in character to that described at Marlow flanks the foot slopes of Tatteridge Hill near Trippleton Farm (411735) where it is well exposed in an old sunken lane (412736) on the west side of Church Hill. Boulder clay is also found on both sides of the road just to the north of Whitton (412743) and in a roadside cutting (419723) now overgrown (Whitaker, personal communication).

Near Nacklestone a meander of the river cuts into the north bank exposing a section up to 25 feet high of sands and gravels which are contiguous with those of the terrace at the entrance to Downton Gorge.

The sands show delta bedding indicating a flow of water from the north-west. Pocock (1925) claimed to have identified old water levels of a Wigmore lake at 3, 8 and 15 feet above water level in exposures near Criftin Ford Bridge (420720) but considerable changes have taken place in the exposures here during the last 40 years and confirmation is not possible. On the north bank of the river at (423719) near Nacklestone a fall in the level of the river after flooding in June, 1969, revealed an exposure of reddish-brown finely-laminated lake clays in the river bank just above water level. These clays lie below 18 feet of bedded sands and gravels. It seems likely that similar laminated clays underlie the recent alluvium and river gravels which cover much of the central part of the Wigmore Basin.

THE AYMESTREY GAP

Substantial deposits of sand and gravel of southern origin block the gap at Aymestrey (Map 1). North of Yatton Court (427654) the edge of the gravels presents a steep scarp which crosses the valley in a gentle curve and is interrupted by the valley of a small stream near the Wigmore to Aymestrey road. There is a mound of gravel (424659) to the north-west of Garden House and gravels lap up against the

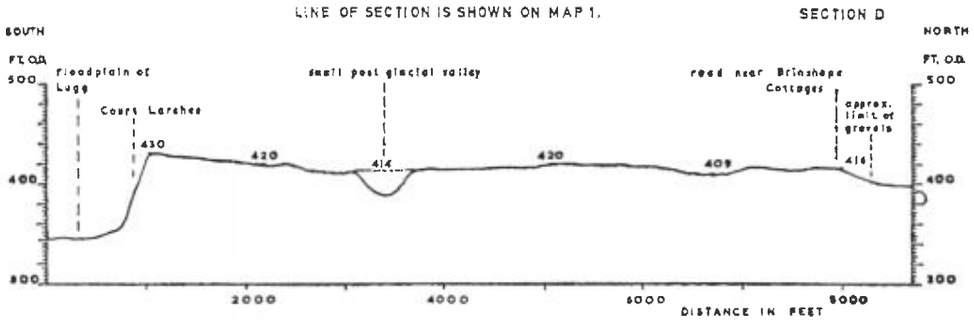
slopes of Pyon Wood Hill. An exposure of the gravels also occurs in the cart track at (426666).

The main fan of gravels which extends as far north as the Brinshope-Leinthall road has an even surface without kettle holes. A section surveyed across the gravels (fig. 2) shows that the top of the scarp is at 430 ft. O.D. and that the surface of the gravels slopes gently northwards from this height to a general level of about 420 ft. O.D. At the road near Brinshope Cottages (423678) the height of the surface is 416 ft. O.D. North of the road the gravels end and there is a more rapid descent to about 400 ft. O.D.

The gravels are very well exposed in Ameys' gravel pit north of Aymestrey. The lower part of the pit shows delta-bedded sands and fine gravels indicating a flow of

FIG.2

SECTION ACROSS THE AYMESTREY GRAVEL FEATURE
LINE OF SECTION IS SHOWN ON MAP 1.



water from the south, overlain unconformably by horizontally-bedded coarse gravels with many large boulders some of which are several feet in circumference. The bulk of the stones are local in origin but a wide range of other rocks have been found notably of igneous rocks from Stanner and Hanter Hill. The steep slope along Court Larches is an undercut river cliff and not an ice contact front as suggested by Dwerryhouse and Miller (1930). The ice front at the time the Aymestrey gravels were deposited must have been some short distance to the south.

Four borings made in 1964 to ascertain the extent of the gravels showed that at the centre of the valley the gravels are greater than 70 feet thick with the lower layers mainly of "fine brown calcareous sand locally clayey".

Farther to the North at Y.1 (Map 1) near Yatton there are no gravels at the surface though a little to the south and west in the same field the ground rises slightly and gravels are present. An auger hole here revealed blue clay overlying a fine light-brown silt which is at least 8 feet thick. This is close to the northern limit of the gravel deposits near Brinshope.

The delta bedding in the sands and fine gravels exposed in the lower part of the gravel pit indicates deposition in still water. It seems likely that this outwash material came from an ice front lying across the valley near Aymestrey.

The height to which the water level of the Wigmore lake rose seems to have been controlled by the col in the Wenlock Limestone feature (about 420-430 ft. O.D.) which must have existed near Downton before overflow.

Deposits other than gravels are also found in the Aymestrey Gap. Boulder clay is exposed on the west side of the Lugg between Mortimer's Cross and Aymestrey and below 400 ft. O.D. overlying solid rock in the quarries at (424647) where large deeply-striated Downtonian blocks were found. These must have been deposited by ice entering the gap from the south. At a higher level between 500 and 530 ft. O.D. near the bend in the old cart track at (421649) there are also exposures of boulder clay.

THE DOWNTON GORGE AND THE WIGMORE LAKE

South-west of Nacklestone the Teme changes its general direction of flow from south-east to north and crosses the strike of the Wenlock and Aymestry Limestone features and enters the Downton Gorge to follow the line of the synclinal axis mapped by Whitaker (1962) to join the Onny near Bromfield.

Below Downton Bridge the gorge is deeply incised with steep sides in solid rock. At the southern entrance to the gorge the river has cut down through gravel deposits into the underlying Wenlock Shales. The gravels are thin and their surface is at a height of between 420 and 430 ft. O.D. They are exposed at the tops of bluffs on both sides of the river extending from near the Willows Farm (432714) to Burrington Bridge (436721). The bluff to the north of the river downstream from the bridge is entirely in Wenlock Shales and a gravel capping is absent. The junction between the gravels and the shales is exposed in the bluff (433717) near Willows Farm. Here the gravels contain a large proportion of pebbles of Downtonian rocks.

Gravels and boulder clay are present in the Marlbrook Hall area which is at approximately the same height. Erratics (mainly unidentified conglomerates) were found in a ploughed field (434708) but no good exposures were found.

There are several former meltwater channels close to the gorge. One completely dry valley originates near the ridge (450734) of the Bringewood Chase escarpment and follows a fault line to enter Nunfield Gutter. This valley suggests that at one stage ice lay at a high level against the scarp slopes of Bringewood Chase.

It seems likely that Nunfield Gutter, a strike valley in Lower Ludlow Shales, carried considerable quantities of meltwater during the decay of ice lying against the south facing slopes of Bringewood Chase towards the break in the Aymestry Limestone feature at Downton. This water would not breach the Wenlock Limestone feature which would be a barrier to the flow of water from the main part of the Wigmore Basin.

On the west side of the gorge a dry valley has its head in a col (422730) on Tatteridge Hill at about 700 ft. O.D. and appears to have carried meltwater from ice which topped Tatteridge Hill. The floor of this channel is not graded to the present floor of the Teme but hangs about 75 feet above the present level at 430 ft.

O.D. There is a well marked flat on either side of the gorge at this point which is clearly shown on Section I (fig. 4) and represents a former valley floor. When this meltwater channel was in operation the Wigmore Basin was largely filled with ice and at this time the floor of the Downton Gorge overflow channel must already have been below 430 ft. O.D.

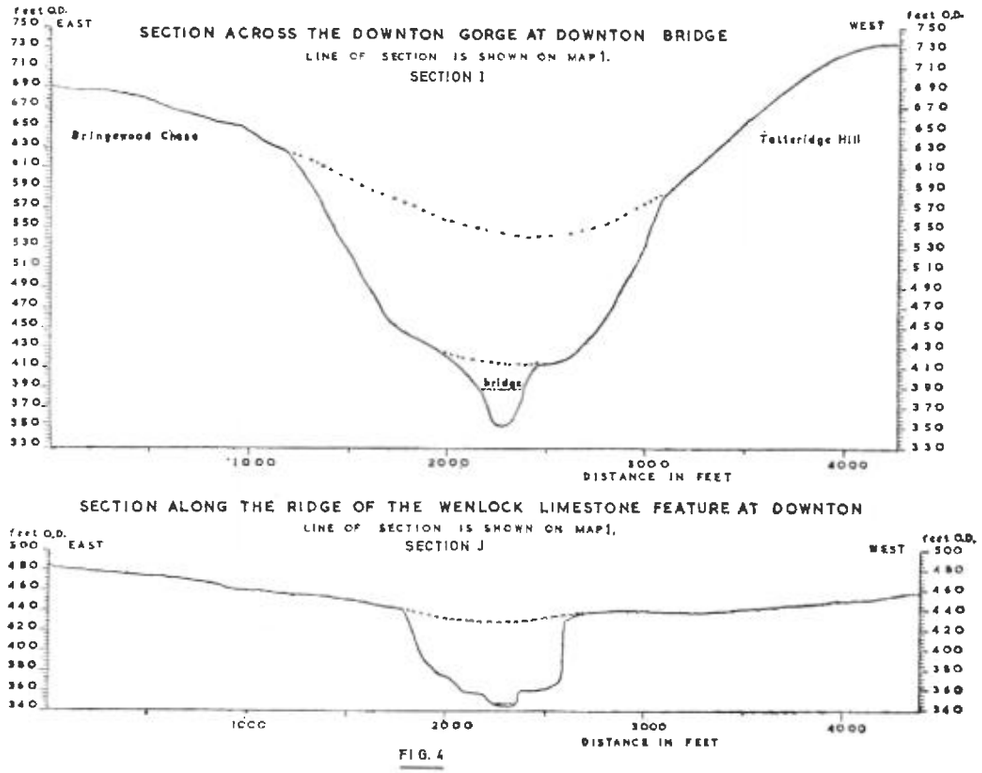


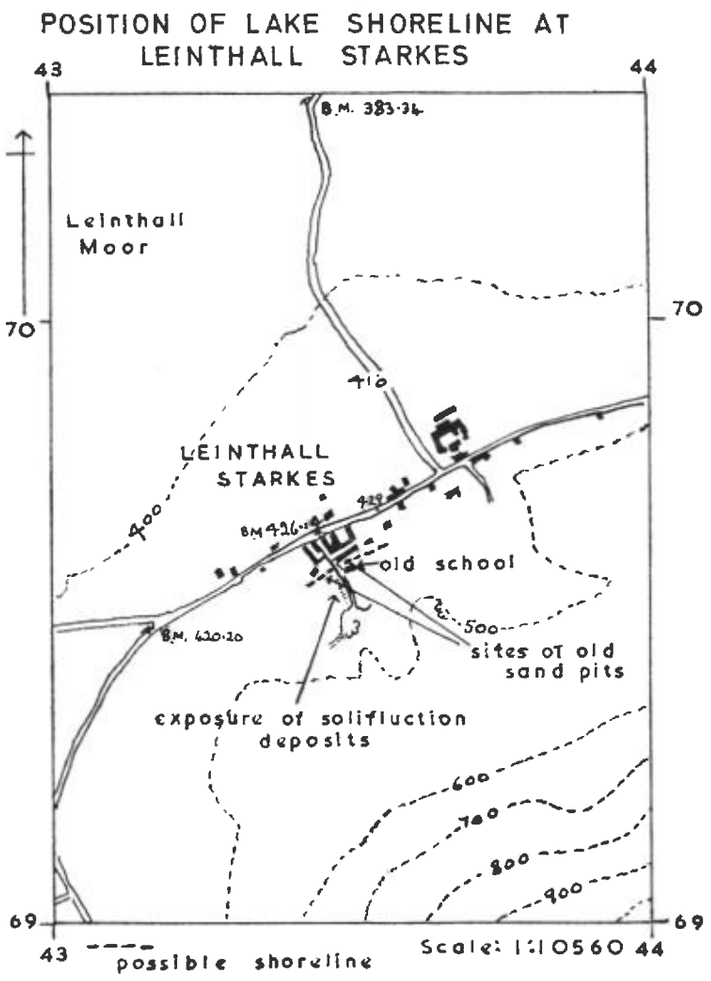
FIG. 4

On the south-west side of Tatteridge Hill there is further evidence that ice reached a level of at least 700 ft. O.D. Here a marginal channel follows approximately the 700 ft. contour line for about half a mile. The hill side is steeply scarped. This scarp is about 25 feet high and the cross-section of the floor of the channel is generally flat but is slightly concave in places. The longitudinal profile of the channel was surveyed and found to be horizontal. It seems likely that ice formed one side of the channel and that the scarping resulted from water flowing between the ice and the hill side. The channel fed three short and now completely dry valleys the

floors of which hang about 75 feet above the present water level of the Teme which is here about 320 ft. O.D.

The cross-section (fig. 4) across the gorge along the ridge of the Aymestry Limestone feature shows valley within valley form and supports Brown's suggestion (1960, pp. 140-141) that the Teme may have been a tributary to the Onny at Ludlow at his "Low Peneplain" stage but was later captured by the Aymestrey Gap stream to be rediverted in glacial times.

FIG. 5



Glacial diversion was initiated by meltwaters when the Vale of Wigmore was still largely occupied by ice. Meltwater channels on the southern limb of the Ludlow Anticline described later provide evidence that ice reached heights above 800 ft. O.D. in the Wigmore Basin.

Dwerryhouse and Miller (1930) give no depositional or shoreline evidence for a lake with a level of between 500 and 600 ft. O.D. (p. 117) in the Wigmore Basin. Presumably they estimated the height of their supposed lake from the col at Downton before downcutting (See Section I—fig. 4).

The cross-section (J—fig. 4) along the Wenlock Limestone feature suggests that there was an overflow at the lowest point in this ridge possibly into a channel through the Aymestry Limestone feature already being used by drainage from Nunfield Gutter. This must have been at a late stage in the development of the gorge.

The terraces at the entrance to the gorge, those described near Brampton Bryan and the gravels at Aymestrey seem related to water standing in the Wigmore Basin at a level of between 420 and 430 ft. O.D. A shoreline feature related to the lake level has been observed at Leinthall Starkes. An exposure in the cart track near the old school (435696) shows a solifluction deposit of fine angular local rock fragments with intercalated discontinuous bands of fine water-sorted calcareous sand. Immediately to the north thicker deposits of the sand, relatively uncontaminated by solifluction material have been worked in several small now overgrown pits along the 430 ft. O.D. contour. A section higher up the track at (435695) shows coarse, imbricated, sub-rounded solifluction gravels of local origin from which the finer materials appear to have been washed. A section in building excavations for a bungalow at (436697) showed more than 8 feet of bedded slightly calcareous fine brown sand with thin bands of pebbles derived from local Silurian rocks. The solifluction gravels appear to be contemporaneous with the fine sandy lake-shore deposits of the pro-glacial Wigmore lake.

The evidence suggests that the breach in the escarpment at Downton is a multi-stage feature. The Teme may have first used this route at the "Low Peneplain" stage at a level of 700-750 ft. O.D. (Brown, 1960) later to be captured by a stream flowing through the Aymestrey Gap. This breach was deepened to below 430 ft. O.D. at a glacial maximum when ice completely filled the Wigmore Basin. On glacial retreat a lake with a level of between 420 and 430 ft. O.D. overflowed at the lowest point along the Wenlock feature (See fig. 4). Finally the lake was drained by downcutting in the Downton Gorge and the Teme was established in its present course.

MELTWATER CHANNELS ON THE SOUTHERN SLOPES OF THE LUDLOW ANTICLINE

Dry valleys or valleys with streams disproportionate to their size are to be found on the dip slope of the southern limb of the Ludlow Anticline. The most striking of these, the Goggin Channel has an intake at about 850 ft. O.D. (470707) and is completely dry. The channel follows the line of strike along the crest of the Aymestry Limestone escarpment and then turns south-eastwards for about one and a half miles to Woodhouse Farm (478688) where it ends abruptly.

The Goggin Channel has a uniform longitudinal profile and a U-shaped transverse cross-section with very steep sides. This 100 feet deep valley does not widen in its lower section and there are no tributary valleys. Its intake cuts the crest of the escarpment and it is clearly a meltwater channel. Ice must have reached 850 ft. O.D. against the north-facing slopes of the Wigmore Basin. Similar channels with open intake ends at or a little below this level breach the crest of the Aymestry Limestone escarpment to the west of the Goggin Channel. Two are near Gatley Barn Cottages at (453695) and (456697) and a third is near Evenhay Farm (463700).

West of Gatley Barn Cottages the escarpment rises to over 1,000 ft. O.D. and there are no channels breaking through the escarpment or originating near its crest. Near Gatley Park (449686), however, there is a system of dip slope dry valleys the highest of which starts at 900 ft. O.D. with an initial direction oblique to the maximum surface slope. This suggests as does bifurcation of one of the channels that they are of sub-glacial origin. The Croft Ambrey-Leinthall Common escarpment also has deep dry or almost dry valleys which at some stage must have carried meltwater. One cuts the crest of the escarpment at Croft Ambrey at (448670) with an intake like that of the Evenhay Farm Channel at 850 ft. O.D. Another starts at a similar height in a col near Whiteway Head (456674) and joins the Croft Ambrey Channel.

Another valley passes Lodge Farm (465677) and carries only a small stream. A similar but completely dry channel originates on Yeld's Hill at about 850 ft. O.D. and continues to Orleton Rise (474680). Further to the north near Richard's Castle, Haye Park and Mary Knoll there are other dry valleys or valleys with streams disproportionate to their size on the slopes of the escarpment which are difficult to attribute entirely to normal fluvial erosion, The Mary Knoll valley eroded along a line of faulting is larger in size than the Goggin Channel and appears to have carried much meltwater away from the ice which filled the Wigmore Basin. The intake (473731) near Aston is at about 800 ft. O.D.

No such channels break through the Bringewood Chase escarpment to the north between the Teme at Downton and Gorsty (479736). This may be because the ridge of the escarpment here rises steadily eastwards and the eastward section has no cols below 1,000 ft. O.D.

THE PRESTEIGNE BASIN AND ADJACENT AREAS

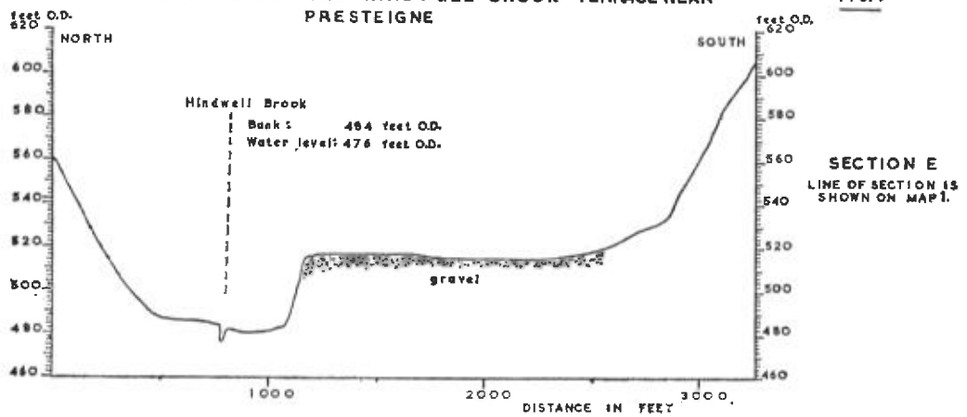
The Presteigne Basin between Presteigne and Byton is extensively covered with superficial deposits. The Ludlovian escarpment to the south rises to over 1,000 ft. O.D. on Wapley Hill and is broken by two gaps, the Rodd Hurst Gap and the Byton Gap both now dry. The floor of the Rodd Hurst Gap rises to 560 ft. O.D. and that of the Byton Gap to 510 ft. O.D. These heights are about 110 feet and 85 feet respectively above the adjacent levels of the floor of the Presteigne Basin.

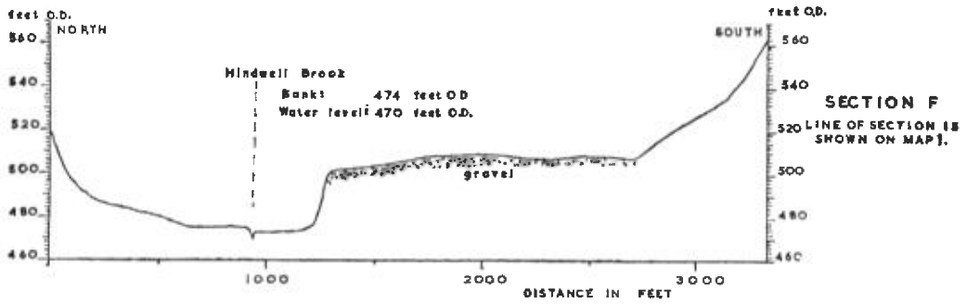
The only major streams draining into the basin are the Lugg and its tributary the Hindwell Brook. Half a mile below their confluence the Lugg swings northwards and the valley narrows between Lower Kinsham and Shirley Farm. The Lugg and Hindwell Brook have well marked terraces where they enter the basin.

THE HINDWELL BROOK VALLEY BETWEEN RODD AND LITTLE BRAMPTON

In the Hindwell Brook Valley a broad flat terrace with a well marked edge has been mapped upstream as far as Little Brampton. Two sections have been surveyed (fig. 6) across this terrace. Section E shows the surface height of the terrace near Rodd at about 508 ft. O.D. Section F (about a quarter mile upstream) shows that the surface height has risen to about 518 ft. O.D. Upstream the longitudinal profile of the terrace steepens and its surface becomes uneven with two transverse large

SECTIONS ACROSS THE HINDWELL BROOK TERRACE NEAR PRESTEIGNE FIG. 6

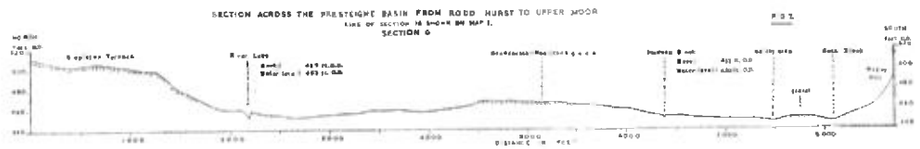




elongated mounds of drift rising to above 600 ft. O.D. near Little Brampton. An exposure (303615) north of Little Brampton shows till with striated boulders. These mounds are remnants of a moraine which once extended across the valley. The best exposure of the terrace gravels occurs in the terrace edge close to the stream (319628) a short distance to the west of the Presteigne to Kington road. This shows 10 feet of coarse-bedded outwash gravels.

THE LUGG VALLEY BETWEEN ACKHILL AND UPPER MOOR

In the Lugg valley near Presteigne there are two terraces. The higher terrace first becomes well marked near Upper Moor (332646) and Section G (fig. 7) shows the height of the terrace here to be approximately 508 ft. O.D. South of Stapleton it is broad and flat and coarse gravel is much in evidence in the ploughed fields. Here the height of the terrace has risen to over 530 ft. O.D. Upstream from Stapleton Cottage (318653) the terrace narrows and is cut by the Norton Brook. There is a good stream-side exposure at (311661) showing about 15 feet of very coarse gravels with boulders up to a foot or more in diameter mainly of Ludlovian and Downtonian material. Upstream from Boultibrooke the terrace rises more rapidly and



widens considerably, extending almost to the village of Norton where the Norton Brook cuts through mounds of morainic material which at one time must have completely blocked the valley.

South of Norton the terrace is about 1,000 yards wide and rises to about 620 ft. O.D. with a less-level surface than it has near Stapleton. Upstream beyond the area mapped this outwash terrace merges into mounds of drift at Ackhill (290658). Remnants of the Stapleton terrace with a less-marked edge are found to the south of the Lugg upstream from Presteigne, and coarse gravels were exposed in gas-line trenches excavated here in 1964.

A lower less well-defined terrace occurs in this part of the Lugg valley. To the north of the river it is most prominent near the Brink (323646) where it reaches 485 ft. O.D. about 12 feet above flood-plain level. Above Presteigne the terrace is well marked on the south side where the general level is 525 ft. O.D., about 20 feet above flood-plain level.

Gravels resting on laminated clays were exposed by two excavations to depths of 16 feet made during the construction of a new sewage works in 1964 at Presteigne. At P.1 (Map 1) (316645) in Presteigne near the church 9 feet of medium gravels were exposed resting on a bluish-grey laminated clay which extended to a depth of at least 16 feet. At P.2 (Map 1) (321641) near Clatterbrune a very similar section was exposed in one of the excavations and close by another exposure showed 3½ feet of clay and gravel overlying a small pocket of peat about 1 foot in thickness. This was underlain by blue clay. The peat contained a pollen assembly consisting almost entirely of birch pollen and fern spores with grass pollen and reed mace

(*Typha latifolia*) (Strachan-personal communication) which was considered too poor to give any indication of age.

THE BROADHEATH-HOARSTONE AREA

A flat stretch of gravels which occurs between the Lugg and Hindwell Brook at Broadheath extends westwards through Hoarstone to Presteigne. Excavations in 1965 on a building site (327637) showed sands and gravels with a flat surface at about 464 ft. O.D. near Hoarstone rising to 486 ft. O.D. near Stonecote (324638). These gravels correlate in height with the Brink terrace.

THE CLATTERBROOK GRAVELS

Another gravel spread occurs south of Presteigne and is crossed by the Clatterbrook. Recent excavations across the area showed coarse gravels similar in type to those of the Stapleton terrace reaching approximately 508 ft. O.D. which is the same height as the Stapleton terrace near Upper Moor and the Hindwell Brook terrace near Rodd. This is also the approximate height of the floor of the drift-filled gap at Byton and the probable height of the col at Kinsham before the diversion of the Lugg.

THE EASTERN SECTION OF THE PRESTEIGNE BASIN

East of Combe the Presteigne Basin is floored with alluvium and river gravels but there are no terraces like those near Presteigne. At Combe Moor (365633) alluvial clays appear at the surface.

In the extreme east Byton church stands on a small narrow flat (at about 330 ft. O.D.) which crosses the valley leading down from the Byton col (376644). Gravels are present in the fields near Byton church and an exposure near a barn (371639) near the base of the edge of the flat showed fine gravels and silts with interbedded bands of brown clay. This feature may be a kame terrace.

THE DEERFOLD, LINGEN, HARLEY'S MOUNTAIN AND COLE'S HILL AREAS

There is abundant evidence in the form of drift deposits and meltwater channels to show that ice reached a high level in these areas. Downtonian erratics found on the hills to the east of the Church Stretton fault indicate that ice moved across from the west. Erratics brought by ice moving into the Presteigne Basin down the Lugg and Hindwell Brook valleys are found to the south of Lingen. There also appears to have been a strong movement of ice from the north against the slopes of Deerfold. The Letton-Newton area is extensively drift covered but exposures are few. Striated erratic have been found above 800 ft. O.D. on Deerfold and the slopes on either side of the entrance to a meltwater channel near Lodge Farm (388692) are covered with boulder clay including Longmyndian erratics up to at least 750 ft. O.D. The northern end of the meltwater channel is drift filled and exposures of boulder clay occur in an old cart track near the Moor at (383693). There are also mounds of water-sorted gravel in the north end of this channel.

Dwerryhouse and Miller inferred that the Lodge Farm meltwater channel drained northwards (1930, p. 114) but this does not appear to have been so. The presence

of northern erratics up to 750 ft. O.D. near the northern entrance to the channel indicates that ice lay at a high level against the north-facing slopes of the Deerfold and the channel evidently carried meltwaters southwards into the valley leading towards Dickendale (395676). The presence of Old Red Sandstone material in the drift of the Letton area must have suggested to Dwerryhouse and Miller that ice entered the Lingen Basin from the south. There are Old Red Sandstone outcrops to the north and west on Coxall Knoll and elsewhere which are the probable sources of this material. The floor of the Lingen Basin is extensively covered with drift and an exposure of reddish-brown clay overlain by gravels occurs in a streamside section at (363687) near Birtley Knoll.

The considerable deposits of drift in the Limebrook valley between Lingen and Deerfold Bridge can be seen in roadside exposures at (372662) and (373661) near Limebrook. These contain boulders of Ludlovian and Downtonian rocks. Similar outcrops occur in the steep banks on the western side of the Limebrook valley north of Deerfold Bridge (381652). These deposits may have been brought by ice entering the area by way of the col at Kinsham from the Presteigne Basin and this will be referred to in the section on the Kinsham Channel.

Good examples of meltwater channels are to be found near Lingen. At the northern end of the Lingen Basin a number of meltwater channels carried water in a southerly direction towards the present valley of the Lugg. Two of these cut across a spur near Lingen Hall (371666) and it is evident that the Lime Brook valley between Lingen and Deerfold carried a considerable volume of meltwater. Another channel, probably marginal or sub-marginal to the ice runs parallel to the Lime Brook on the slopes of the Deerfold with an intake at (376661). Meltwater flowing in this channel may have plunged beneath the ice along the course of the two short dry valleys leading down into the Lime Brook valley. These appear to be sub-glacial chutes of the type described by Mannerfelt (1945).

A small but striking meltwater channel possibly sub-glacial in origin occurs near Whitcot (335674). In an adjacent valley (333674) glacial gravels are exposed in a gully and mounds of drift occur close by.

In contrast a very large flat-bottomed channel with precipitous sides, the Cole's Hill Channel leads down from a deep col (348662) near Noisy Hall at about 830 ft. O.D. into the Presteigne Basin. Another dry valley, the Dairyhouse Farm valley leads down towards Lingen from the other side of the col and contains some drift. There are small transverse ridges crossing the floor of the Cole's Hill Channel and conglomerate erratics have been found in the col near Noisy Hall. The large Cole's Hill Channel may have been eroded by ice as well as by meltwater from northern ice invading the Lingen Basin at some stage in the glaciation of the area.

THE BYTON AND RODD HURST GAPS

Kettle moraine and outwash gravels deposited by the Wye Glacier extend along the dip slopes of the escarpment from Staunton Green (363612) to Shobdon closing the Byton Hand gap to present day drainage. Exposures in the drift showing stratified sands and gravels were observed at Stockley Barn (369624) and The Cot

(377617). Large erratics have been found high up on the slopes of Wapley Hill (365627) and near Belgate House (383636). Boulder clay is exposed on the cart track at (373631) just to the east of Byton Hand. Dwerryhouse and Miller (1930) suggested (p. 115) that "prior to glaciation" the Hindwell Brook and the Lugg broke through the escarpment as consequent streams, the former flowing through the Rodd Hurst Gap and the latter through the Byton Hand gap. The advance of the ice of the Wye Glacier, they suggest, closed these valleys deflecting drainage to cut the Kinsham Channel which now forms the valley of the Lugg between Kinsham and Shirley Farm.

There seems to be little doubt that the broad well-developed Rodd Hurst and Byton Hand Gaps were used by drainage at some stage. It is less certain, however, that the abandonment of the Rodd Hurst Gap dates from the advance of the Wye Glacier ice along the dip slopes of the escarpment as suggested by Dwerryhouse and Miller because its watershed is in solid rock as shown by exposures in the railway cutting. The floor of the gap here is at about 560 ft. O.D. and the present water level of the Hindwell Brook just to the north is 450 ft. O.D. It seems more likely that the Byton Gap with a drift covered floor at slightly above 500 ft. O.D. was the outlet for drainage from the Presteigne Basin immediately before the advance of Wye Glacier ice and that the Rodd Hurst Gap was used at an earlier period by the Lugg.

THE KINSHAM CHANNEL

The Kinsham channel is particularly narrow in the section upstream from the confluence with the Lime Brook valley near which there are considerable drift deposits. Thin drift is also evident on the steep southern slopes of the valley for 300 yards or more upstream from Deerfold Bridge and downstream as far as Shirley Farm. The farm itself appears to be situated on morainic material. Exposures occur in three places close to the farm-house showing generally poorly-sorted material consisting mainly of boulders of Ludlow rocks in a silty matrix but there are also bedded gravels.

There is also evidence of drift on the steep northern banks of the Lugg opposite Shirley Farm but Wenlock Shales are exposed at river level close to the farm and for some way upstream. Blockage of the valley at Shirley Farm by drift appears to have caused the river to swing northwards cutting into solid rock on the northern bank. Both the Lime Brook valley between Deerfold Bridge and Lingen and the Lugg Valley between Deerfold Bridge and Shirley Farm appear to have been re-excavated in drift.

Erratics have been found in the Byton Col near Shirley Barn (376645) at just below 800 ft. O.D. and two channels lead down from the col towards the Lugg. The channel which passes Lower Green Ridge to enter the Lugg valley upstream from Shirley Farm contains much drift. The best exposure occurs in an old sunken cart track at (378651) where there are small striated boulders mainly of Ludlovian and Downtonian rocks. This drift is similar to that of the Lime Brook valley. No exposures of drift have been found in the other valley leading down from the Byton col to the Lugg valley following the line of the major fault.

It seems likely that at some stage ice which entered the Presteigne Basin mainly by way of the Lugg and Hindwell Brook valleys not only overtopped the Byton Col but also pushed through the considerably lower col at Kinsham and against the south-eastern slopes of the Deerfold. The morainic deposits near Shirley Farm may mark the limit of this ice at some stage.

The Kinsham channel appears to have been cut by meltwater from the Presteigne Basin at a late stage in de-glaciation after the Byton Gap had been closed by Wye Glacier drift for the heights of the drift-covered floor of the Byton Gap, the Hindwell Brook terrace near Rodd, the Stapleton terrace near Upper Moor, the

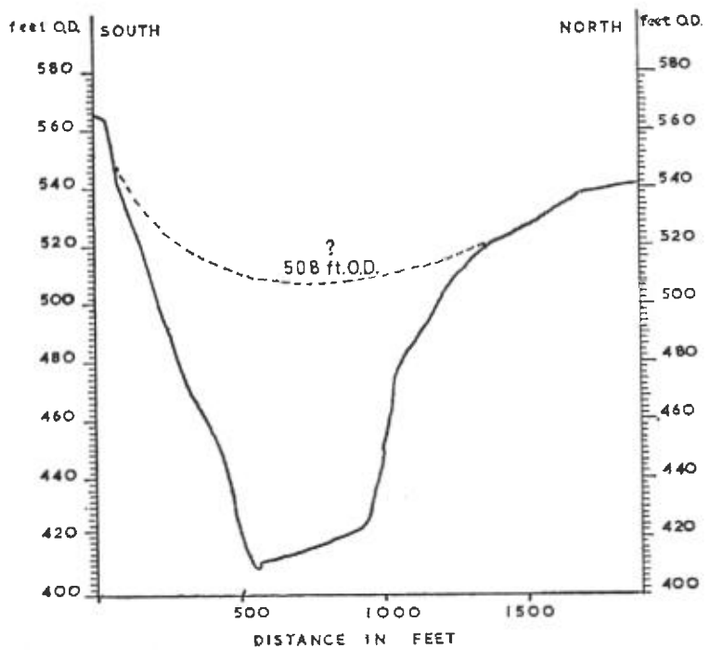


FIG. 8

Clatterbrook gravels near Presteigne and the inferred height of the col at Kinsham are all approximately the same (508 ft. O.D.).

With the melting of ice in the Presteigne Basin a lake came into existence. Retreating ice along the Lugg and Hindwell Brook valleys left moraines at Little

Brampton and Ackhill and meltwaters deposited the coarse gravels of the outwash terraces grading into the lake. This reached a height of about 510 ft. O.D. before overflow at Kinsham cut the floor of the col up to 100 feet deeper thus establishing the Lugg in its new course.

THE LUGG VALLEY BETWEEN SHIRLEY FARM AND AYMESTREY

Between Shirley Farm and Lyepole Bridge the Lugg is less restricted than in the Kinsham section. On the south side is the scarp slope of Shobdon Hill and on the north a steeper slope rising to a broad bench in Wenlock Limestone between 500 and 600 ft. O.D. Drift deposits were evident on this bench in a ploughed field at (394653). Near the Weir (393652) and also at Lyepole Bridge solid rock outcrops at river level. At Lyepole Bridge the Covenhope valley swings away south-eastwards to break through the escarpment. The Lugg continues its course through a flat-bottomed steep-sided valley along the line of the major fault.

Dwerryhouse and Miller (1930) thought that the Sned Wood valley was cut during the advance of the ice "indicated by the fact that it contains the remains of a small transverse moraine left clinging to its sides at the present river level" (pp. 115-116). These deposits now exposed in a forestry road cutting can be seen to be a periglacial scree forming a marked feature at the foot of the valley slopes on the north side of the river (405658). They consist of crudely-bedded angular fragments of local rock. Deposits of similar type have been found at the foot of a steep slope near Shirley Farm at (386650).

The Covenhope valley is blocked with drift. Temporary exposures (laying of water pipes) along the middle of the valley near Black Thorn Wood revealed coarse gravels to about 4 feet. An elongated smoothly-rounded mound of gravels (409639) occurs in the centre of the valley to the south of Covenhope Farm.

The floor of the Covenhope valley has an "up and down" longitudinal profile. A survey along the length of the valley showed that it rises from 360 ft. O.D. (river level) near Lyepole Bridge to 466 ft. O.D. near Covenhope Farm and then descends to 300 ft. O.D. (river level) at the Lugg near Mortimer's Cross. Both sections of the valley have only tiny streams.

Two wells were sunk near Covenhope Farm in the early 1940's. The first close to the pool near the farm (407644) reached solid rock at 60 feet after passing through fine brown silt. A start was made on lining the well with bricks but these were in short supply during the war years and work was held up. Before the lining could be completed the sides of the well collapsed. Later a second well was excavated higher up on the side of the valley (407642) but this was entirely in solid rock.

The longitudinal section surveyed along the valley taken in conjunction with the first well section suggests that the rock floor could slope continuously from the Lugg at Lyepole Bridge.

Before the diversion of the Lugg through the Kinsham Channel there was probably little drainage in the present Lugg valley between Shirley Farm and Lyepole Bridge. This may have followed the Sned Wood valley with a valley floor at a much higher level than at present. Alternatively drainage may have used the Covenhope valley at this stage or have been diverted to it later by ice at Aymestrey blocking the outlet through the Sned Wood valley.

The drift in the Covenhope valley is of Wye Glacier origin and another possibility is that the Sned Wood Channel was cut when the ice front rested at Shirley Farm and the Covenhope valley was also blocked by ice advancing along the southern slopes of the escarpment. The Kinsham Channel would then have been cut on retreat of ice from Shirley by outwash from ice still filling the Presteigne Basin. The glacial history of this section of the Lugg is so complex that it is difficult if not impossible to determine the exact sequence of events.

SUMMARY AND GENERAL CONCLUSIONS

At the maximum glaciation ice filled both the Presteigne and Wigmore basins to a high level. During the final stages of ice recession lakes came into existence in both basins held up by drift deposits and ice blocking former drainage outlets. Overflow led to the cutting of new channels and river diversions.

In the Wigmore Basin meltwater channels provide evidence that ice reached levels above 800 ft. O.D. This ice appears to have entered mainly by the Brandon Hill-Tatteridge Hill Gap having moved from the west down the upper valleys of the Teme and Clun and also from the north into the lower Clun valley. The upper sections of the valleys of these two rivers contain only local drift but ice moving into the Clun valley south of Aston-on-Clun brought northern erratics (including Longmyndian rocks) to the neighbourhood of Jay Bridge north of Leintwardine.

Ice in the Clun valley appears at one stage to have been at a high level against the west-facing slopes of the escarpment extending from Tatteridge Hill to View Edge for boulder clay containing mainly Ludlovian and Downtonian rocks is found at 650 ft. O.D. near Marlow and meltwater channels with intakes above 800 ft. O.D. lead eastwards down the dip slopes towards the Onny valley north of Ludlow.

On the southern limb of the Ludlow Anticline a number of meltwater channels, the best example of which is the Goggin Channel, originate at the crest of the escarpment. The presence of meltwater channels with their heads south of the escarpment such as those at Richard's Castle suggest that at one stage ice was present on the south side of the escarpment.

The occurrence of boulder clay containing Longmyndian erratics at heights up to at least 750 ft. O.D. at the entrance to the Lodge Farm meltwater channel indicates that ice moved southwards down the Clun Valley into the Letton embayment reaching a high level against the north-facing slopes of the Deerfold.

Ice blocking the valley at Aymestrey resulted in a steadily rising water level within the Wigmore Basin the central part of which eventually became free of ice. The lake which came into existence found an outlet over the col at about 430 ft. O.D. in the Wenlock Limestone feature near Downton and through a channel already in existence across the strike of the Aymestry Limestone feature. The gorge is regarded as a multi-stage feature, a breach through the Aymestry Limestone feature having been deepened to below 430 ft. O.D. at a stage when ice filled the Wigmore Basin. The gorge was further deepened with overflow across the col in the Wenlock Limestone feature.

The Aymestrey gravel feature reaches its highest point at the top of the scarp feature north of the village and the surface of the gravels slopes northwards to a general level of a little below 420 ft. O.D. These gravels were deposited by northward flowing meltwater entering the Wigmore Lake when at a level of about 420 ft. O.D.

In the Teme valley a temporary halt stage in the recession of the ice is marked by morainic drift at Lower Stannage and the associated Brampton Bryan outwash terrace which grades to the 420-430 ft. level of the Wigmore Lake.

Ice remained in the Clun valley at this stage but the height of the surface of the kame terrace near Jay Bridge at betwen 420 and 430 ft. O.D. may have been controlled by an englacial water table at the same level as that of the lake in the Wigmore Basin. Gravels were deposited at the 420-430 ft. O.D. level near the lake overflow at Downton and further evidence for the existence of this lake is provided by the 430 ft. O.D. shoreline feature at Leinthall Starkes and by lake floor deposits (silts and laminated clays) near Yatton and in the river-bank exposure near Nacklestone.

No evidence has been found in the form of terraces or shorelines to support Dwerryhouse and Miller's (1930, p. 117) postulation of an ice-dammed lake at between 500 and 600 ft. O.D.

The main entrance for ice to the Presteigne Basin were the Lugg and Hindwell Brook valleys. That ice reached heights above 700 ft. against the west-facing slopes of Shobdon Hill is indicated by meltwater channels leading down to the Lugg valley from the col above Byton. To the south on the dip slopes of the Wapley Hill-Shobdon Hill escarpment Wye Glacier ice deposited kettle moraine.

At an early stage ice in the Presteigne Basin pushed through the col at Kinsham between Shobdon Hill and Cole's Hill as far as the Limebrook valley and Shirley Farm, where morainic deposits may mark its maximum eastern extension.

During de-glaciation there was a lake in the Presteigne Basin held up by drift deposits with a surface at about 510 ft. O.D. in the Byton Gap. Retreating ice in the Lugg and Hindwell Brook valleys left recessional moraines at Little Brampton and Ackhill and the flow of meltwaters down these valleys deposited the gravel outwash terraces graded to the lake level, which appears to have been about 508 ft. O.D., the height of the surface of the gravels of the Stapleton terrace at Upper Moor, the Hindwell Brook terrace at Rodd and the Clatterbrook terrace near Presteigne. The downcutting of the Kinsham overflow channel resulted in the draining of the lake and the establishment of the Lugg in its present course.

Evidence for the existence of a lake in the Presteigne Basin is given by the laminated clay lake-floor deposits, which were revealed by excavations at Presteigne.

The evolution of the drainage pattern in the section of the Lugg valley between Shirley Farm and Mortimer's Cross was complex and the present evidence can be interpreted in several ways. Bore hole evidence indicating the great depth of the drift deposits at Covenhope Farm shows that the rock floor of the valley probably slopes continuously from near Lyepole Bridge to Mortimer's Cross. It seems likely, therefore, that the Covenhope valley was used by drainage prior to the advance of Wye Glacier ice into the valley causing diversion to the Sned Wood valley.

The drift deposits at Lower Stannage in the Teme valley, near Marlow and Oaker in the valley of the Clun, at Little Brampton in the Hindwell Brook valley at Ackhill in the Lugg valley and across the Norton Brook at Norton represent temporary halting stages in the recession of the ice in these valleys.

ACKNOWLEDGEMENTS

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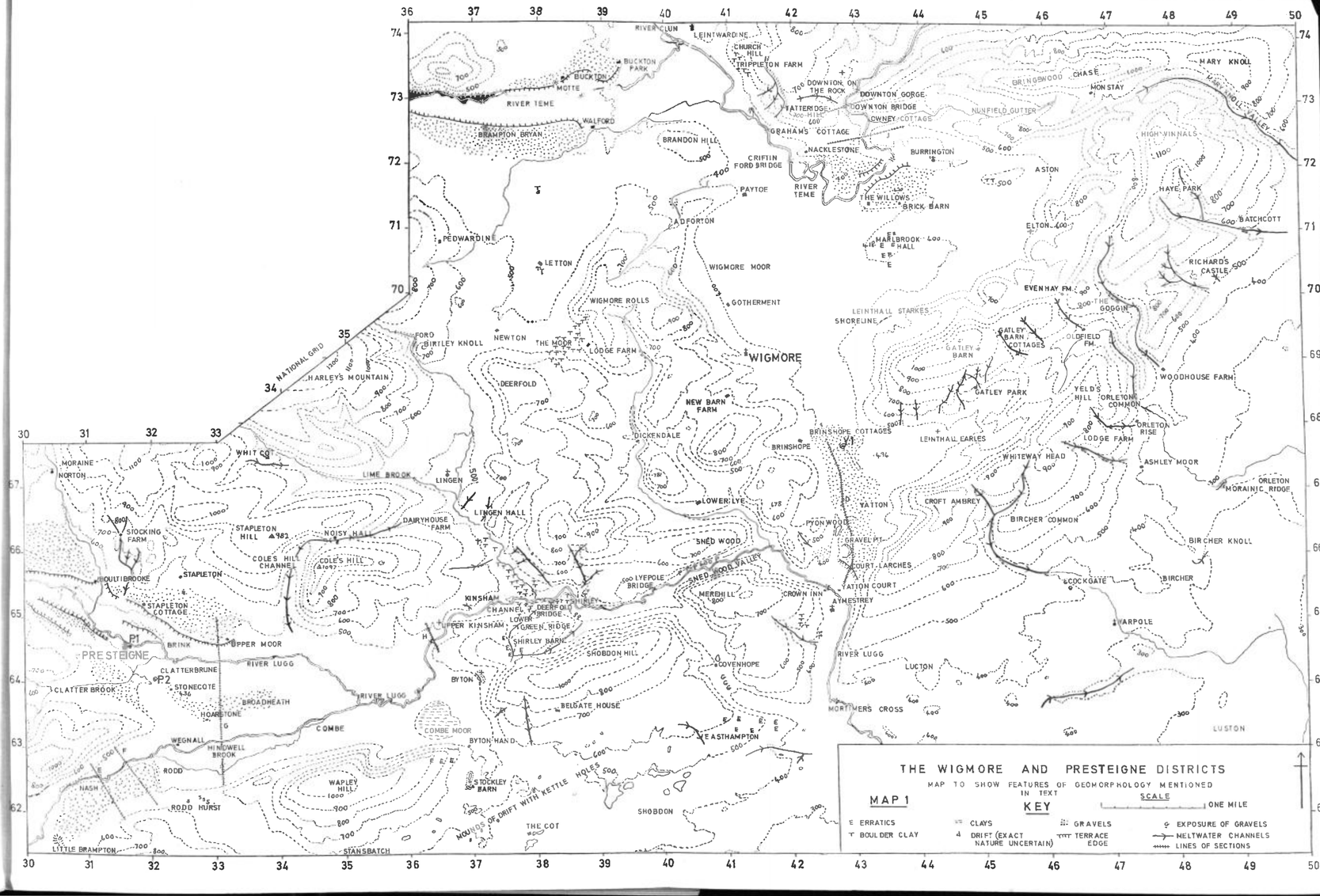
REFERENCES

ALEXANDER, F. E. S. 1936. The Aymestry limestone of the Main Outcrop. *Q. Jl geol. Soc.* Lond. 92, 103-115.
BROWN, E. H. 1960. *The Relief and Drainage of Wales.* University of Wales Press, Cardiff.
CHARLESWORTH, J. K. 1929. The South Wales End-Moraine. *Q. Jl geol. Soc.* Lond. 85, 335-58.
COX, A. H. 1912. On an Inlier of Longmyndian and Cambrian Rocks at Pedwardine (Herefordshire). *Q. Jl geol. Soc.* Lond. 96, 1-11.
CROSS, P. 1966. *The Glacial Geomorphology of the Wigmore and Presteigne Basins and some Adjacent Areas.* Unpublished M.Sc. Thesis. University of London.
DAWKINS, W. B. 1869. On the Distribution of British Postglacial Mammals. *Q. Jl. geol. Soc.* Lond. 25, 197-217.
DWERRYHOUSE, A. R. and MILLER, A. A. 1930. The Glaciation of Clun Forest, Radnor Forest and some Adjoining Districts. *Q. Jl geol. Soc.* Lond. 86, 96-128.
EARP, J. R. 1940. The Geology of the South-western Part of Clun Forest. *Q. Jl geol. Soc.* Lond. 96, 364-72.
ELLES, G. L. and SLATER, I. L. 1906. The Highest Silurian Rocks of the Ludlow District. *Q. Jl geol. Soc.* Lond. 62, 195-222.
GRINDLEY, H. E. 1915 Mortimer's Cross Valley and the Downton Gorge. *Woolhope N.F.C.*, 65-68.
GRINDLEY, H. E. 1954. The Wye Glacier. Chapter 3 in *Herefordshire*: *Woolhope N.F.C.*, Gloucester 36-47.
HOLLAND, C. H. 1959. The Ludlovian and Downtonian Rocks of the Knighton District, Radnorshire. *Q. Jl geol. Soc.* Lond. 114, 449-482.
HOLLAND, C. H., LAWSON, J. D. and WALMSLEY, V. G. 1959. A Revised Classification of the Ludlovian Succession at Ludlow. *Nature*, Lond. 184, 1037-39.
HOLLAND, C. H., LAWSON, J.D. and WALMSLEY, V. G. 1963. *The Silurian Rocks of the Ludlow District, Shropshire.* Bull. British Museum (Nat. Hist. Geology) 8, No. 3. London.
LAWSON, J. D., WALMSLEY, V. G., HOLLAND, C. H., PRICE, J. H. and STRAW, S. H. 1956. The Ludlovian Rocks of the Welsh Borderland. *Advmt. Sci.* Lond. 12, 563-70.
LUCKMAN, B. H. 1966. *Some Aspects of the Geomorphology of the Lugg and Arrow Valleys.* Unpublished M.A. Thesis. University of Manchester.
MANNERFELT, C. M. 1945. Nagra glacialmorfologiska formelement. *Geogr. Annlr* 27, 1-239.
MILLER, A. A. 1948. Glacial Sections in the Welsh Borderland. *Geol. Mag.* 85, 366-67.

MURCHISON, R. I. 1839. *The Silurian System.* Murray, London.
POCOCK, T. I. 1925. Terraces and Drifts of the Welsh Borders and their Relation to the Drift of the English Midlands. *Zeitschrift für Gletscherkunde* 14, 10-38.
SISSONS, J. B. 1958. Supposed Ice-dammed Lakes in Britain with Particular Reference to the Eddleston Valley, Southern Scotland. *Geogr. Annlr* 40, 159-187.
SISSONS, J. B. 1960. Some Aspects of Glacial Drainage Channels in Britain. Part I. *Scott. geogr. Mag.* 76, 131-46.
SISSONS, J. B. 1961. Some Aspects of Glacial Drainage Channels in Britain. Part II. *Scott. geogr. Mag.* 77, 15-36.
STAMP, L. D. 1919. The Highest Silurian Rocks of the Clun Forest District (Shropshire). *Q. Jl geol. Soc.* Lond. 74, 221-46.
WHITAKER, J. H. McD. 1962. The Geology of the Area Around Leintwardine. *Q. Jl geol. Soc.* Lond. 118, 319-51.



The Roman Forts at Leintwardine and Buckton

By S. C. STANFORD

with reports on the samian by B. R. HARTLEY

Summary

The Leintwardine position was held by three successive forts in the following sequence: Jay Lane, Buckton and Leintwardine itself. Excavations have established the outline plan of these three, and have shown the presence of a vicus at Leintwardine down to c. A.D. 160. The bath-house attached to the Leintwardine fort has also been extensively excavated.

DIMENSIONS WITHIN DITCHES

Site	*Probable Date*	*Feet*	*Acres*	*Metres*	*Hectares*	*Probable Fate*
Jay Lane	*c.* 50-78	537 x 448	5.6	163.7x136.6	2.24	Dismantled
Buckton I	*c.* 90(?)-120	? x 451	?	? x137.6	?	Rebuilt
Buckton II	*c.* 120-130	*c.* 574 x 451	*c.* 5.9	175.0x137.5	2.36	Dismantled
Leintwardine I	*c.* 70-160		*Vicus*	occupation		Unknown
Leintwardine II	*c.* 160-196	*c.* 880 x 680	*c.* 14.0	*c.* 268 x 207	5.47	Unknown
Leintwardine III	3rd C.	,,	,,	,,	,,	Abandoned
Leintwardine IV	4th C.	,,	,,	,,	,,	Burnt

The dates are based mainly on samian ware and with consideration for the historical context. There are no building inscriptions from the forts and few coins.

INTRODUCTION

EXCAVATIONS in 1958 demonstrated the military character of the Roman site of *Bravonium* at Leintwardine, and led to a series of excavations under the writer's direction and the auspices of the Club from 1959 to 1967. The elucidation of this complex of forts is due largely to Mr. W. A. Baker's aerial searching, which revealed the new sites at Buckton and Jay Lane. Mrs. Yvonne Stanford has given constant and invaluable assistance in the field and in the preparation of this report, and thanks are due to Mr. W. T. Jones, assistant director and photographer at Buckton, and to many volunteer helpers. (1) For permission to dig I am greatly indebted to Messrs. C. A. Griffiths, C. C. Harley, F. Hodges, C. Holmes, J. P. Manford, W. S. Mee, B. Phillpotts, C. W. Poiner and the late Mr. A. G. Noakes. The Ministry of Public Building and Works kindly gave permission for the excavations on scheduled sites in Leintwardine village and financed the rescue excavations in Mill Lane and at Roman Rise. Generous financial assistance is gratefully acknowledged from the River Wye Guild, the Ministry of Works, the Woolhope Club, the University of Birmingham, the Haverfield Trustees, and the Society of Antiquaries. For assistance with equipment and services of many kinds I am indebted to many friends, (2) and I would like to record my debt to Mr. B. R. Hartley and the late Sir Ian Richmond for their advice and helpful criticism, to Mrs.

K. Hartley for her reports on mortaria, to Miss M. Archibald for identifying the coins, to Mr. M. R. Hull for dealing with the brooches, and to Mr. R. P. Wright for transcribing the graffiti. Mr. B. R. Hartley and Professor S. S. Frere read the original draft, and made many corrections and suggestions incorporated in this version, for which I am deeply grateful. The Club acknowledges with thanks the substantial grants from the Council for British Archæology towards the cost of publishing the reports on Jay Lane and Buckton, and from the Ministry of Public Building and Works towards the reports on sites B and E at Leintwardine. The finds have been generously donated to Ludlow Museum by Mrs. A. G. Noakes (Roman Rise), and Messrs. C. A. Griffiths (Leintwardine, site E), C. C. Harley (Buckton), C. Holmes (Chantreyland), and B. Phillpotts (Jay Lane). The site records have been deposited in the same museum.

In 1958 on site A it was shown that a second-century fort underlay Leintwardine village (SO 404742) and had a timber-laced rampart. It had succeeded some earlier occupation. (3) This work was followed by a three week season in 1959 just to the south of the 1958 excavations (fig. 20). Meanwhile the lack of evidence for earlier military defences had led Mr. W. A. Baker to scan the area for an alternative fort site which he found in 1959 close to Buckton Park Farm (SO 391373). A trial trench across the defences revealed a rampart and stone wall of the early second century, which at that time were thought (incorrectly) to be contemporary. (4) Before this interpretation had been modified by the excavation of Buckton's east gate in 1960, Mr. Baker's search for its first-century precursor was rewarded by the discovery of the third site at Jay Lane north-west of Leintwardine (SO 400746). Three weeks of excavation in Buckton's *praetentura* was undertaken after the harvest in 1961, and in the winter of 1961-2 a series of week-end excavations planned the defences of the Jay Lane fort in detail. Topography and finds confirmed this as the earliest auxiliary fort to be expected; but the first-century material from Leintwardine village was still not explained, and the finds from Buckton left room for a fort underlying Leintwardine village utilized between the Jay Lane and Buckton occupations. This idea guided much of the subsequent work in Leintwardine but it seems preferable now to explain those features which kept it alive as the product of a *vicus* occupation down to *c.* A.D. 160.

In March 1962 in the field south of the School (site C) it was shown that the timber-laced rampart went further south than anticipated. When it was learned that a bungalow was to be erected south of Chantreyland (site B) the Ministry of Public Building and Works sponsored a rescue excavation with paid labour for four weeks in February 1964. (5) The site proved to be badly eroded but the remains of two courtyard buildings were identified, the earlier of timber and the later one of stone. Other buildings had occupied the area in the later periods.

Meanwhile the substantial remains of a bath-house had been revealed in a pit dug for an oil-storage tank in Mill Lane west of Griffiths' Garage, site E. As the adjacent area was to be levelled for a coach park the Ministry of Works sponsored a rescue excavation in March and April 1964. The opportunity to complete the excavation came in May 1967. This has shown that the baths were first constructed

in the second century before the Leintwardine fort was built. The size of this fort was established in March 1964 when the south-western corner of the timber-laced rampart was exposed in the preparation of a site for a chicken-house just north of Mill Lane (site D). It became clear that the timber-laced rampart encloses nearly twelve acres (4.8 hectares). It is argued below that this large fort was a supply-base and that the alteration of the bath-house in its second period related to it.

THE POSITION OF LEINTWARDINE

Fig. 1 shows Leintwardine in relation to the network of forts in Wales and illustrates its central position, 75 Roman miles by road from Chester and 64 from Caerleon. Itself on the crosisng of the River Teme, it is midway between the Severn

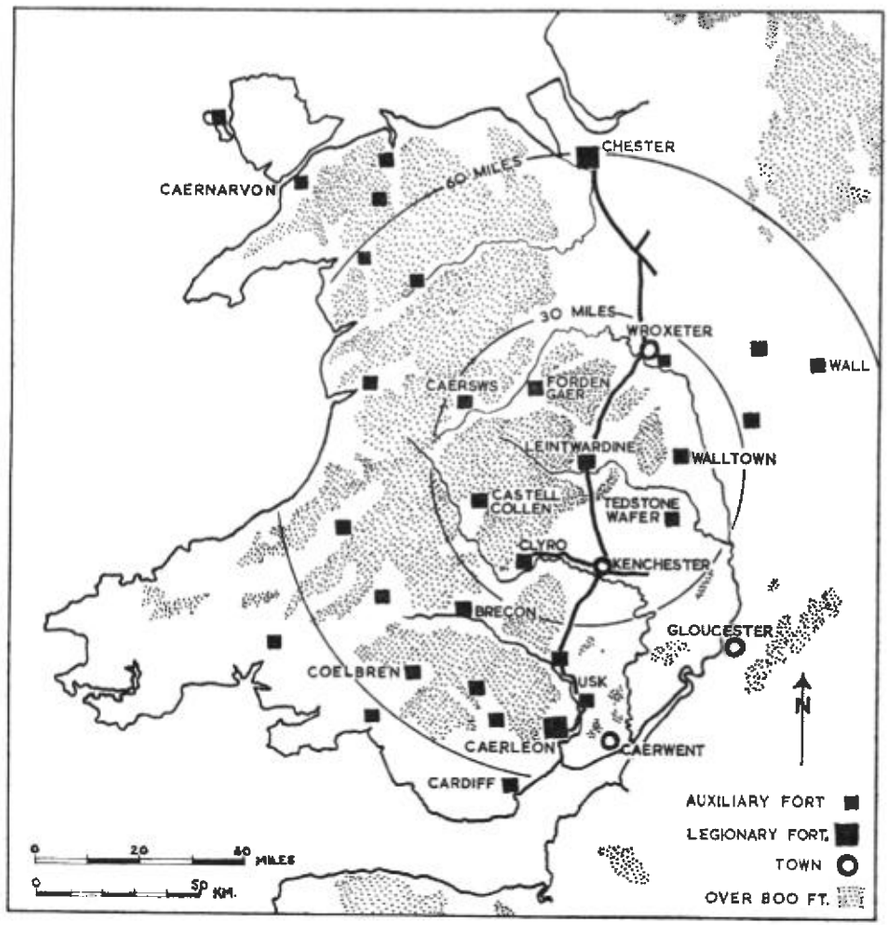


FIG. 1
The position of Leintwardine in the Welsh Border.

crossing at Wroxeter and that of the Wye south of Kenchester. In terms of its early history it may be significant that the bridge-points at Wroxeter and Hereford are both 27 Roman miles away by road. Leintwardine is central in the hills enclosed by the middle and upper reaches of the Severn and Wye, a well-placed hub for the control of this area, enjoying also the function of a transit station in any re-deployment of troops in the central Marches. This broken country with deep narrow valleys and forested escarpments would have required close supervision and its control would have been crucial for the rearward security of conquest or punitive expeditions moving into Wales along the broader avenues of the Wye or Severn valleys.

Leintwardine lies at the point where the Chester - Caerleon military road approaches most closely the west coast of Wales, while the north-western and south-western extremities of the Principality are approximately equidistant from it. This centrality can hardly be relevant to the duties of the local auxiliary garrisons before the middle of the second century but must have influenced the choice of Leintwardine as a supply-base after *c.* A.D. 160 and needs to be borne in mind when the temporary marching camps shown on fig. 2 are considered. Seven are already known within eight miles of Leintwardine, two large ones—at Walford and Brampton Bryan—less than a mile from the Buckton fort. The Walford camp (SO 393722) with dimensions of 1240 ft. by 900 ft. (378 m. x 274 m.) encloses 25.6 acres (10.36 hectares), ([6]) while the Brampton Bryan camp (SO 379723) is about 50 acres. ([7]) Further excavations at Bromfield (SO 485775) in 1968 indicate dimensions of 1060 ft. by 845 ft. (323 m. x 258 m.) an area of 20.5 acres (8.32 hectares). ([8]) The camp at Stretford Bridge south of the crossing of the Onny by the Watling Street West (SO 429842) is estimated to be between 35 and 50 acres (14 to 20 hectares), measuring 1400 ft. by at least 1100 ft. (427 m. by at least 335 m.). ([9]) The other three temporary camps shown on fig. 2 are small; that beside the Buckton fort (SO 390733) is only 3.6 acres (1.5 hectares) ([10]) and those at Craven Arms (SO 430837) and Upper Affcot (SO 444864) ([11]) probably little larger.

The smaller camps may well be related to purely local activities or the movement of single units engaged on small-scale operations, but the larger sites speak of important campaigns. Walford is large enough to have held about 6,000/7,000 men, perhaps a legion and two or three auxiliary regiments, and Bromfield could have held a legion and perhaps a cavalry regiment. Brampton Bryan and Stretford Bridge would take forces twice as large. ([12]) There is no dating evidence from any of these four camps but on size alone at least two campaigns might be anticipated. There is sufficient warrant from the history of the Leintwardine forts to believe that there can have been several occasions when sizable forces may have passed this way; it is not necessary to regard all the camps as products of the early years of conquest as suggested by Dr. St. Joseph ([13]) There are appropriate contexts in A.D. 50 when Scapula may have marched through en route for the final encounter with Caratacus; in 57 when Quintus Veranius was campaigning against the Silures; in 58-59 during the first two successful seasons of Paullinus; in 61 when the province had to be pacified after Boudicca's revolt; in 74-75 in the opening phases of the Silurian cam-

paign of Frontinus; in the late second century following the burning of the Leintwardine fort; in the Severan re-settlement following the disasters of 196-7; or in the third quarter of the fourth century when the new defences of the towns join with recorded history to indicate troubled times on the frontiers of the empire. If the excavations at Leintwardine have taught us anything it is that throughout the Roman occupation the base for operations against upland Wales passed through Leintwardine; and the local garrison was a key piece in the network of forts controlling the western frontier.

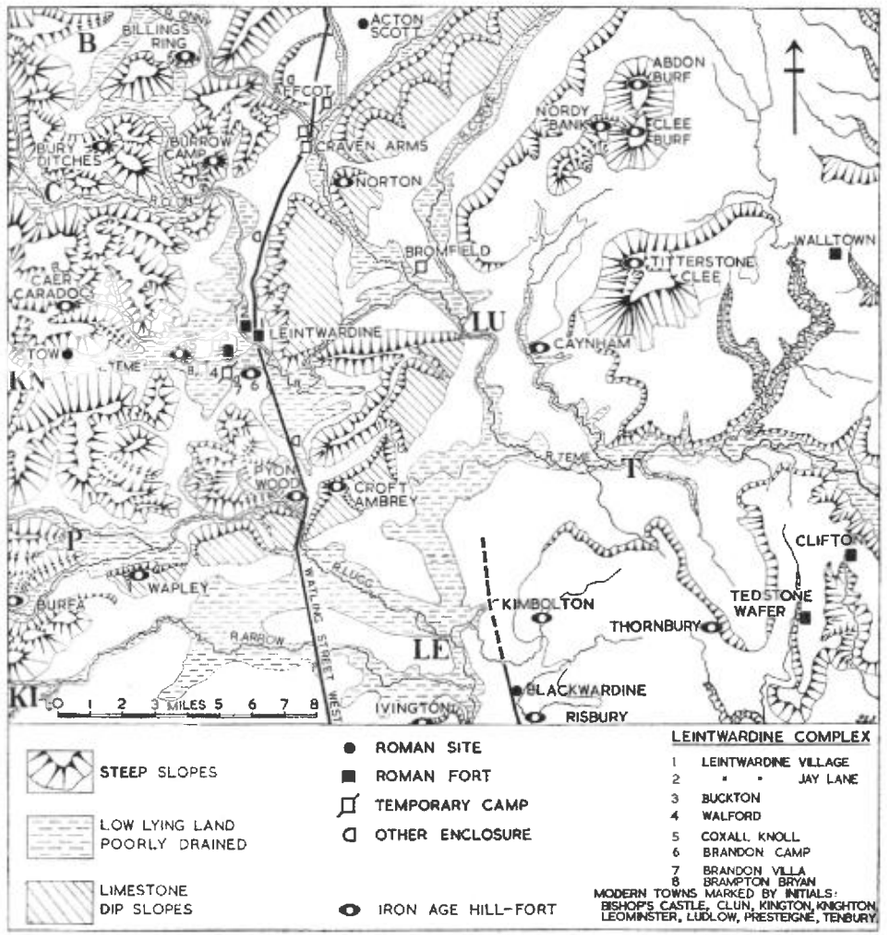


FIG. 2
The Central Marches—topography, Iron Age and Roman sites.

Fig. 2 shows also the intensity of the pre-Roman occupation of the area around Leintwardine. No fewer than eleven Iron Age hill-forts lie within ten miles of the site, including some of the most formidable in the Welsh Border. All the evidence from Croft Ambrey ([14]) and Caynham Camp ([15]) points to permanent occupation, and although these fortified villages were abandoned under the Romans it must be likely that many of the warrior-farmers remained in the area. Indeed the maintenance of the Leintwardine garrison might be seen to reflect the threat of local rebellion.

An interesting aspect of the Leintwardine forts is the movement of the garrison between three sites. Dr. St. Joseph has pointed out that this shifting of fort site is rare, although matched at Lyne in Peebleshire. ([16]) The geographical character-

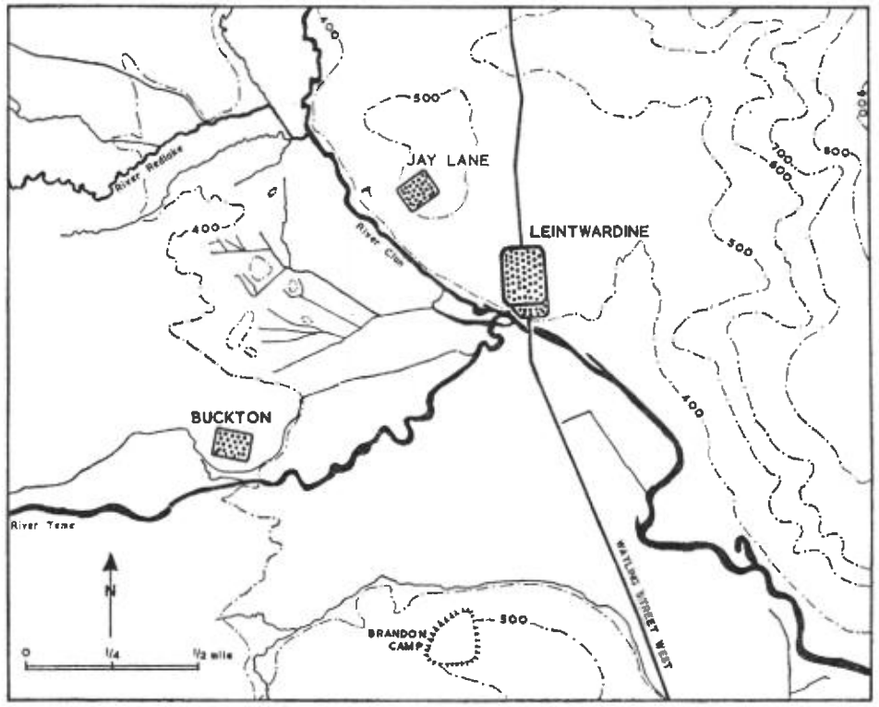


FIG. 3
The Leintwardine forts—the local geographical setting.
(Based on the Ordnance Survey 6-inch maps. Crown copyright reserved.)

istics of the three sites are shown on fig. 3 and pl. IA. Jay Lane and Leintwardine are east of the River Clun. The former, on the hill north of the village at 500 ft. (152 m.) above sea level, enjoys an all-round field of view, only restricted eastwards by the hills of Mocktree and Downton. On fig. 4 the comparative visibility from the three sites is shown, demonstrating the advantage of Jay Lane, particularly for

distant sights along the valleys approaching the Teme-Clun confluence. It had the tactical advantage of steep approaches from the north-west and south-west. The early Leintwardine *vicus* and second-century fort were set on lower ground between Jay Lane and the River Teme, the bath-house being placed on the strip of terrace on the north bank. With rising ground to the north visibility from Leintwardine was more restricted, although the full run of Watling Street West south to the Aymestrey Gap was still in view.

Buckton was the best site of the three. An almost level erosion terrace at 403 ft. (123 m.), only about five feet above the flood-plain of the Teme, was available with water at hand. The move to the west of the Clun left the southward approach of Watling Street West concealed behind Brandon Hill, but westwards and northwards almost the whole field commanded from Jay Lane was brought into view. The move from Jay Lane to Buckton was therefore explicable in topographical terms. The site was more convenient than Jay Lane now that immediate local defence was of less concern than the initiative of the offensive, while the other possible site, at Leintwardine itself, was not chosen presumably because it was already occupied by a *vicus*. However the return after *c.* A.D. 160 to Leintwardine on the eastern side of the Clun is more difficult to explain. The abandonment of Buckton because of flooding of its approaches is possible, although Mr. C. Hunt's photographs of the 1961 floods show that Buckton remained clear of the water; and

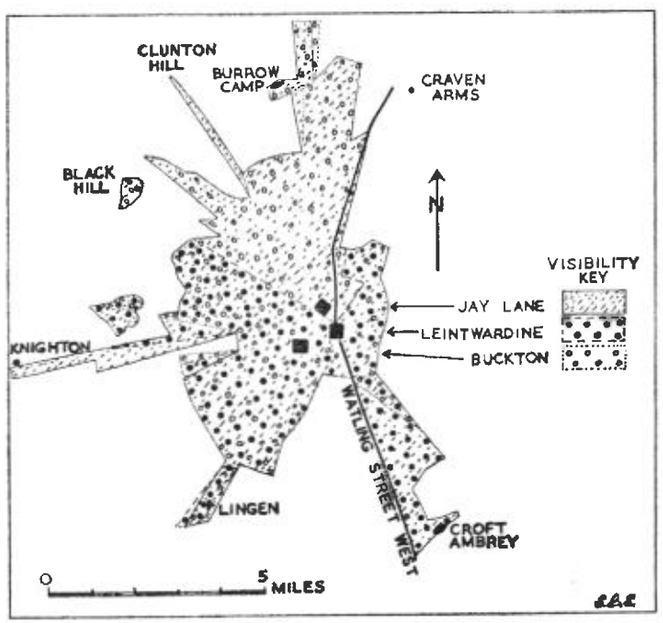


FIG. 4
Visibility from the Leintwardine forts.

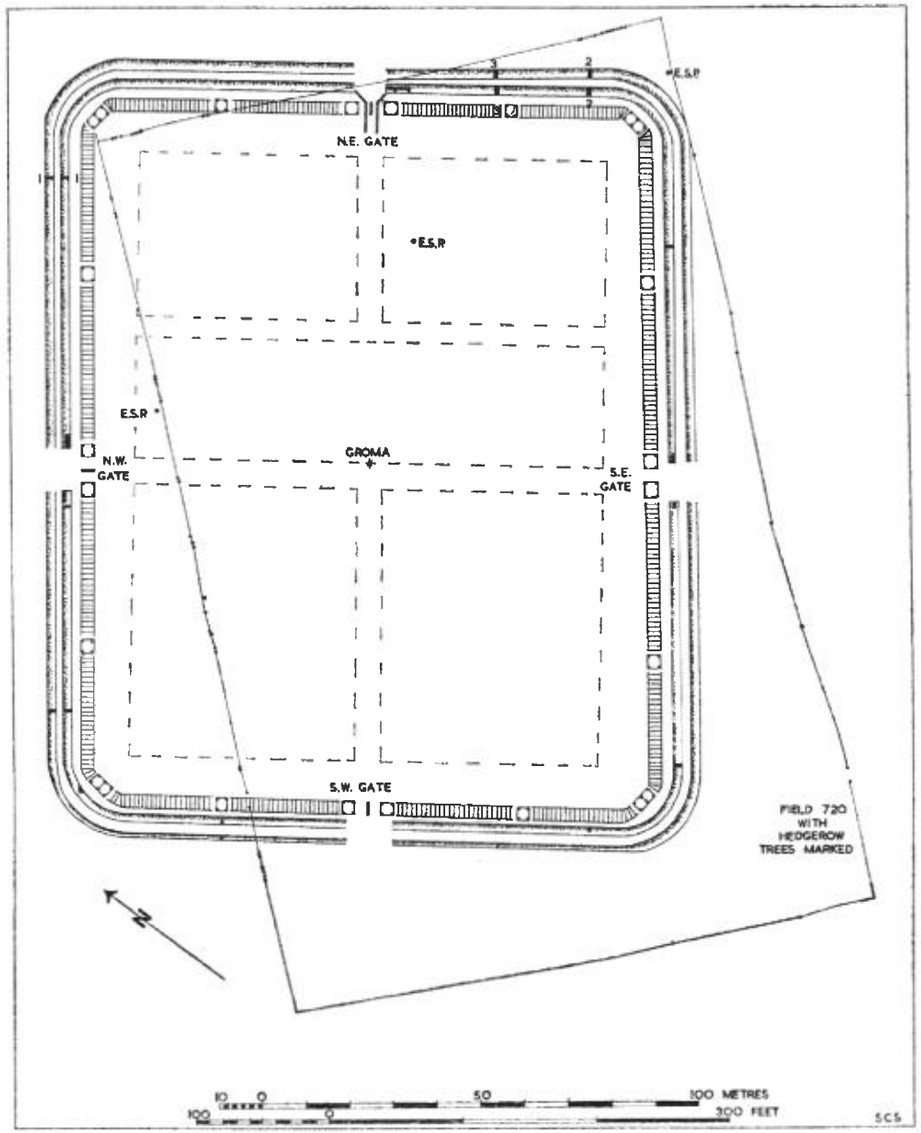


FIG. 5
Jay Lane—Plan of fort. (Excavated features in solid black.)

in this area flood waters fall as quickly as they rise, and any inconvenience could only be temporary. It is more likely that the advantages of location east of the Clun and on the Watling Street West were paramount for the large supply-base established at Leintwardine. It may be that the *vicus* had been destroyed in the mid-second century, and the site was thus vacant, but the recorded burning may equally be the product of a demolition party who had cleared the *vicus* to make way for the new fort.

THE JAY LANE FORT

From Mr. Baker's photographs (pl. IB), in which the ditches showed as crop marks in ley grass, it was possible, once the north-eastern side had been located by trenching, to plot the fort outline against a detailed ground survey showing hedge-row trees and electricity supply poles. This made possible the very economical excavation of the defences shown on fig. 5. Preliminary testing of the interior showed that over most of the site the plough had grazed the shale bedrock six or nine inches below the surface. No occupation surfaces remained and only the bottoms of post-holes or post-trenches could have been expected to survive in the interior. No surface indications mark the line of the ditches. The fort faces south-west, looking towards Coxall Knoll and the Upper Teme valley, and on this side the slope to the Clun is steep. The approach from the north-west is fairly steep, too, but on the other two sides the ground falls gently.

DEFENCES

Excavation confirmed the presence of a double system of ditches. The ditches are V-shaped, 7-8 ft. (2 m.) wide and 3 ft. (1 m.) deep where well-preserved on the north-east side (fig. 6). A ravelin 5 ft. wide (1.5 m.) separates them, and upon this a small bank may have been raised to increase the counterscarp of the inner ditch. On the steeply sloping north-western and south-western sides the ditches are shallower (e.g. section 1-1 on fig. 6) and the outer ditch is especially weak. Although erosion must account in part for this, the impression of section 1-1 is that the outer ditch was never completed. Possibly it reflects the start of additional fortifications during the occupation of Jay Lane, the cause for which passed before the work was finished. The inner ditch at the north-west gate may have been recut (pl. IIA).

No trace of a rampart bank was found, nor were there any post-holes for a timber-framed rampart or palisade. Had there been such timber-work the holes would certainly have survived on the north-east side. The rampart must then have been provided with a turf revetment, a suggestion that is supported by the character of the ditch filling. Whereas the outer ditch was filled with pale yellow-grey clay, the weathered product of the subsoil and shale of the hill, the inner ditch was consistently filled with disintegrated turf and pink clay like that found immediately below the modern humus on the hill-top. It appears that the turf rampart had been thrown down into the ditch. Assuming that rampart towers would have been contained within the body of the rampart, there would have been a berm 8 ft. (2.5 m.) wide between ditch and rampart.

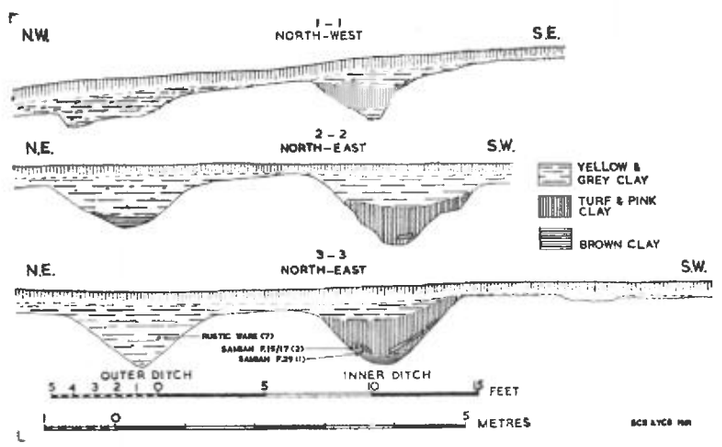


FIG. 6
Jay Lane—Sections of defences.

A further clue to the rampart's form may be the unexpectedly small gate-towers, of two ranks of posts rather than the more common triple series. If these towers are a guide to the width of the rampart this will have been only about 9 ft. 6 ins. (2.9 m.), as narrow as the turf-revetted rampart at Hod Hill. ([17]) A rampart of this type and width will not have stood more than 10 ft. (3 m.) high to the rampart walk, although a breastwork and merlons set in the top would have brought the effective heights to 15½ ft. (4.7 m.).

GATEHOUSES

The gatehouses were identified by large post-pits in the natural clay and shale, shown in detail on fig. 7. The pits dug to receive and allow the centring of the posts were square or oblong, with sides 2-3 ft. (0.6—0.9 m.) long, and were 2½-3ft. (0.8 m.) deep from the modern surface. The holes for some of the squared posts, of 7½-8 ins. (19-20.3 cm.) scantling, showed as pink or brown clay with occasional flecks of charcoal against the bright yellow packing of clay and shale (pl. II B & C). Such conditions indicate that the post stumps rotted *in situ* having perhaps been cut off. In other pits an irregular area of pinkish clay showed where the post had been rocked or dug out.

These post-holes show that three of the four gatehouses were built upon two rows of five posts. At each end a tower 9½ ft. (2.9 m.) square overall would have provided a guard-room at ground level. The space between the towers was divided centrally by two posts leaving a passage 9½ ft. (2.9 m.) wide either side. At the north-east gate two drains passed through these two middle areas. The unusual robber-trench (if such it is) that cuts away the middle three front posts of this gate was nearly as deep as the post-pits, and suggests that heavy timber thresholds had

also been removed. If these had been set as deep as this some sign of their equivalents would have been seen at the north-west gate, where a beam only about 1 ft. 3 ins. (38 cm.) deep might have been ploughed away. There two of the relevant post stumps were left to rot *in situ* and the third was rocked out (section G-H). By contrast the posts of the north-east gate had to be dug out anyway, and the unusual linear approach could have ben guided by a trench first dug to remove threshold beams. It would seem on reflection that the matter was further bedevilled by our inability to distinguish clearly in excavation between the robber-trench and the post-pit filling. Even so we may note that on this interpretation the threshold beams will have been set between the posts and neither forward nor rearward of them; the lucky chance that the two were attacked from opposite sides has left us with a short vertical stretch of beam-trench side at the south-eastern end, right on the gatehouse post alignment, while at the north-western end there is not room for more than 3 ins. (8 cm.) of timber to reach the tower behind the presumed post position. The beam may well have been rebated to allow doors 4 ins. thick to close against a 4 ins. (10 cm.) sill. It is likely that such a beam would have been used to pivot the gates, but if the gates were hung on hinges the equally deep setting of all the posts would allow all three middle posts to be used to hang the double-leaved gates envisaged for each portal. Not all Roman gateways appear to have had thresholds but one in timber is recorded at Old Burrow, Devon, in a mid first-century context, placed between the inner pair of four tower posts and set in a shallow groove 1 ft. 3 ins. (38 cm.) wide; ([18]) and sill beams were used at the front and rear of the gate passage at Pen Llystyn. ([19])

The alignment of the front posts of the north-west gate and the back posts of the north-east gate allows the whole gateway to be thought of as a unitary structure with an upper floor carried through at rampart walk level. This is also possible within the limited evidence recovered from the south-west gate, although here erosion and weathering had reduced the post-pits to shallow, ill-defined hollows in which no certain posts could be recognized. The surviving features are not inconsistent with a gatehouse of just the same plan as the two already described.

The south-eastern gate was different. This again had two rows of posts, but only four pairs of them. The space between the ditch ends (fig. 5), giving a causeway 28 ft. wide, might indicate a double entrance as elsewhere, leaving the north-eastern four posts, overlapped by the ditch, as a single guardroom and tower; but such a lopsided structure would look very odd, and Professor Frere suggests to me that this was probably a gate with a single portal and a tower on either side. This arrangement would suit better the apparently careless setting of the south-western post which is 7 ins. (18 cm.) out of alignment with the rest of the front row. The ditch then will have been cut (leaving 28 ft. causeways sufficient for dual portal gates) before the towers were constructed.

CORNER TOWERS

Only the south corner tower was excavated. On the basis of the four posts located this is assumed to have been a six-post structure, 15 ft. by 8 ft. (4.6 by 2.4 m.)

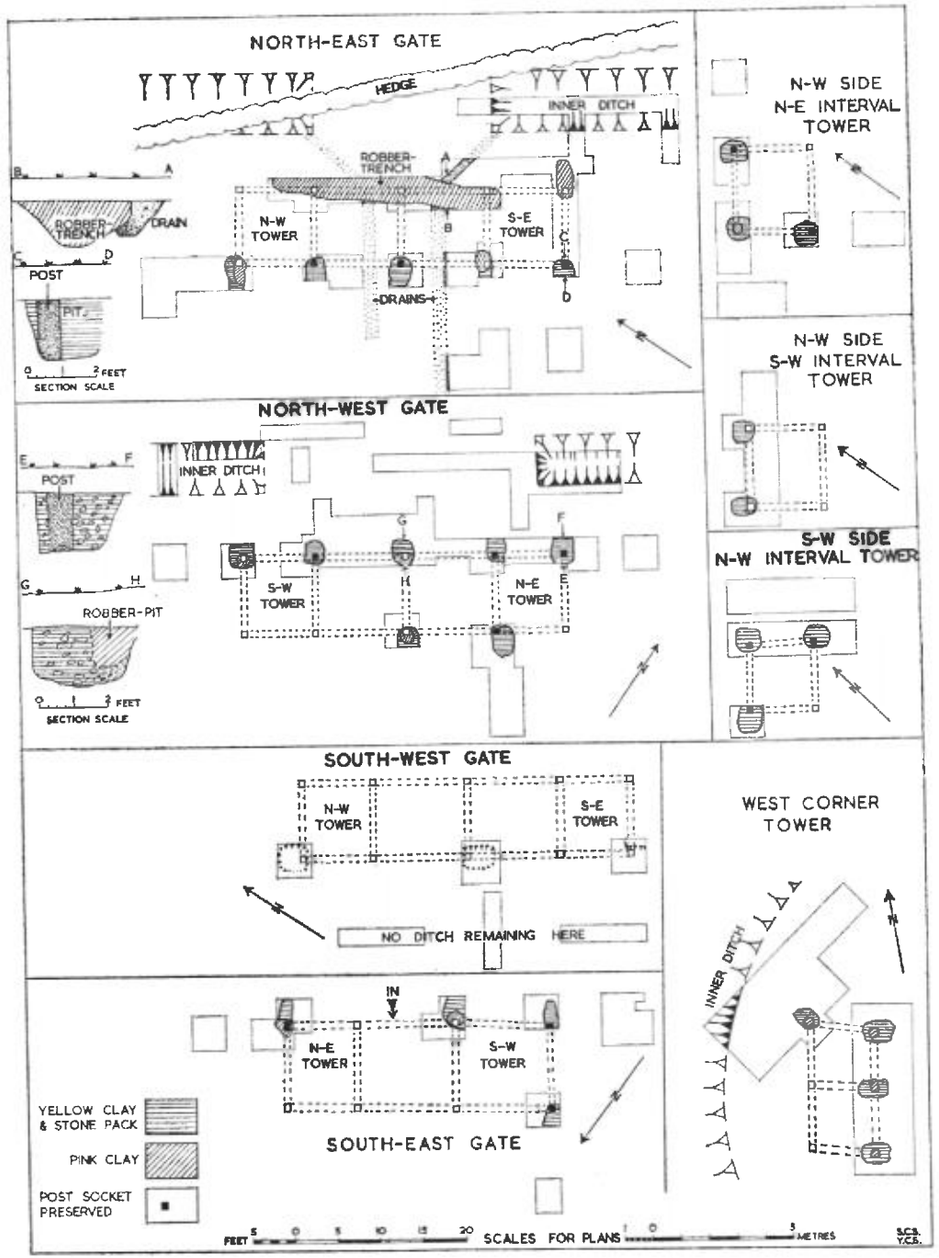


FIG. 7
Jay Lane—Defence towers.

overall. The surviving post-pits were very shallow on this steeply sloping corner and the post positions ill-defined, probably through weathering and root penetration rather than robbing. The only angle obtained might reflect a deliberate outward splaying of the plan but could equally be regarded as careless emplacement for a rectangular structure. Professor Frere has drawn my attention to the deliberate splaying of a corner tower at Kunzing ([20]) where, however, five posts were employed, three at the front and two at the back. The two towers excavated at Valkenburg ([21]) show few exact right angles between the walls, but the equal spacing of all the posts remains constant. If the latter was the main consideration, the misplacing of one post would drag others with it, and accordingly this has been allowed for in the restoration on fig. 7.

INTERVAL TOWERS

Between the gates and corner towers were set interval towers with four posts each. Three were excavated, two on the north-west side and a third on the south-west side. The north-east tower on the former side was the best preserved, showing that the posts were of the same scantling and set in pits of similar size and depth as those for the gateway timbers. The excavated towers show a range from 8 ft. 3 ins. to 10 ft. square (2.5 to 3.1 m.).

THE FORT PLAN (fig. 5)

The double ditches were interrupted by causeways for the four gates. The dimensions within the lip of the inner ditch are 537 ft. (163.7 m.) by 448 ft. (136.6 m.), an enclosed area of 5.6 acres (2.24 hectares), and an axial ratio of 1 : 1.19. Within the ramparts, i.e. from the inner faces of the gateway towers, the dimensions are 507 ft. (154.5 m.) by 413 ft. (125.9 m.), 4.8 acres (1.94 hectares) and a ratio of 1 : 1.23.

The quadrilateral thus defined is very nearly rectangular, the greatest error ($2\frac{1}{2}°$) occurring in the southern corner. Using the planned outer edge of the rampart as a reference and a *groma* position at the intersection of the fort's longitudinal axis with the north side of the *via principalis* the errors in setting out allow the methods employed to be deduced. The cardinal intersections at the *groma* are within half a degree of a right angle, indicating care in setting out the two axes of the fort. The first sights would then fix accurately the direction and length of the fort axes. Thus the distances from *groma* to north-west and south-east gates are equal at 216 ft. (65.8 m.). The north-east gate was set 258 ft. (78.6 m.) from the *groma* and the south-west gate at 251 ft. (76.5 m.); the difference probably represents two Roman paces. Neither the north-east nor the south-west gate is central to its side; the difference on either side being 9 ft. (2.7 m.) and 5 ft. (1.5 m.) respectively. Since these two sides are laid out on almost level lines the discrepancies suggest very strongly that the corners of the defence quadrilateral were set out not by linear measurement from the gates but by the intersection of less carefully taken *groma* sights. The maximum error in the sights from the gates is 2° at the south-east gate position. With the four corners fixed in this way the remaining tower posts could be marked out by linear measurement. On the long sides the interval towers were set up within 1 ft. (0.3 m.) of midway between the edge of the *via*

principalis and the corners, and on the short south-western side within 3 ft. (0.9 m.) of the equivalent position between the *via praetoria* and the corner. At Pen Llystyn the towers are 25 ft. (7.6 m.) closer to the gates than to the corners.

The plan of Fendoch indicates that the building area within the defences could be more accurately set out within the defence quadrilateral, presumably by combining linear checks with the *groma*. In attempting a closer definition of the interior plan and building area it must be noted that this will have been independently aligned on the fort axes. The width of the major roads may be assumed to be no less than the 20 ft. (6.1 m.) of the gateways. The width of the *intervallum* space and roads is unknown, but is conjecturally restored on fig. 5 as 30 ft. (9.1 m.) as at Pen Llystyn (at Fendoch it is only 23 ft. near the gates). The depth of the central range will be no less than about the 90 ft. (27.4 m.) at Pen Llystyn and is so shown on fig. 5. In the *retentura* the areas either side of the *via decumana* would measure 122 ft. (37.2 m.) by 164 ft. (50 m.) and must impose a plan of buildings set *per scamna*, parallel to the short axis. With dimensions of 200 ft. (61 m.) by 164 ft. (50 m.) in the corresponding halves of the *praetentura* and a north-east to south-west slope the same orientation is likely there. Planned thus, Jay Lane could take six buildings of barrack size in the *retentura* and ten plus two narrower buildings in the *praetentura*. This is more than was required by the milliary infantry regiment at Fendoch, and presumably indicates the presence of stables and extra stores needed for horses. The site is too small for either a cavalry or part-mounted milliary regiment. Cavalry *alæ* of 500 men are known to have occupied Chesters (5.75 acres) and Benwell (5.64 acres), so that Jay Lane, with 5.6 acres, is only just below the known limits for such units. It may be suggested that Jay Lane most probably held an *ala quingenaria*, 500 cavalry.

FINDS

All the finds came from the ditch filling on the north-east side and outside the north-west gate. In the absence of evidence for more than one phase of construction they may be taken as a group to indicate the period of occupation, although most of them will have been deposited on the abandonment of the fort when the rampart was thrown down and the ditches filled.

Samian (fig. 8) — by B. R. Hartley

1 Form 29, South Gaulish. The salient features of the decoration are the panel of horizontal leaf-tips in the upper zone, and the gadroons over a straight wreath in the lower. While both occur occasionally on bowls by potters whose activity began or extended into the Flavian period (R. Knorr, *Terra Sigillatagefässe des ersten Jahrhunderts*, 1952, Taf. 83 C, Vitalis; Taf. 40 B and D, Meddillus), they are more normal with pre-Flavian potters (*loc. cit.* Taf. 44 B, Murranus; Taf. 2 C, Ardacus). Ardacus offers the closest parallel to this piece (and see Karnitsch, *Die Reliefsigillata von Ovilava*, p. 82, commenting on Taf. 2, 3, for a similar verdict). Although it is certainly pre-Flavian, it has none of the characteristics of the early Claudian form 29, and manufacture *c.* A.D. 50-70 is probable. *Bottom of inner ditch in section* 3-3 (*fig.* 6).

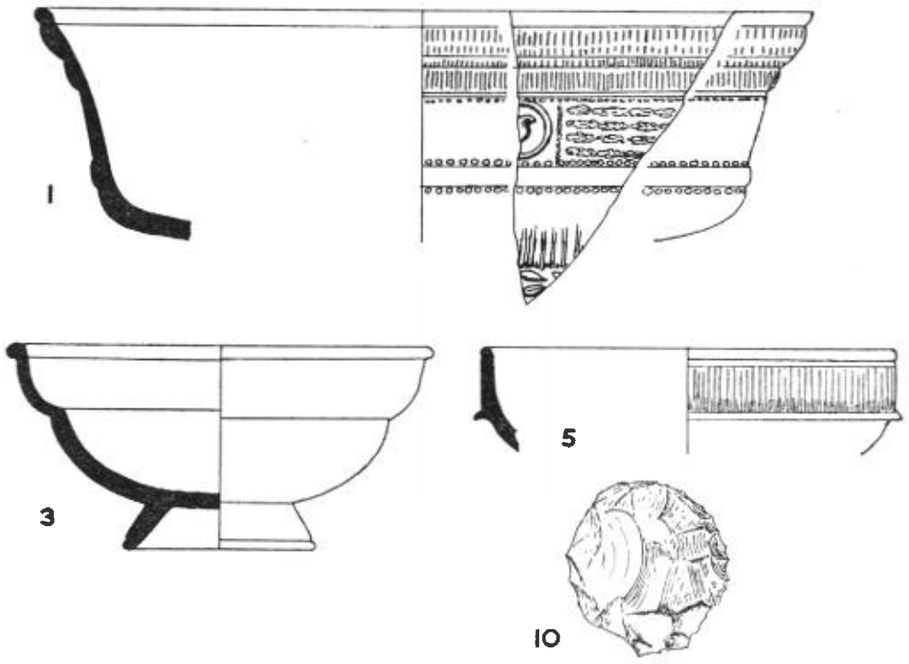


FIG. 8
Jay Lane—Samian (¼) and flint scraper (1/1).

2 Form 15/17, South Gaulish. Neronian or early Flavian. *Found with No.* 1.

3 & 4 Two large form 27's, both South Gaulish, and both with external grooves to the foot-ring. The fragmentary stamps (OF . . . and . . . I.M.) are not helpful, but both cups are either Neronian or Flavian. *Inner ditch filling north-east of north-western causeway.*

5 Form 24/25, South Gaulish. Pre-Flavian, probably Neronian. The form is very rare in Flavian contexts, and is usually one of the best indicators of pre-Flavian occupation. *Inner ditch filling south-west of north-western causeway.*

6 Form 18 (or 18 R), South Gaulish. Perhaps more likely to be Flavian than earlier, but there is little to go on. *Upper filling of inner ditch in section* 2-2 (*fig.* 6).

Coarse Ware (*fig.* 9)

7 Pale grey with linear rustication. *Upper filling of outer ditch, section* 3-3 (*fig.* 6).

8 Light grey. *Inner ditch north-east of north-west causeway.*

9 Light brown. *Inner ditch south-west of north-west causeway.*

FIG. 9
Jay Lane—Coarse pottery (¼).

Other finds

10 Flint thumb scraper (fig. 8). This flint type prevailed through the local Iron Age (e.g. at Croft Ambrey) and seems to have persisted into the early Roman period. *Unstratified in section* 3-3. Part of a similar flint was found in the upper filling of the inner ditch in section 2-2. In the inner ditch outside the north-west gate traces of six bronze coins, utterly corroded, were found; none was legible.

THE DATE OF THE JAY LANE FORT

The tactical advantages of this emplacement on the hill are appropriate to a front-line fort established at the time of conquest; it marks the earliest military use of the Leintwardine position. Such as it is, the samian is all first-century with two pre-Flavian pieces and four that could be Neronian. Only for the small fragment No. 6 is there a greater likelihood of a Flavian date and that is far from certain. The coarse ware is compatible with a first-century date. Since there is reason to believe that most of these finds were deposited late in the fort's history we may use the latest items to provide a terminal date of *c.* 70-80 for the site. Since some of the gateway timbers were apparently not worth digging out, but were cut off when the fort was dismantled the occupation will have been of perhaps fifteen years or more duration. We are therefore looking towards the fifties for a fort-building context. Since Jay Lane is a key point on the Watling Street West its foundation is certainly to be related to a major development of the frontier and not to any minor campaign. Historically the bracket may be defined as between A.D. 47 and 61, i.e. from the start of Ostorius Scapula's governorship to the reorganization following Boudicca's revolt. Any further refinement must involve subjective judgement of the likely course of the conquest against the background of the Roman histories and the less eloquent testimony of the native hill-forts. It will be best reserved for the final section in which the Leintwardine forts are set against the developing pattern of the Welsh frontier.

SUMMARY

Jay Lane was established between A.D. 47 and 61 for an *ala quingenaria*. The fort faced south-west and was defended by a turf rampart with timber defence towers and two ditches. It was dismantled *c.* A.D. 70-80.

THE BUCKTON FORT

Two periods of construction are distinguished at Buckton; fig. 10 shows only period II when the stone wall was added to the rampart. It is based primarily upon Mr. Baker's photographs (pl. III) by reference to the 1959 field boundaries, electricity supply poles, and a former field boundary which shows as a dark crop mark across the eastern end of the fort. The 1959 plan ([22]) has been improved by

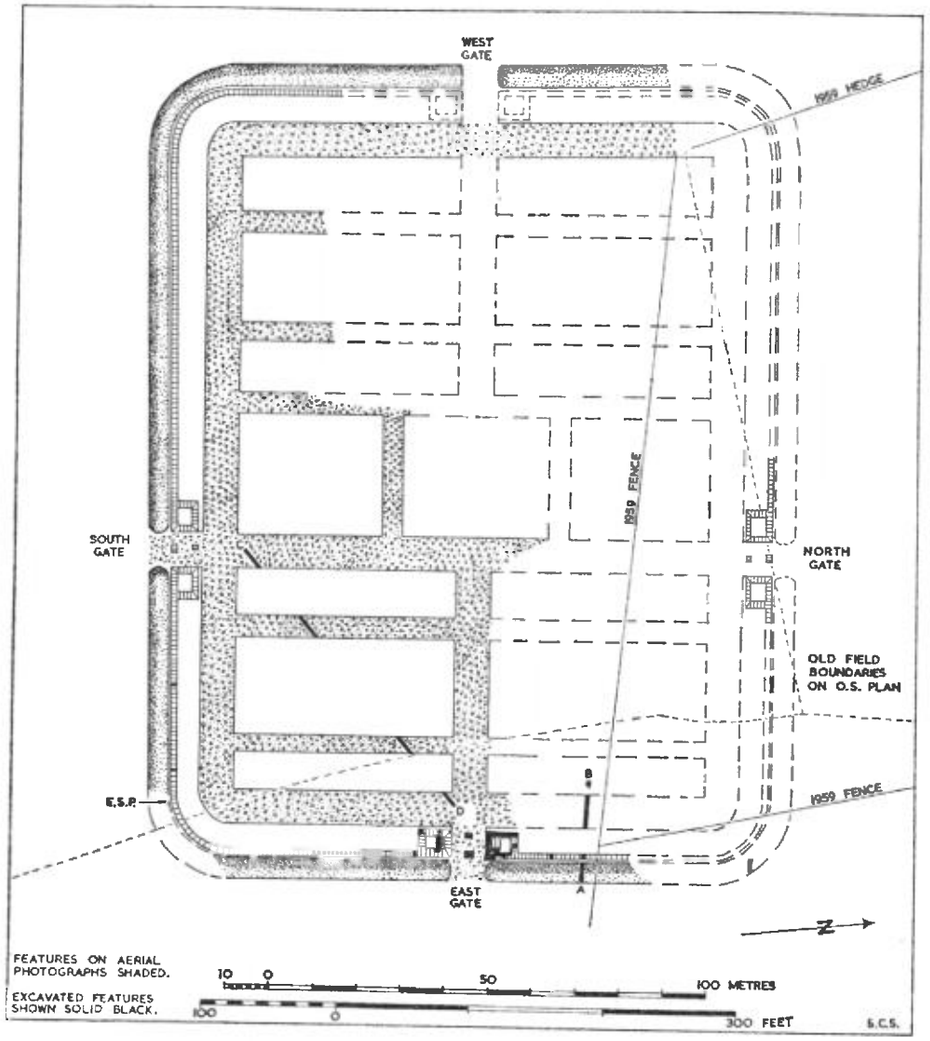


FIG. 10
Buckton—Plan of period II fort.

excavation which has located the east gate and determined the alignment of the eastern and southern defences. From this the width of the fort can be calculated on the assumption that this gate is central. In section C-D the *via principalis* was located, so determining the axis of the north and south gates. Westwards the length and internal divisions are based solely upon aerial photographs. These provide a clear intersection of the western defences with the 1959 crop boundaries close to the field corner, and their planned position must be certainly within ten feet (3 m.) of the true position. As planned the period II fort is 574 ft. (175 m.) by 451 ft. (137.5 m.) within the ditches, enclosing 5.9 acres (2.36 hectares).

DEFENCES: 1) *THE RAMPART* (fig. 11).

The additional evidence from the gateway and barracks necessitates a revision of the 1959 interpretation of section A-B. The rampart must be a composite feature with a stone wall added to an original turf bank. The whole of the surviving ditch profile is related to the stone period, as shown by the masons' chippings embedded on the inner slope and lying in the ditch bottom. The original ditch could have been little different from the punic ditch now preserved, 15 ft. (4.6 m.) wide and 4 ft. (1.2 m.) deep. The lack of any sign of re-cutting on a different alignment is compatible with the view that there was no long break between the two periods at Buckton. In section C-D (fig. 15) the turfy soil surviving above the shale subsoil is rarely more than 3 ins. (8 cm.) thick, supporting the 1959 impression that the site was largely stripped of turf before building. There is, then, no need to alter the estimate made in 1959 to provide a turf bank 12½ ft. (3.8 m.) high, narrowing to

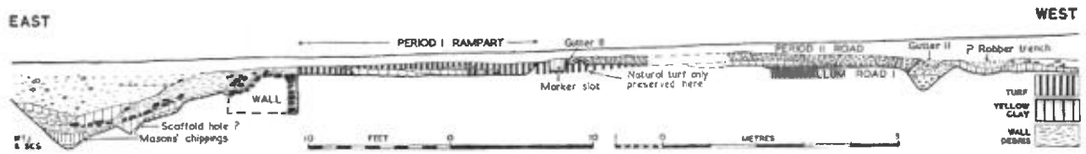


FIG. 11
Buckton—section AB across eastern defences.

6 ft. (1.8 m.) from a base 17 ft. (5.2 m.) wide. If there was a timber front revetment in period I it will have been eclipsed by the later foundation trench.

Into the front of this rampart was set a stone wall 4 ft. 10 ins. (1.47 m.) wide in a foundation trench 2 ft. 9 ins. (0.84 m.) deep. Purplish red sandstone was used, bound with dumps of mortar and concrete. Section A-B showed conclusively that the wall had been dismantled soon after the ditch was last cleaned. The dressed stone from the wall front had been removed, and the ditch largely filled with the small rubble from the core.

There is no sign of more than one ditch on any of the aerial photographs, but no excavation has been made to check this.

2) *THE EAST GATE (PORTA PRAETORIA)*, figs. 12 and 13, and pl IV

Period I. A timber gatehouse had its posts set in pits rammed with their own yellow clay and shale upcast, and roughly 4½ ft. (1.37 m.) square and 3½—4 ft. (1.06—1.22 m.) deep, large enough to allow the posts to be centred. The best preserved post sockets indicate posts 1 ft. (30 cm.) square (sections 3-3 and 4-4) set in two rows of five at 11 ft. (3.35 m.) centres. Consideration must be given to the possibility that there was an inner or outer third row of posts, for the check trenches for these are not as well placed as they should have been. Had there been an inner row at the same spacing,trench23, in which natural turf over shale was encountered at 2 ft. (0.6 m.), would have spliced the post. The same is true of trench 22, while trench 20 shows that a rearward post at this spacing would have stood in a drain. At Fendoch ([23]) the inner set of posts were closer to the central row than were the outer ones, but since Pen Llystyn ([24]), Longthorpe ([25]) and Hod Hill (east gate) ([26]) declare firmly that the intention was to space the rows of posts equally the Fendoch anomaly is best explained as caused by setting the central row 1 ft. (30 cm.) from the intended position. An error of the same order at Buckton would still have left an inner post showing in trench 23, and the pit at least should have shown in the corner of trench 22. Had there been forward posts to the towers one would have been found in the middle of trench 18. It may be safely concluded that, like Jay Lane, Buckton I had only two rows of posts for its gatehouse.

Below the period II robber-trench a lower slot across the top of the central forward post was partially preserved in section 7-7, filled with material similar to that in the post-pits. In its position this slot is reminiscent of the robber-trench across the Jay Lane gateway and may indicate that here too sill beams were used to close and possibly pivot the gates (pl. IVB).

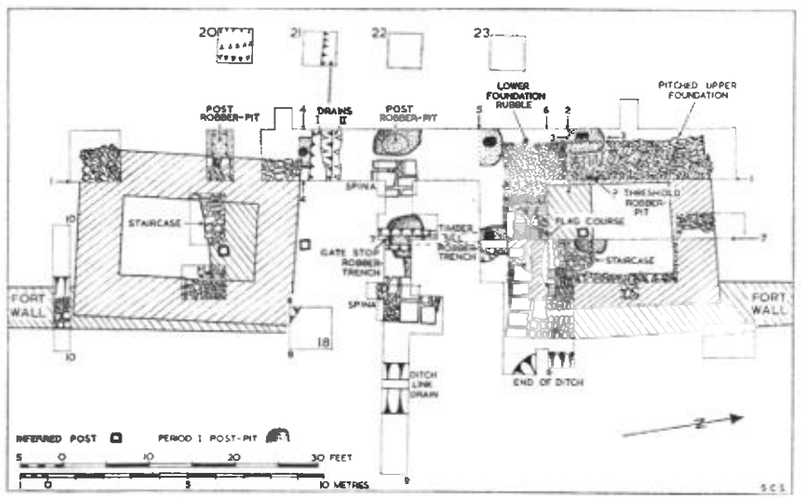


FIG. 12

Buckton—East gate plan.

The overall dimensions of the gatehouse are 44 ft. (13.4 m.) by 12ft. (3.7 m.) with twin portals 9¾ft. (3 m.) wide between the two towers. On the limited evidence available the southern tower is apparently only 10 ft. (3.1 m.) square over the centres of the posts. The general plan is thus the same as Jay Lane although the towers are on a somewhat larger scale and 1 ft. (30 cm.) posts are used instead of 8 in. (20 cm.) ones. The rampart was seen to exist at least 3ft. (0.9 m.) forward of the timber gatehouse in section 10-10, indicating that in period I the gateway was recessed from the rampart face. There was no evidence of any renewal of posts before dismantlement, for which the evidence is firm. Three of the seven post-holes excavated had been robbed and the central rearward robber-pit had been filled with limestone rubble. Such stone is not natural to the site and should therefore represent material brought in for the new gatehouse foundations. The special treatment given to this pit may be seen to reflect concern for the safety of the rear *spina* foundations only 9 ins. (23 cm.) to the east. There can thus have been no appreciable time between the dismantlement of the timber gateway and the construction of the stone one.

Although some of the posts were still sound at ground level and worth salvaging, others were cut off and their stumps left to rot *in situ*. The combination is similar to that at Jay Lane but we may here see the dismantlement necessitated by the increasing weakness of the timbers rather than by any changed military situation. We may assume that period I lasted for about the life of an average 1 ft. (30 cm.) post, hardly less than about 25 years.

Period II. There is no suitable building stone on the site itself. The limestone used in period II could have come from the hills east of Leintwardine 1¼ miles away; and the nearest source for the purplish red sandstone employed for most of the foundations and footings is Coxall Knoll, 1 mile away to the west and accessible without a river crossing.

The tower foundations were set 2 ft. 9 ins. (0.8 m.) deep from the period I surface in trenches 5 ft. (1.5 m.) wide, like those for the fort wall in section A-B. The bottom foundation course was normally of nine-inch (23 cm.) sandstone pitched dry. Above this smaller rubble was bound with clay, and in the north-west corner a topping of pitched limestone was preserved. Along the northern side of the roadway a carefully laid course of grey micaceous sandstone flags over the bottom foundations (section 6-6) may indicate a special concern to spread the load of the massive archways that would have spanned the twin portals (pl. IVD). On the same side the dressed red sandstone footings were mostly intact, and similar blocks had been used for the *spina* footings. Midway between the two piers a north-south robber-trench appears to have taken out a rearward stop for the gates (section 7-7). This trench was in general flat-bottomed and 1 ft. (30 cm.) deep and 1 ft. wide. Over the centre of the period I post-pit it was rather wider and deeper. Its filling was mainly gravel and limestone but also included a large dressed sandstone block and a piece of tile (pl. IVB).

Inside each tower a separate foundation was revealed, as wide and as deep as the tower wall foundations, but partly bound with mortar (section 7-7 and pl. IVC).

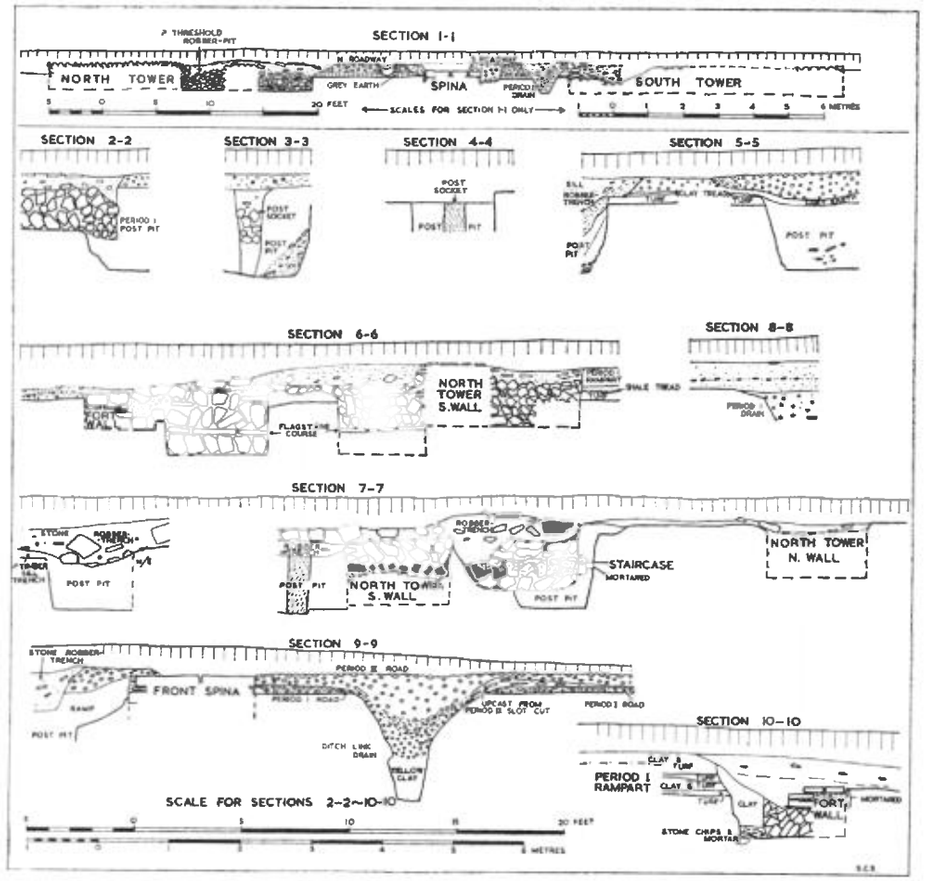


FIG. 13
Buckton—East gate sections.

They are most likely to mark the bases of internal staircases. A separate narrow foundation for the fort wall exists outside the north tower and has been inferred for the south tower. Coupled with the differences in alignment between the tower foundations and fort wall, this provides further proof that the gatehouses were constructed by gangs separate from the wall-building gangs. Although the narrowness of the fort-wall trench here argues for its excavation after the gate trenches had been dug, it must have been done before the gatehouse had risen above foundation level, since the footings of the north tower ride across both foundations.

What was probably a wooden drain through the south portal had been robbed at the final dismantlement; it had followed at a higher level the deep drain in period I (section 1-1). Across the front of the entrance a slot nearly 6 ft. (1.8 m.) deep is interpreted as a drain linking the ditches. Cut through the period I road, in its final form it must belong to period II. It would originally have held a wooden drain-pipe over which the slot had been backfilled with road gravel.

Restoration of the period II gatehouse (fig. 14). The irregularly dug foundations can provide only a rough guide to the dimensions of the building raised upon them. A more realistic estimate is probably to be gained from the restored plan, where, employing 3 ft. (0.9 m.) walls, it is shown that perfectly symmetrical towers could have been erected. The restoration of the plan of the *spina* piers above ground is based partly on the evidence of robbing and partly on the assumption that they would have been used to spring 2 ft. (0.6 m.) arches across and between the portals. The robber-trench to the rearward pier showed that this was no more than 4½ ft. (1.4 m.) square at road level. The footing of the forward pier is larger, but the robbing in section 9-9, coinciding with the extent of dressed surfaces on the footings, shows that its road-level east-west dimension was no more than 4½ ft. (1.4 m.). Its north-south length could have been 7 ft. (2.1 m.) but this would imply a north portal 1½ ft. (0.5 m.) narrower than the southern one; it seems preferable to regard the two piers as twins.

Hypothetical restorations include the responds for the arches drawn 2 ft. (0.6 m.) wide and projecting 1 ft. (0.3 m.), by analogy with those of forts on Hadrian's Wall, and the gate thresholds, which were not checked in the excavation. In the central stone-robbing pit a gate-stop is restored. Its width is determined by the pit, but the excavation was inadequate to determine its length.

If a single flight of stairs were placed on the foundations available, and provided with a 3 ft. (0.9 m.) landing above and below, it would only reach a height of 6 ft. (1.8 m.) with equal treads and risers. This is clearly too low for the rampart-walk level to which stairs here must offer access. The staircase is therefore restored in two flights, each 2¼ ft. (69 cm.) wide with 1 ft. (30 cm.) treads. With 10 in. (25 cm.) risers the stairs as drawn would reach 11¼ ft. (3.6 m.), or 14¼ ft. (4.3 m.) if steps were used on the turn. Within these limits may be placed the rampart height in

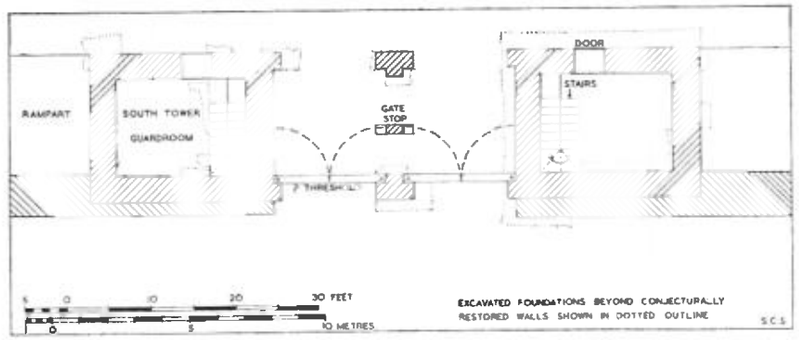


FIG. 14
Buckton—Conjectural restoration of plan of *porta praetoria*.

period II, an estimate that is comparable with that for the period I turf rampart, 12½ ft. (3.8 m.), and with the late Sir Ian Richmond's estimate of 15 ft. (4.6 m.) for Housesteads. ([27]) The setting of a two-flight staircase against the portal wall of the tower makes it unlikely that there was a doorway leading into the tower from the passage. The entrance to the tower is probably to be sought on the inner wall where a pit on section 1-1 might well have removed threshold stones.

The rarity of tile fragments in the gateway makes it reasonably certain that, as at Housesteads, the structure was not roofed with tiles; the upper floor was probably open to the sky.

As restored the gatehouse would have been about 72 ft. (22 m.) by 19 ft. (5.8 m.) overall, larger than any other excavated auxiliary fort gateway in Britain. This is accounted for by the internal staircase which is unknown at other auxiliary forts in the province. The only parallel known to the writer is at the east gate of the upper *colonia* at Lincoln where a single flight of stone steps 6 ft. (1.8 m.) wide is placed against the back wall of the north tower in what is believed to be a third-century construction. ([28])

Finds

No datable finds were sealed by the defences in either the rampart or gateway trenches. The evidence for date rests therefore with the pottery and coins found in the fort interior, and leans heavily on the assumption that the two periods recognized in the barracks are to be equated with the two periods of defences.

INTERNAL BUILDINGS

A trench 2 ft. (0.6 m.) wide (C-D on fig. 10) was dug diagonally across the southern half of the *praetentura* and was intended as a preliminary to the excavation of the buildings in this quarter. In the event, mainly because of the extremely dry conditions, it was not possible to do more than complete the one trench and open a 5 ft. (1.5 m.) square near its western end. The section C-D and plan of features revealed is shown on fig. 15. In the following description it will be convenient to refer to features in terms of their distance from C (marked on the section in feet).

The section shows: 1) At least two distinct periods of construction, e.g. the post-trench complex at 40 ft., and the two overlapping roads at 240 ft.

2) A change in the lay-out of the buildings between these two periods, which are assumed to equate with periods I and II at the gate, e.g. the period II *via principalis* (at 10 ft.) overlies a post-trench of period I at C.

3) The buildings of both periods in this area were of timber, their walls represented by trenches cut in the clay and weathered shale subsoil.

These post-trenches were mostly about 1 ft. (30 cm.) deep but varied from 9 to 21 ins. (25-53 cm.) wide at the bottom. Their fillings were hardly distinguishable from the subsoil, especially in the early stages before a thunderstorm revived the colours. This may be partly responsible for some of the anomalous alignments recorded, coupled with the small exposure obtained in this narrow excavation. Sometimes the wall-trench contained a narrow zone, about 9 ins. (23 cm.) wide of

slightly browner fill resulting from two phases of emplacement. It seems likely that most, if not all, were post- rather than sleeper-trenches.

At the ends of section C-D, where thick gravel roads have protected the underlying deposits, conditions are markedly different from those in the rest of the trench. At both ends a black soil layer with charcoal lies directly on the natural soil, and is covered in part by a floor, PS3(2), and an *intervallum* road of period I. A similar burnt layer was found below the *intervallum* roads in trench 23 inside the gateway and is interpreted as the product of burning unwanted scrub during the preparation of the site. At the northern end of C-D, over the culvert and post-trenches of period I, a thick layer of grey soil, PS3(3), produced a quantity of pottery and other finds. The impression was of rubbish tips that had been levelled or buried in shallow pits when the fort was rebuilt in period II. It was not possible to define intrusions in this with any confidence and accordingly the whole layer is treated as a period II construction deposit. It overlies gravel layers of period I which between 23 and 34 ft. probably mark a narrow street with its eastern edge 17 ft. (5.2 m.) east of the edge of the period II *via principalis*. Whether this street was the *via principalis* of period I or a minor road between barracks, an alteration of the fort plan in period II is indicated, and the positions of the north and south gates will have had to be changed.

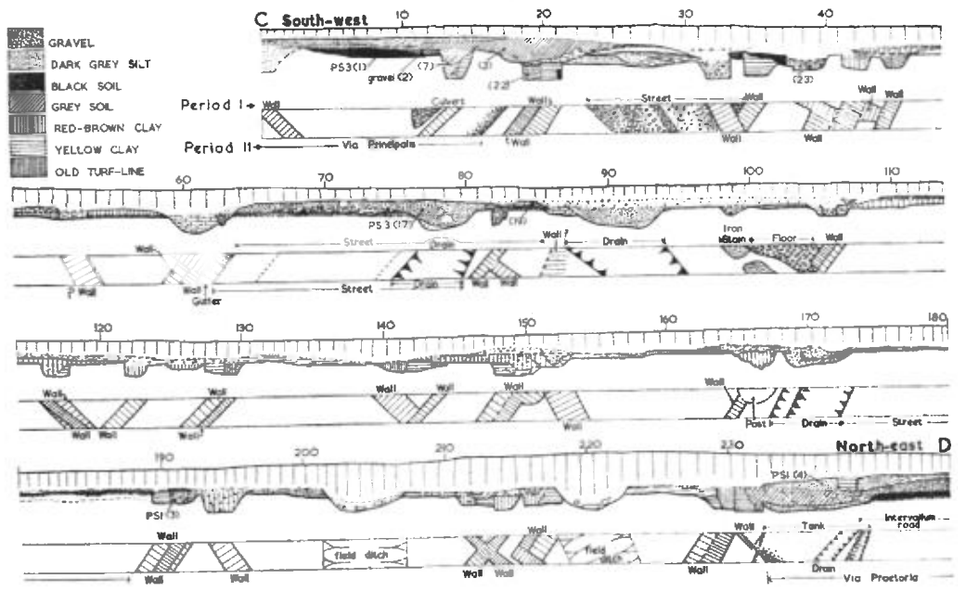


FIG. 15
Buckton—Section CD across S.E. *praetentura*.

Between 230 and 240 ft. an excavation 7 ft. (2.1 m.) wide and 1 ft. (30 cm.) deep from the original land surface trends north-south. On its eastern side it is overlain by 9 ins. (23 cm.) of the period I *intervallum* road which is roughly parallel to it. On its floor was a 3-6 ins. (8-15 cm.) layer of turfy subsoil material perhaps put in as a levelling. It is not possible to be explicit about the construction involved here, but everything favours the suggestion that it was probably a water-tank.

Restoration of building plans (fig. 16). From such a narrow exposure it must be hazardous to adopt any detailed conclusions about the buildings. Nevertheless, the development of the patterns to be expected, if the interpretations and inferences drawn above are correct, will serve as a check on them and may itself pose questions for future research. On fig. 16 this has been done allowing a certain amount of freedom in placing walls through the recorded post-trenches so as to produce an ideal rectangular lay-out.

The period II plan is probably close to reality. The aerial photographs have fixed the approximate positions and alignments, and section C-D has improved the definition, showing that the four buildings set *per scamna* are 28-32 ft. (8.5-9.8 m.) wide. The end walls have been inferred from the roads on the aerial photographs and the course of the presumed *via praetoria* near D; neither end has been checked by excavation. They are an appropriate width for barracks and, at about 160 ft. (48.8 m.), of a suitable length. Apart from the officers' quarters to be expected at the southern end against the *intervallum* road, they are apparently divided transversely into 12 ft. (3.7 m.) units although not all the partition walls restored were represented in the section. If a cavalry regiment is assumed, as at Jay Lane, there would have been eight *contubernia* for the sixty-four troopers, leaving the southern 57 ft. (18.4 m.) for officers. To increase the *contubernia* to the ten required for an infantry century would involve reducing the officers' quarters to 44 ft. (13.4 m.) and encroaching northwards on the *via praetoria*. With the kind of spacing involved the fort would hold at least sixteen buildings (other than the administrative ones), four more than Fendoch's milliary infantry garrison required. This reasoning supports the argument for a cavalry unit, an *ala quingenaria*, in period II.

The work of period I is in general more difficult to isolate and the reconstruction offered on fig. 16 is put forward with less confidence. A north-south iron stain with surface hollows containing fine grit at 99 ft. was interpreted in the field as an eaves-drip and this, along with the north-south drain at 90 ft. led to the hypothesis that the period I buildings may have been set *per strigas*, at right angles to the later buildings. With the north-south road at 34 ft. and the eastern *intervallum* road fixed by excavation, the length of buildings orientated thus would be only 144 ft. (43.9 m.), somewhat short especially in so large a fort. The barracks of even a small fort like Gelligaer were 150 ft. (45.8 m.) long. This arrangement also creates greater difficulty in accounting for the post-trenches excavated, and is therefore set aside in favour of a *scamna* lay-out of four buildings three of which are of the same overall pattern as those of period II. The iron stain would then be explained as the floor of an internal drain; the deep drain at 90 ft. may of course be a later feature altogether.

It would appear that the eastern three buildings were rebuilt more or less on their original lines, and it would be possible to regard the features in this area as the product of piecemeal repairs of buildings which remained in use. There is firm

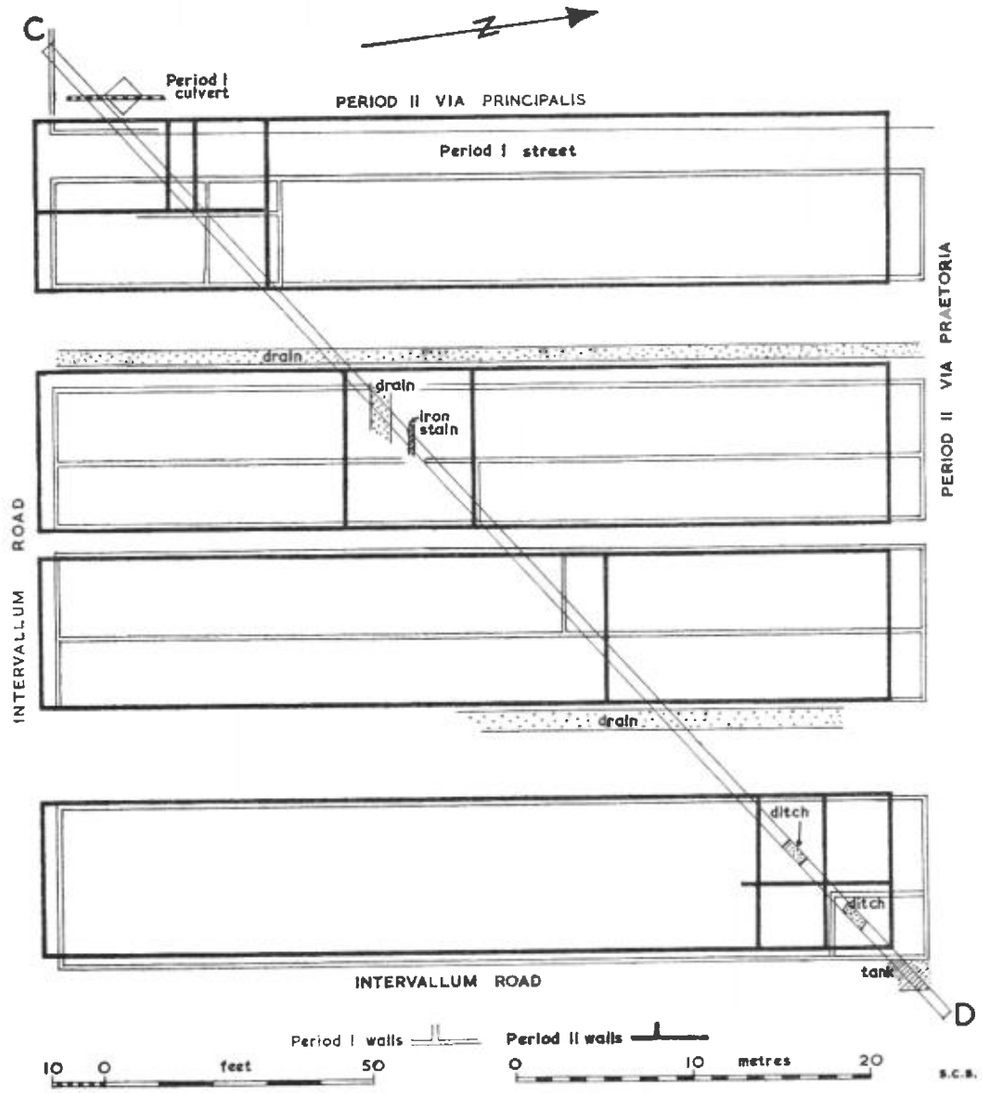


FIG. 16
Buckton—Conjectural building plan of S.E. quarter.

evidence for an alteration of plan in period II at 238 ft. where a period II drain overlies the period I tank, and at the western end where a wider ? barrack block replaces a narrow building of period I. The latter is related to alterations in the position of streets and must go with some radical change in the fort plan, presumably in period II when the defences and administrative buildings were rendered in stone. There is no evidence on the aerial photographs or from these excavations to suggest any alteration in the size of the fort, which probably held the same type of garrison in both periods. It is possible that the same unit remained at Buckton throughout, but there is no evidence to prove such an assumption.

THE FINDS FROM BUCKTON

Section C-D was opened, and the layers and finds labelled, in three sections: PS1 (174 ft.-D), PS2 (86-174 ft.) and PS3 (C-86 ft.). A square parallel to, and 1 ft. from, CD between 14 ft. and 19 ft. was labelled PS4. Only layers referred to in the description of the finds are numbered on fig. 15.

SMALL FINDS (fig. 17)

1 Bronze brooch; *from PS*3(7) *i.e. period I occupation.* The spring was found close to the brooch, but is not necessarily from it. I am indebted to Mr. M. R. Hull for the following report:

This is one of my variants on the Polden Hill type of brooch. I have two reasons for saying this—a) there is a small curved ridge or appendage between the head and the arms of the cross-bar, which is typical of the Polden Hill series; b) the outer end of each arm is partly (at least) closed, which again is typical of the series.

The series begins as two-piece with a rearward-facing hook which holds the chord of the spring. There is no trace of the hook on this specimen. But later the series has a lug with a hole through which the chord passes; we have no trace of this either. I have no doubt that in sophisticated times, later again, there need be neither hook nor lug, for the ends of the arms were usually closed by either a disc or a half-disc which was pierced to hold a thin axis-pin which went through the spring : this idea was usually combined with either hook or lug. But, again, we have no trace of a perforation in the closed end of the arm. But the spring was with the brooch! What held it in position? It *must* have had one of the above solutions.

Next as to type and date. The outstanding characteristic of this brooch is (after what I have mentioned) the plastic grooved ovals (like small leaves) sloping different ways, like distant chevrons. These usually appear as a real chevron closing the base of a long, narrow triangular ornament, on the upper half of the bow. This triangular ornament, *without* the chevrons, is limited in area thus—Wroxeter, six examples, one of which is possibly Flavian; Thirst House Cave; Bollitree; Segontium. The chevron closing the ornament is recorded from Andoversford; Penkridge; Gloucester; Kirkby Thore, and Corbridge. Wroxeter supplies an example completely covered with these chevrons. Spaced chevrons, like the Buckton ones, are recorded twice, once from Bollitree, and once (maybe twice) from Silchester. A close parallel is provided by some brooches which have spaced simple horizontal bars across the bow. They come from Wroxeter, Wycombe and London.

None of the above are really closely dated, they could very well fall in a bracket A.D. 80-150, or perhaps 80-120.

The type seems to be centred on Wroxeter.

2 Corroded bronze ring. *From an unsealed occupation deposit.*
3 Broken bronze ring. *Unstratified.*
4 Dark blue glass melon bead fragment. *As* 2.
5 Polished black vitreous stone; underside flat. *As* 2.
6 Polished white quartz stone similar in shape to 5. *Unstratified.*
7 Neck of a pale blue glass flask. *As* 2.
8 Iron arrow-head *cf.* Caerleon, *Prysg Field* II, fig. 19, No. 26. *As* 2.

COINS by Miss M. Archibald

1 Vespasian. *As*
Obv.: Legend illegible
Rev.: Eagle on globe
Lugdunum mint
From period 1 *gravel floor PS*3(2)

Since the obverse legend is illegible it is not possible to determine during which of the three periods in this reign when the type was used this particular coin was struck. The possible periods are, 71, 72 or 77-78 A.D.

2 Trajan. *Sestertius*
Obv.: IMP CAES NERVAE TRAIANO AVG GER DAC PM TR P COS V PP
Rev.: SPQR OPTIMO PRINCIPI SC
Bridge over river with six vertical bars
Struck 104-111 A.D. Rome mint
B.M.C. Trajan 849
This coin does not show signs of much wear but coins of this date can still appear relatively unworn in hoards deposited towards the end of the century. There is no suggestion that the present coin had been hoarded before loss, and the date of *c.* 120 suggested on archaeological grounds would be perfectly acceptable numismatically. *From the spoil heap, enclosed in clay near* 86 *ft. in section C-D. It must therefore come from a wall trench, presumably of period II.*

SAMIAN WARE by B. R. Hartley

Nos. 2, 7, 9, 10, and 13 on fig. 17.

*Period I occupation, PS*3(1).

1 Form 37 rim. South Gaulish (?). Flavian, or early second-century.

Period II construction. Nos. 2-6, *PS*3(3). *Nos.* 7-12, *PS*4(2).

2 Although only a very small fragment, this piece from a South Gaulish form 29 may be dated with confidence, since it is in the style of the bowls in the

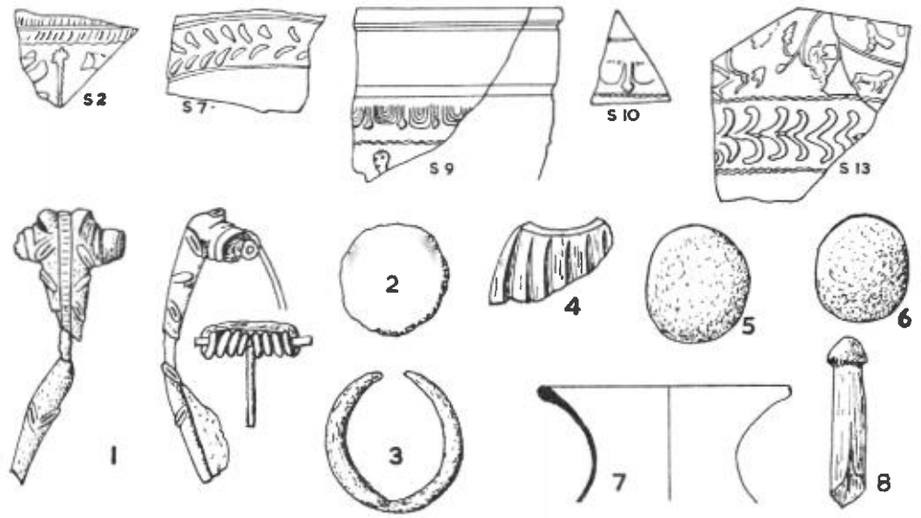


FIG. 17
Buckton—Decorated samian (½) and small finds (1-6, 1/1; 7 & 8, ½).

Pompeii Hoard of A.D. 79 (*J.R.S.* IV), and may also be matched at military sites founded under Agricola (e.g. Newstead: Curle, *A Roman Frontier Post*, p. 215, no. 2, which has the same horizontal plant as the Buckton piece). *c.* A.D. 75-85.

3 Form 37 footring. South Gaulish ware. Flavian-Trajanic.

4 & 5 Both pieces appear to be from one dish—a rather deep example of the late South Gaulish form 18. *c.* A.D. 80-105.

6 Form 35/36, South Gaulish. Flavian.

7 Form 37, South Gaulish. The plain chevron wreath is typical of the period *c.* A.D. 80-100.

8 Form 27, South Gaulish. The fragmentary potter's stamp is too blurred for identification. Flavian-Trajanic.

9 Form 37, Central Gaulish (Les Martres-de-Veyre). This piece is in the style of Stanfield's X—4 (Stanfield and Simpson, *Central Gaulish Potters*, pl. 17). *c.* A.D. 100-120.

10 Form 37, South Gaulish. A small scrap, but with a typically Flavian ovolo.

11 & 12. Form 18/31, South Gaulish. Flavian-Trajanic.

13 Form 37, Central Gaulish. The ram's horn wreath, wavy-line borders and leafy scroll are characteristic of bowls associated with plain-ware stamps of Ioenalis and Donnaucus (Stanfield and Simpson. *op. cit.*, pls. 35-49), though the names of the mould-makers are unknown. This group worked at Les Martres-de-Veyre, and is basically Trajanic, since its products are uncommon on Hadrian's Wall. *c.* A.D. 100-120. *From PS*1(3).

14 Form 18, South Gaulish. *c.* A.D. 75-95. *From PS*1(4).

From unsealed occupation deposits

15 & 16 Both very worn, but apparently form 18/31 and 27, respectively, in South Gaulish fabric. *c.* A.D. 80-105.

17 Form 18, South Gaulish. Flavian-Trajanic.

18 Form 37 (?), South Gaulish. Flavian-Trajanic.

Unstratified from barracks

19 Form 37 rim. Central Gaulish. Trajanic or Hadrianic.

20 Form 37, South Gaulish. *c.* A.D. 85-105.

21 Form 18/31, Central Gaulish. *c.* A.D. 100-130.

Unstratified from East Gate

22 Form 37 rim and part of ovolo (unidentifiable). The fabric is typical of the early second-century products of Les Martres-de-Veyre and the piece is probably to be dated *c.* A.D. 100-125.

23 Form 37 base, in similar fabric to No. 22 and probably of the same date.

24 Form 37 rim of the same general class as the last two.

25 Form 18/31, Central Gaulish ware, Trajanic or Hadrianic.

26 Two fragments, giving the rim and part of the base of a dish of form 18/31. Probably Central Gaulish and of the first half of the second century.

27 Form 27, South Gaulish, with grooved footring. Flavian or Flavian-Trajanic (it could have been made as late as *c.* A.D. 105).

28 Form 18 or 18/31, South Gaulish. Very abraded. Date as last.

29 Small scrap, probably from a South Gaulish form 27 of similar date to 27 and 28.

COARSE POTTERY (fig. 18)

*From period I construction level, B*20(5), *below burnt layer under period I intervallum road.*

1 & 2. Light grey rustic ware fabric. 3 Cordoned beaker, brown-red ware.

From period I occupation levels

4 & 5 Grey rustic ware fabric; *PS*3(1). 6 Black-burnished cooking-pot; *PS*3(7).

7 Orange-brown; single rim groove; *PS*3(7). Another from *PS*3(22).

8 Cream-orange ware. 9 Buff-grey ware; cream barbotine dots; *PS*3(1). Also from *PS*3(1) a sherd of native ware (cf. No. 29).

From period II construction levels

Mortaria—by Mrs. K. Hartley.

10 *From PS*3(3), and 13, *from PS*4(2). Both typical in form (approximating to Bushe-Fox 34/38) and fabric of the potteries immediately south-east of Veru-

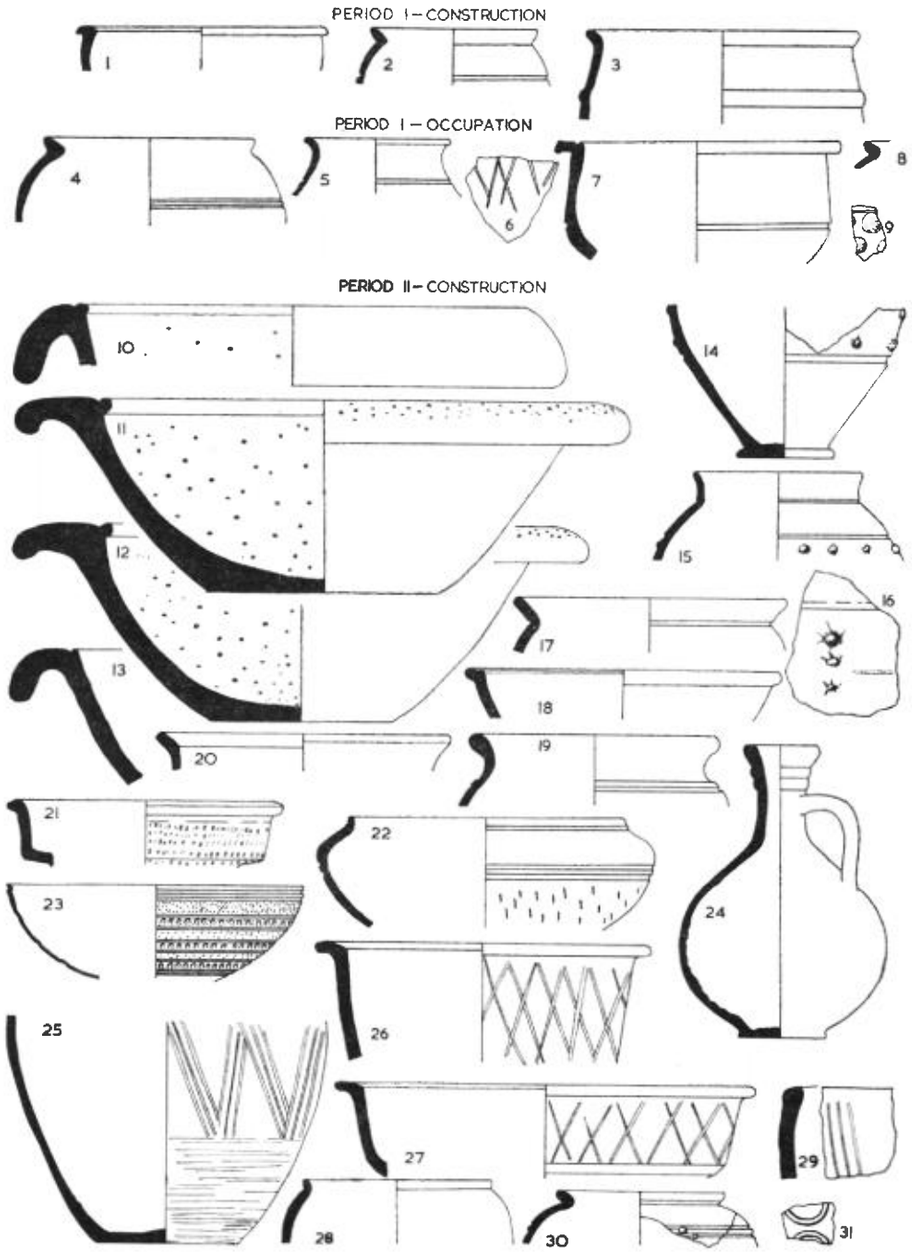


FIG. 18
Buckton—Coarse pottery (¼).

lamium. These mortaria occur both in pre-Agricolan contexts and at Agricolan foundations in Scotland. General date *c.* A.D. 70-90.

11 & 12 *from PS*4(2). These are classic examples of Bushe-Fox 14/18, the form frequently stamped by Q. Valerius Veranius and his associates, who worked in the south-east of Britain (Kent?). These, too, occur commonly on Agricolan military sites, but were probably introduced earlier *c.* A.D. 70-100.

Other coarse ware

14, 15 & 16. Light grey rustic ware; *PS*4(2). Also a rim similar to No. 4, a sherd of very fine linear rustication and two sherds of nodular rustication from *PS*3(3).

17 & 18 Dark grey ware, 18 with a vestigial groove on rim; *PS*3(3).

19 Mid-grey ware; *PS*4(2). 20 Light red bowl; *PS*3(3).

21 Light grey, rouletted; *PS*3(3). 22 Light red, abraded; *PS*4(2).

23 Cream egg-shell ware; rouletted and then dimpled; *PS*3(3).

24 Cream flagon; *PS*3(3). 25 Black-burnished ware; *PS*3(23).

26 & 27 Black-burnished ware; *PS*4(2). 28 Plain black-burnished ware; *B*23(2), *below II intervallum road.*

29 Native Malvern ware; *PS*4(2). 30 & 31 Buff ware; cream barbotine dots and arcs; *PS*4(2).

From unsealed occupation deposits (not illustrated)

Three further examples of the pie-dish, No. 27, another cooking-pot like No. 25 and a lid, all in black-burnished ware.

From 1959 *excavation* (*T. Woolhope N.F.C.* XXVI (1959), 215-6 and fig. 4).

The only types not represented in the above collection were a flanged bowl, and a small sherd in rustic fabric with incised wave pattern.

DISCUSSION AND DATING

The coin of Vespasian in the period I floor indicates a foundation date not earlier than A.D. 71; the coarse ware and samian are firmly in accord for a Flavian date. The earliest pieces of samian, Nos. 2 and 7, are dated *c.* A.D. 75-85 and *c.* A.D. 75-95 respectively. Rustic ware is in general Flavian-Trajanic in date and the earliest appearance at Leicester of the reeded-rim bowls like No. 7 (fig. 18) is in a deposit later than A.D. 87. ([29]) The flagon, No. 24, is a close parallel to *Jewry Wall* fig. 28, 2, the earliest form on that site and found in "pre-Forum" deposits later than A.D. 87. The nearest parallel in Gillam ([30]) (No. 3), is dated A.D. 80-120. Mrs. Hartley's bracket for the four mortaria is *c.* A.D. 70-100. There is nothing then to require a date earlier than *c.* A.D. 80 for the foundation of Buckton I; neither can this have been much later than *c.* A.D. 90.

There is no samian from the period II construction deposits that is likely to have been manufactured after *c.* A.D. 120. If we are right in assuming that the coin of Trajan was derived from a post-trench of this period the reconstruction cannot have taken place before A.D. 104. The second decade of the second century is indicated as the likely time for period II. There is some difficulty in reconciling

the coarse pottery with this conclusion. Gillam has indicated ([30]) that in north Britain black-burnished ware is now to be dated back to *c.* A.D. 120; and all the early forms of this ware are present in our period II construction levels. At Leicester (*Jewry Wall*), however, black-burnished ware may be earlier. Pie-dishes comparable with our No. 26 appear in the "pre-Forum" deposit SE III; cooking-pots first appear there in N IV, two levels below the "forum" construction and dated *c.* A.D. 100-110 by a probably Trajanic samian sherd; and lids closely comparable with the Buckton example appear in the "pre-Forum" deposit SE IV. But with a dating of *c.* A.D. 140 now preferred for the building that was interpreted in 1948 as the Forum, the value of Leicester for pointing to the first appearance of black-burnished ware *in quantity* has gone. The appearance of this material in the Midlands does not have to be contemporary with its first showing in the North but if Buckton II is dated earlier than A.D. 120 it must carry the Midlands appearance of black-burnished ware with it.

Of the total 29 pieces of samian only 9 (seven of them unstratified) have an estimated period of manufacture extending into Hadrian's reign; and it may be noted that there is no samian that has to be dated later than the first decade of the second century, although four of the sherds could have been manufactured after *c.* A.D. 125. In Mr. Hartley's opinion the absence of Lezoux vessels as opposed to those from Les Martres-de-Veyre is very remarkable if the site is to be held after 130. It must also be noted that the West Midlands ware necked bowls which were already common in the Leicester "Forum period I" (now *c.* A.D. 140) are completely absent from Buckton. Despite the brevity of the period II occupation which this involves, it seems most likely that the fort was dismantled by A.D. 130, and quite certain that its occupation was not prolonged beyond A.D. 140.

DISCUSSION OF JAY LANE AND BUCKTON GATEWAYS

These excavations have established two new gatehouse types for Britain—the two-row timber gatehouse with flanking towers (Jay Lane and Buckton I), and the auxiliary gatehouse in stone with internal staircase (Buckton II). It is worth considering where these stand in relation to other auxiliary gatehouses and to see how far they can add to our understanding of the development of Roman gatehouses before *c.* A.D. 150. What follows is largely summarized on fig. 19.

Timber gateways are of three types, each occurring with either single or double portals.

Type A provided a gateway platform (probably with upper floors in many cases) over the gate passage, supported on two or three rows of posts. There were no flanking towers and consequently no provision for ground-floor guard-rooms. In A1 a 10 ft. roadway was spanned by four-post structures as at Old Burrow, ([31]) Pen Llystyn fortlet ([32]) Great Casterton (south gate of Fort I) ([33]) and Hod Hill (south gate). ([34]) At Baginton ([35]) and Nanstallon ([36]) a double entrance was bridged by a six-post structure (type A2). A third variant, type A3, was excavated at Fendoch where the south-east gate had three posts on either side of a single entrance. ([37])

It is clear that the simplest form, type A1, had a low rating; hence its use for the pre-Flavian fortlet at Old Burrow and the later one at Pen Llystyn. On the large Great Casterton fort a gate of this type gave access to a possible annexe, but there is no ready explanation for the use of this form on the south gate at Hod Hill.

Type A2, with double portals, may be regarded as of higher ranking than type A1. Appropriately, therefore, it is found on the small Neronian fort of Nanstallon (for the two excavated entrances), and the small supply-base at Baginton.

Type A3 may be regarded as an extension of type A1 for insertion in a wider rampart which thus required a longer passage. It was used at Fendoch for the south-east gate which was entered from an annexe.

Type B was the gateway with square four-post towers flanking a single carriage-way (B1), or a double carriage-way (B2). Sill beams between the forward posts indicate that the gates were flush with the front of the towers. There is reason to think that the one example of type B1, the south-east gate of Jay Lane, was a subsidiary entrance, possibly leading to an annexe, but in most respects the amenities available in this gatehouse would have been similar to those in type B2 (Jay Lane and Buckton I). The ground-floors of the towers would have provided guardrooms 72 sq. ft. in area internally at Jay Lane, and 100 sq. ft. at Buckton I. The differences in the size of posts may indicate that the gatehouse of Buckton I (with 12 inch posts) had two storeys, whereas Jay Lane (with 8 inch posts) had only one.

Type C had rectangular six-post towers flanking a single carriage-way (C1), or double carriage-way (C2). In the latter type the two posts between the portals make it certain that the gates themselves were deeply recessed, half-way along the passage; and a similar arrangement has been assumed for type C1 at Fendoch. This means that the platform over the entrance was about the same width as that of types A and B, approximately 10-12 ft. The towers were, of course, nearly twice as large as those in type B, offering ground-floor areas of approximately 176 sq. ft. at Fendoch and 190 sq. ft. at Pen Llystyn. At these two sites it is thought that only one of the towers was available as a ground-floor guardroom. If this were the case with other type C gates, equality of guard provision could be maintained between types B and C by allowing both towers in type B to be entered at ground level. Since type C gates are associated with a variety of units, this explanation seems particularly likely. There were type C gates for legionaries at Hod Hill (east gate), ([38]) and for a large auxiliary unit at Pen Llystyn; ([39]) they were used for the milliary infantry garrison at Fendoch, ([40]) for the south gate of Fort II at Great Casterton, ([41]) and for the large fort at Longthorpe. ([42]) Stairs within such towers are inferred at Fendoch and Pen Llystyn, and may well have been present in other type C towers, and perhaps in those of type B as well.

All three types of gateway were in use in both pre-Flavian and Flavian times. Although it has been seen possible to distinguish type A as suitable for small forts or the minor gates of large forts, there is insufficient evidence yet to be certain what the basis was for the choice between types B and C. If our conjecture that an *ala quingenaria* occupied Jay Lane and Buckton I is correct, it may be that type

B was restricted to garrisons of 500. Of the type C sites a milliary garrison is attested at Fendoch and is possible at Pen Llystyn. There were over 800 troops at Hod Hill, and Longthorpe (27 acres) was vastly larger than any of the others. Fort II at Great Casterton ([43]) presents the one possible objection to this explanation for it is only slightly smaller than Jay Lane (5.2 acres compared to 5.6 acres) and might have housed either an *ala quingenaria* or a *cohors milliaria equitata.*

When, in the early second century, fort gatehouses were being constructed in stone the two timber types B and C gave rise to two distinct stone versions. Type C2, with recessed gates, was virtually reproduced in stone at Gelligaer, ([44]) dated between 103 and 112. The towers however were only 88-100 sq. ft. internally, comparable in area with those of Buckton I. With such small towers the setting of the gates half-way along the passage, as in type C timber gatehouses, necessitated rearward entrances to the guard-rooms, both of which had doorways on the inner wall. Access to the rampart and upper floor of the towers was now by steps outside the towers, and a single foundation, 11 ft. (3.4 m.) long, was used in place of the two posts set between the portals in the timber version.

Possibly within a decade of the construction of Gelligaer the fort at Buckton was refurbished. Here the pattern of the preceding timber gateway (type B2) was reproduced in stone as Buckton II. The separate *spina* piers, aligned with the tower walls, echo the pattern of the earlier posts, and the gates were carried almost flush with the tower fronts. One effect of this was to widen the floor over the entrance to 17 ft. (5.2 m.) compared with 11 ft. (3.4 m.) at Buckton I, Gelligaer and Pen Llystyn. The guardroom doors were probably at the rear, and it was thus practicable to set internal staircases against the portal walls. The widening of the gateway platform minimized the inconvenience of a stairhead on the upper floor, and may have been influenced by the decision to incorporate staircases in the towers.

On Hadrian's Wall, in the period *c.* A.D. 122-126, it is the Jay Lane-Buckton tradition that is dominant, regardless of the type of unit involved, e.g. at Benwell, Birdoswald, Chesters, Great Chesters, Halton Chesters and Housesteads. ([45]) All of these have separate piers instead of the continuous spina, which seems rare, although present on the Wall at Rudchester. ([46]) Only at Housesteads, on the gates south of the Wall, is the forward pier aligned with the tower front as at Buckton. The remainder are all somewhat recessed, most notably at Halton Chesters, though nowhere is the gate as much as half-way along the corridor in the Gelligaer style. The freedom to regain something of the tactical advantage of the recessed gateway had been obtained by dispensing with the internal staircase which does not appear on the Wall forts. The experiment, expensive in materials by requiring larger towers, had not gained general favour. The old tradition of rearward entrances to the guardrooms shows in the plans of Birdoswald and South Shields, ([47]) but elsewhere the opportunity was taken to enter the guardrooms from the portals now that the gates were far enough forward to lie clear of the guardroom doors when open. If the tendency to recess the gates had been allowed to go too far the portal-door amenity would have been endangered. The answer to this conflict was already to hand at South Shields where the tower fronts were projected, as at Caerleon, but

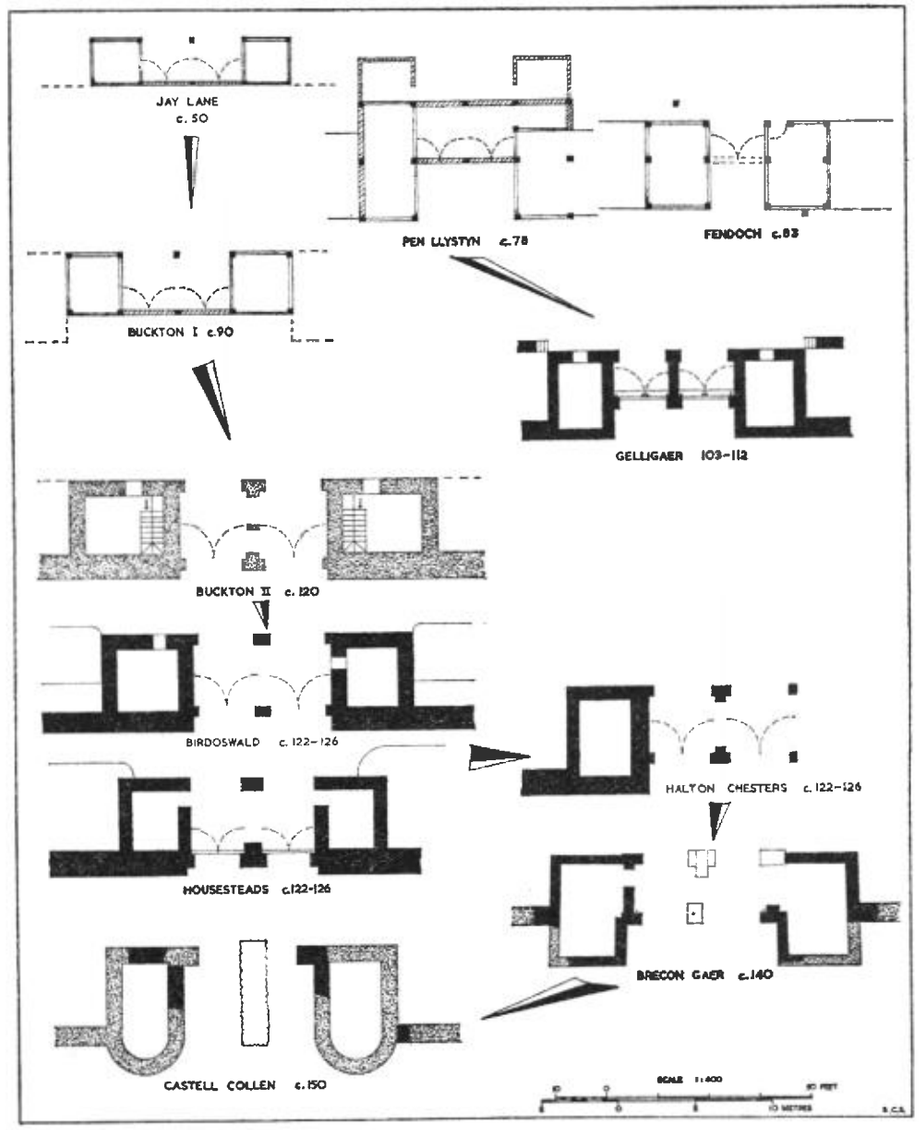


FIG. 19

Roman auxiliary gatehouses *c.* A.D. 50-150.
(Pen Llystyn after Hogg; Gelligaer after Ward; Fendoch, Birdoswald, Housesteads and Halton Chesters after Richmond; Brecon Gaer after Wheeler; and Castell Collen after Evelyn-White.)

where the guardroom doors remained at the rear. The full combination of advantages was to be achieved at Brecon Gaer where projecting towers provided a 9 ft. (2.7 m.) recess without covering the portal doorways, and allowed the wall front beyond the gates to be enfiladed. Dr. Simpson has argued a date not earlier than *c.* A.D. 140 for the first stone fort here but has pointed out that the projecting towers may be later than this. ([48]) At Castell Collen in period II, about the middle of the second century, semi-circular projecting towers were used. ([49])

SUMMARY

Buckton I was established *c.* 80-90 for an *ala quingenaria*, housed in timber barracks and protected by a turf rampart and ditch. The fort probably faced east and its gatehouses were of wood. In *c.* A.D. 120 the gates and administrative buildings were rebuilt in stone and a stone wall was added to the rampart. Some of the barracks were reconstructed, still in timber, but some buildings near the centre were completely replanned. The fort faced east. Most of the evidence points to continued occupation by the same type of garrison as in period I. The stone fort of period II was probably dismantled by *c.* A.D. 130 and the site never occupied again.

Buckton held the same kind of unit as Jay Lane, but the fort was about 40 ft. (12.2 m.) longer, and the proportion of *retentura* to *praetentura* is quite different. It could have been occupied by the same *ala* but there is nothing in particular about the plan to support this suggestion, and there could be a gap of about fifteen years between Jay Lane and Buckton I.

THE FORT AT LEINTWARDINE VILLAGE

The modern village, as seen on Mr. Baker's photographs (pl. VA) is developed along two parallel north-south roads. The High Street is approximately on the line of the Watling Street West, whereas the village Watling Street together with the short east-west Tipton's Lane (fig. 20) bypasses the fort site to the east and north. Earthworks mark the course of the rampart quite clearly round the northern two-thirds of the fort, but south of Church Street these indications are less certain, although the old 25 inch O.S. plan marks a steep slope all the way down the east side of the fort as far as the southern end of Leintwardine House grounds, and brings a western rampart diagonally across Mill Lane towards the recently discovered site of the Baths.

Excavation has been limited to five sites, all in the western half of the village, and shown on fig. 20. At Chantreyland, site A, two trenches were cut across the rampart in 1958 and 1959 (Nos. 1 and 3) and some subsidiary cuts (4, 6-11) were also made. At Roman Rise, site B, trench 13 was excavated as a rescue operation in 1964. In the orchard behind the butchers' shop, site C, trench 5 was dug in 1959, and the other trenches in 1962. In field 790, site D, a wide area was cleaned after bulldozing in 1964, and the area of the bath-house, site E, was started in 1964 and completed in 1967. The sites will be described in alphabetical order.

Conclusions: As a result of these excavations the following propositions will be put forward in the succeeding paragraphs. 1) Four periods of work are recognized.

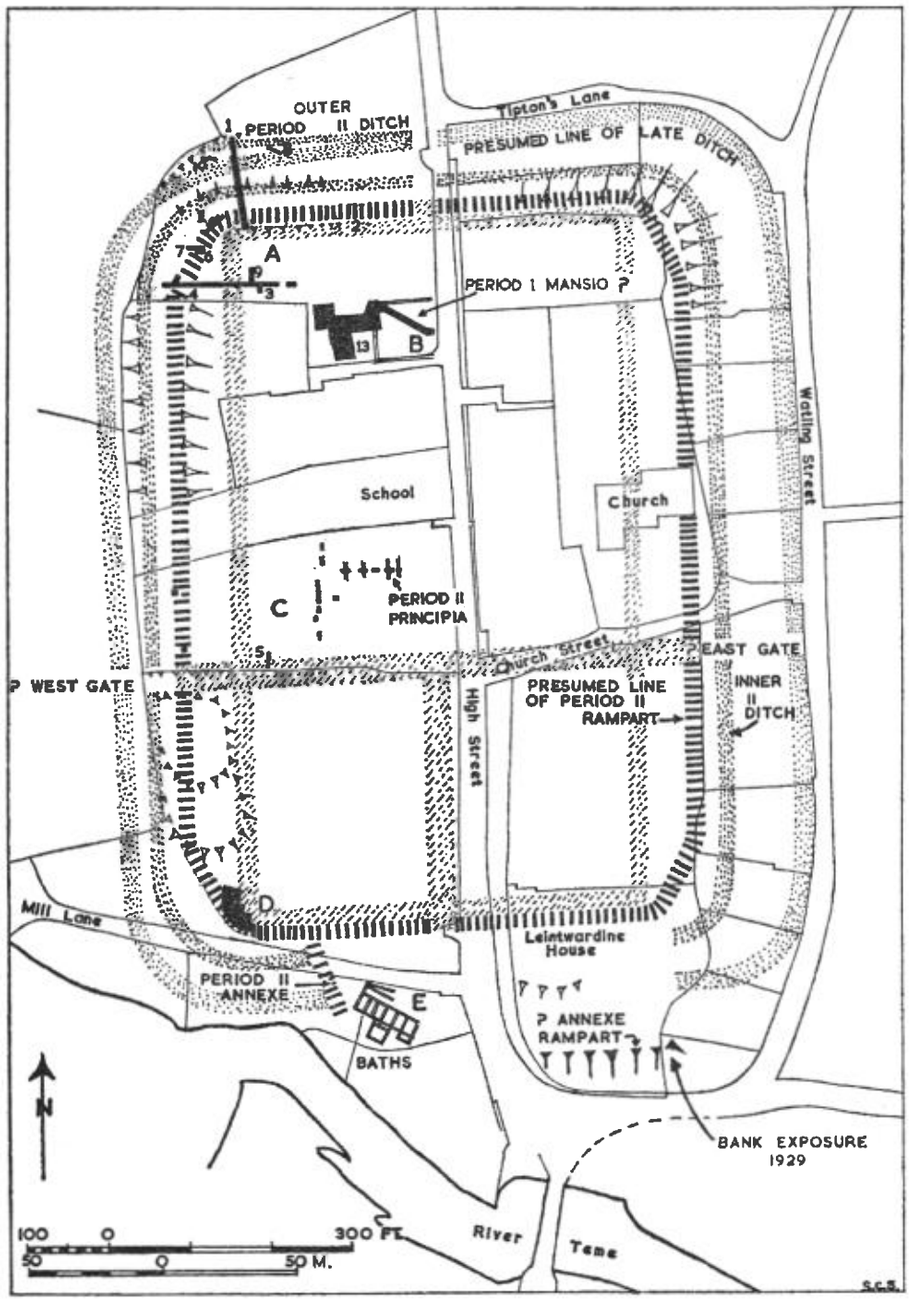


FIG. 20

The Leintwardine fort—Sites of excavations.

(Based on the Ordnance Survey Map with the sanction of the Controller of H.M. Stationery Office, Crown Copyright reserved.)

2) Period I is associated with a *vicus*, developed along the High Street in the late first and early second century. 3) Periods II-IV belong to a large fort that was protected by the visible timber-laced rampart. Period II begins after *c.* A.D. 160, period III in the early third century, and period IV in the fourth century.

SITE A—CHANTREYLAND (fig. 21)

Trench 1. This was cut at right angles to the defences and published in the *Transactions* for 1958; the section is reproduced on fig. 22A. Demonstrably early features here are the thick deposit of layer 9 and ditch 4, which are sealed by the period II rampart and are therefore to be placed in period I. Layer 9 contained numerous nails and potsherds including a fragment of samian Curle 11 of Flavian or early second-century date (1958 report p. 97, No. 9) and a necked jar of second-century form (*ibid.* fig. 5, 14). It was capped by a hard trampled surface of boulder-clay (layer 8). The purpose of ditch 4 is uncertain, for it is barely deep enough for a defensive ditch. The dark silt in its bottom is more in keeping with a main drain or culvert, although its depth, at 3 ft. (0.3 m.), and width are perhaps excessive for this function. It was filled when the period II rampart was erected above it, the deliberate filling producing first- and second-century samian and coarse ware some of which could be as late as *c.* A.D. 150 (1958 report, samian Nos. 2, 6, 7, 11, 12, 14, and coarse ware Nos. 2, 3, 7, 9-14, 16-19). Fig. 21 shows that the alignment of this ditch is the same as that of the period 1 post-trench sectioned in trench 3.

The defences of the fort built in period II are now seen to consist of the timber-laced rampart, 20 ft. (6.1 m.) wide and still surviving 7 ft. 6 ins. (2.3 m.) high, separated from ditch 3 by a 14 ft. (4.3 m.) berm. When first cut the ditch would have been about 18 ft. (5.5 m.) wide and 7½ ft. (2.3 m.) deep. There was evidence of recutting on its inner slope, and subsequently it had been deliberately filled. Although much smaller, ditch 1 likewise shows recutting and deliberate filling. It is therefore suggested that both ditches belong to the same system and to periods II and III; and since they are so far apart a middle ditch is assumed to have been eclipsed when ditch 2 was dug in period IV. This interpretation supports the impression gained in trench 3 and on site C, that period III saw a reconditioning of the fort on the lines laid down in period II. Period II is dated by a sherd of Paternus from below the rampart in section 2 by Chantreyland house. Mr. Hartley points out that since his 1958 report new evidence from Lezoux and elsewhere suggests strongly that this style of bowl by Paternus should be put *c.* 160-190. Period II should therefore now be dated later than *c.* 160.

In period IV the defences were recast with a large new ditch, 45 ft. (13.7 m.) forward of the old rampart face, in place of the two (or three) earlier ones which were now filled in. This ditch, 2, was 15 ft. (4.6 m.) wide and 6 ft. (1.8 m.) deep and is allocated to the final period since it seems to have been left open to silt up slowly until a very recent levelling was thrown in. Its side was found to the east in trench 8 indicating an alignment away from the period II rampart. Projected eastward the alignment follows the south side of Tipton's Lane and suggests (as adopted on fig. 20) that the lane ran round the village outside the late ditch. There appear to be at least two deliberate additions to the back of the rampart but neither is dated.

Section 2.

This was a fresh cut across the rampart at the back of Chantreyland house for the renewal of a wall. The section provides the basis for the alignment of the period II rampart shown on fig. 20, and was published in 1958. The same construction of timber-lacing with interleaved layers of grey clay was recorded as in trench 1. A gravel road below and apparently transverse to the rampart (fig. 21) supports the evidence of layer 9 in trench 1 that the earlier occupation extended north of the period II rampart.

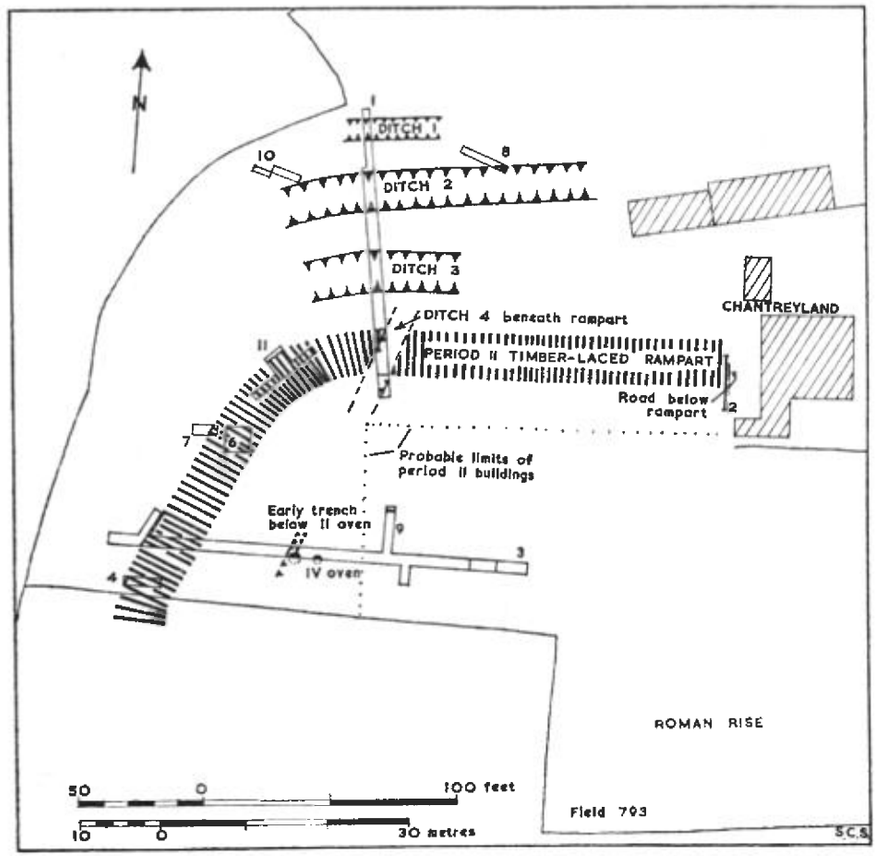


FIG. 21
Leintwardine, site A, Chantreyland.

Trench 3.

The rampart. This proved to be cut obliquely by the trench so that the logs showed in section like rows of roughly oval pigeon-holes. Fig. 23 shows the successive layers in plan, which may be compared with the essentially similar arrangement found in trench 1 and published in 1958, fig. 3. Again, the filling between the log layers was of quite clean grey clay, much iron-stained especially in the higher parts and along the rampart face which showed some pronounced bulging as though the clay had been squeezed out even as downwash was accumulating on the berm.

In both trenches 1 and 3 the rampart foundation was formed of a complete corduroy of logs up to about 6 ins. (15 cm.) diameter and 12 ft. (3.7 m.) long laid with their ends in line with the rampart faces, but interleaving irregularly in the middle. In the second log layer (XIV on fig. 23 and pl. VB) the same effect seems to have been intended, but thereafter in both sections there was a greater tendency to build in separate sets of logs from back and front with some sets only 4 ft. (1.2 m.) long, as though the work was divided between two gangs who sometimes compensated for a temporary shortage of timber with an additional layer of clay. A further pointer to piecemeal gang-work may be seen on the plan of layers VI and VII both of which end short of the north side of the trench, while behind them the only feature in an otherwise empty area is the start of a log set going under the northern baulk. This rearward pattern is to be discerned quite clearly starting with layer XI and continuing to the level of layer V. In combination these observations indicate a division of the work into sections both longitudinally and transversely. There was no sign of any front revetment in timber or stone either in the main trench or the 10 ft. extension cut along the rampart front to the north. With a continuous 16 ft. (4.9 m.) of the front thus examined down to the pre-rampart turf, it may be safely concluded that no revetment was employed in this type of rampart. The trench continued for 16 ft. (4.9 m.) forward of the rampart without encountering the ditch. Clearly the berm was no narrower than in trench 1.

It may be noted here that along the middle of the western side (site C), at the south-west angle (site D) and even in the annexe rampart (site E), the same log and clay construction has been observed. The possibility raised in the 1958 report, that this type of work was reserved for *ballista* positions, may therefore be rejected, and a rampart of the form restored in fig. 24 accepted as the standard for the whole defence, dated on the 1958 evidence as not earlier than *c.* A.D. 160.

The only features incorporated in fig. 24 which were not represented in trench 3 are the turf ramp and the rearward sets of thin split logs or planks. The former is presumably a corner feature to provide access to the rampart walk, but the latter are less easy to explain, unless as a repair or simply to use up some unwanted timber.

The unexpected straight face to the rampart's corner revealed in trench 3 was further explored in trenches 4, 6, 7 and 11 which were cut well into the rampart until the front and the pattern of logs at right angles to it were clearly defined. The angle as plotted on fig. 21 is therefore thoroughly substantiated. There is no topographical explanation for this unusual facet, nor is it easy to see how any earlier

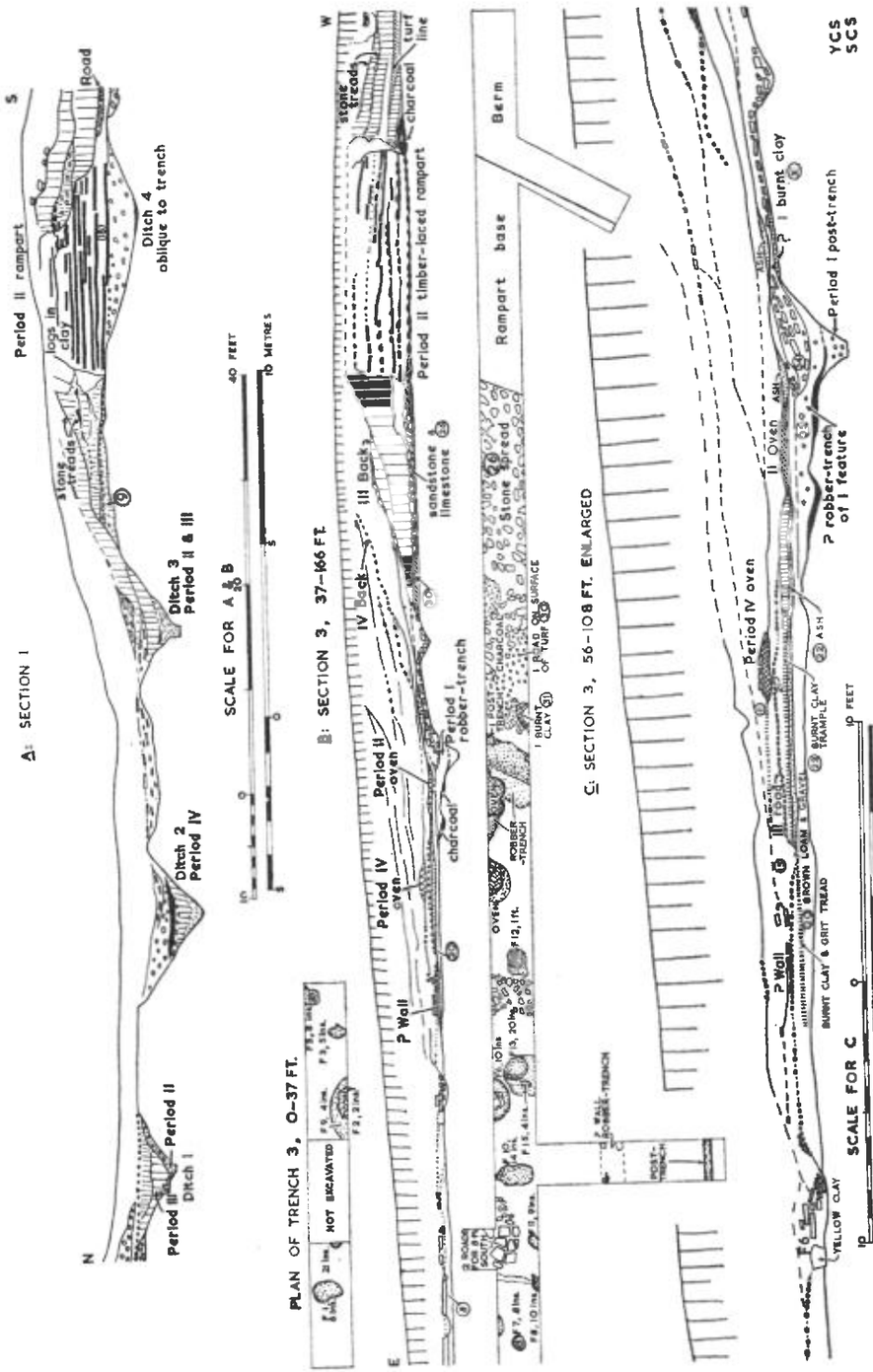


FIG. 22
Leintwardine—sections on site A, Chantreyland.

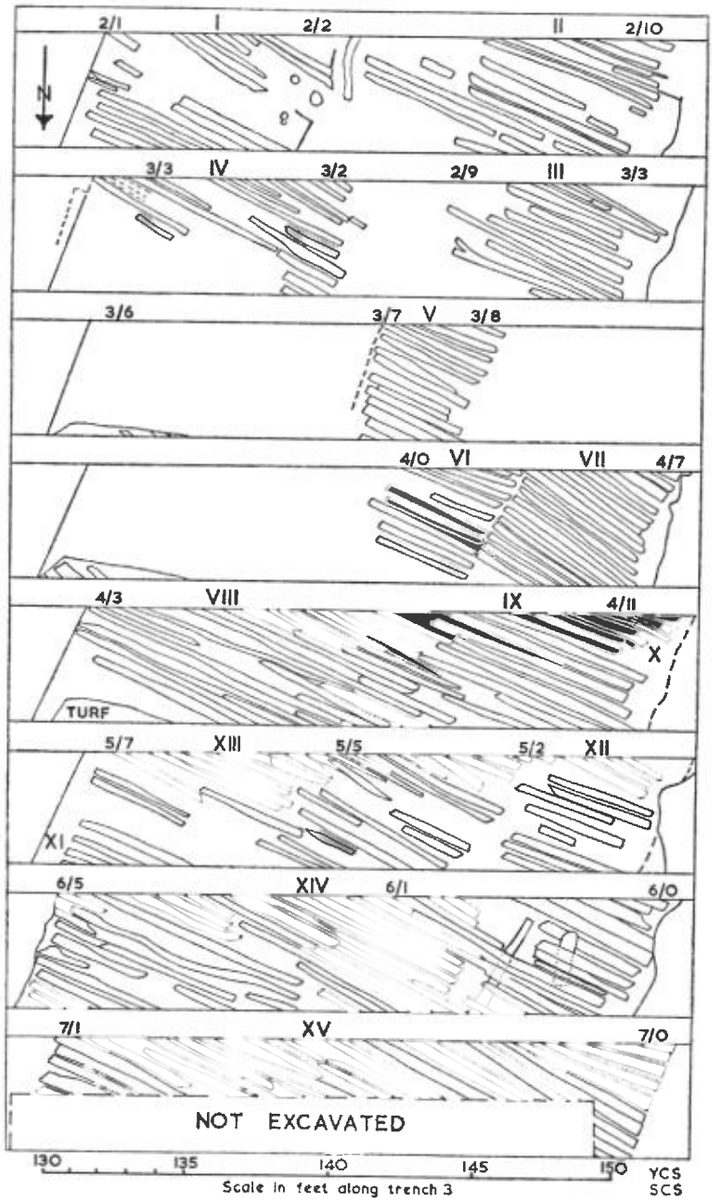


FIG. 23

Leintwardine—West rampart log layers (I-XV) with depths below trench datum in feet and inches.

defensive feature could be responsible for the alignment adopted. Away from the corners all the features recorded within the fort are aligned N-S and E-W. This NE-SW alignment has been observed only at the north-west angle where it is echoed in the course of the pre-rampart ditch 4 in trench 1 and in the post-trench at 94 ft. in section 3. These features indicate that at the north-west corner the NE-SW alignment was used before period II. But how or why that alignment could have influenced the period II work is not at present clear.

There is no evidence in trench 3 of any earlier rampart or indeed any sign of occupation below the timber-laced one. In the rampart itself the excavation was only carried to the natural brown loam in a 2 ft. cut through the lowest two log layers, but even so any earlier ditch should have shown, and certainly at this level there is no chance of more than an inch or two of any earlier rampart having been overlooked. The only finds from the rampart itself are a melon bead and a small

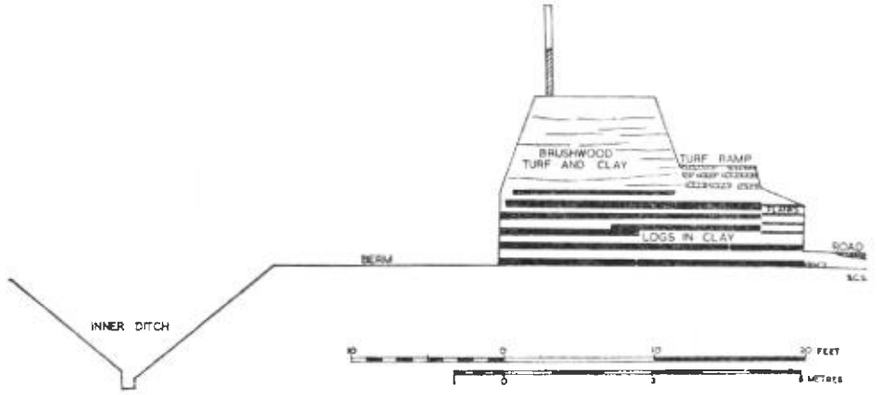


FIG. 24

Reconstructed section of the period II defences at Leintwardine, based on section 1.

rim sherd of rustic ware (fig. 36, 5), but below the stone spread behind the rampart and only 4 ft. (1.2 m.) from the rampart back, was found part of a necked bowl of West Midlands ware (fig. 36, 4) a type of pottery which seems to be Antonine or later, and was not found at Buckton. The stone spread cannot be appreciably later than the rampart for there is no downwash below it or between it and the rampart. It may be concluded that the rampart in trench 3 is of the same date as the period II rampart in trench 1.

Subsequent rampart history

At the external foot of the rampart in trench 3 was an extensive deposit of charcoal and wood ash lying directly on the clean surface of natural loam and abutting the rampart front along the whole 16 ft. examined. It contained no rubbish in the form of pottery or bones, the only inclusions being washes of pale buff clay

such as might have come from the rampart, and which eventually sealed the charcoal. This will be a rapid wash-out, unlike the succeeding brown clay downwash which built up on the berm slowly enough to become thoroughly weathered and grass-grown. The deposition of the wood-ash may therefore be held to be immediately followed by a partial break-down of the rampart front. In combination these facts suggest the firing of a palisade or tower from which the debris fell down the rampart face to accumulate at the foot. This must have occurred soon after the defence was erected, for there is no downwash below the charcoal spread.

Thereafter the history of the rampart front is one of slow degradation, punctuated by a firm turf line which gives way to a further outwash of buff clay, more gradual accumulation and then two distinct treads of rotten yellow stone. These latter may be compared with two similar treads found in section 1, and suggest the carrying of spoil on to the rampart from later ditch-cutting, perhaps with the recutting of ditches in period III.

Behind the rampart the spread of limestone and grey sandstone (layer 26) is not readily explicable. It is not appropriate material for the foundation of an *intervallum* road, and seems best explained as the residue of a pile of stone deposited against the rampart perhaps from the demolition of the period I buildings. None of the purplish-red sandstone employed at Buckton was in the spread, nor was any found at Roman Rise.

Over the stones clay downwash accumulated steadily, and the first certain still-stand, about as high as the lower tread on the rampart front, is marked by a scatter of limestone on a surface that runs out over layer 19. From layer 19 came part of a third-century samian form 38 (p. 299, No. 15) and a flanged bowl (fig. 36, 10). The rebuilding indicated by the upper stone spread, and here referred to Period III will not be earlier than the third century. It is possible that the equivalent of this is seen in section 1 where similar limestone rubble lies high on the back of the rampart. These traces may represent a wall-building episode on the rampart top from which the slides of stone filling the top of the silted ditch 3 may have come. The absence of stone in the lower fill of ditch 3 implies that a rampart wall was not erected in period II, and leads to the conclusion that if a wall was employed at Leintwardine it was not before period III.

After further downwash a trampled surface in gravel may mark the final refurbishing of the defences in period IV. Internally it is just traceable as a surface running with that of the period IV oven.

Internal features

From 0-70 ft. in trench 3 post-Roman erosion and cultivation had destroyed the later Roman levels and for about the first 40 ft. had taken away all levels down to the natural boulder-clay. For the rest the Roman deposits were buried in a mantle of clayey loam between 4 ft. (1.2 m.) and 6 ft. (1.8 m.) thick. Under these conditions it was not only difficult to interpret the various shallow pits, gullies, post-holes and spreads of stone, but impracticable to consider extending the excavation sufficiently to render these features intelligible. All that can be said about buildings, is that

there is no evidence for stone buildings in this area before period III, i.e. in the third century.

In other respects section 3 was more valuable, for here in the *intervallum* space were found the burnt clay bases of ovens. Their location in this zone is consistent with military practice and forms the evidence for the assumption that after period II the site continued to be re-occupied as a fort, and not as a civil settlement.

The earliest evidence of occupation was a horseshoe of burnt clay with bordering charcoal 30 ft. (9.1 m.) behind the rampart. This showed after the removal of a thin turf line on the north side of the trench and is marked on section C as layer 31. It may be allocated to period I. The accompanying surface was cut through by an irregular cut over the diagonal trench to the east. The clean boulder-clay filling the bottom of the trench indicates that it was probably a post-trench for a timber building; several hobnails and a chip of samian were found in it. The building was probably dismantled following a fire, for quantities of charcoal (presumably derived from layer 31) lay in the bottom of the robber-trench which extended eastwards on the south side of trench 3 (section 3) as though the junction of a N.E.-S.W. and a N.W.-S.E. wall lay just to the south of section 3. The robber-trench was largely filled with boulder-clay and loam with charcoal, but had been topped with stone that was continuous in plan with layer 26 behind the rampart. The dismantlement must mark the close of period I, for it has been seen that layer 26 is contemporary with the construction of the period II rampart. Also below this spread of stone was a thin trampled gravel surface shown in plan on fig. 22 B, which would seem to mark the remnants of a period I path or road. It lay immediately upon the turfy layer 30 from which came a second-century black-burnished rim and part of a West Midlands tankard (fig. 36, 1 and 2). The semicircle of charcoal shown beside the road on fig. 22B was at the same level.

Over the eastern end of the stone spread (layer 26) was a 3 in. layer of brown loam and gravel indistinguishable from layer 20 to the east (fig. 22 C) and providing a final filling of the robber-trench. On this was set the clay base of an oven, burnt bright red, with purple wood ash about it spreading eastwards as a thin band (layer 22). This must be an oven of period II. The washed-out ash layer 22 is succeeded by a conterminous trample of mixed burnt clays, presumably oven debris spread out to form a basis for a new gravel road in period III. The sequence of deposits here makes it likely that the ash layer 22 marks roughly the extent of the equivalent road in period II, possibly extending eastwards as the gritty tread over layer 20 (fig. 22C). The post-hole F12, below this, will then be earlier than period II. This will place post-hole F13, 66 ft. along trench 3 and from which came the samian sherd No 6, dated *c.* A.D. 150-190, as the likely western limit of period II buildings. This implies an *intervallum* space and road zone about 70 ft. wide along the west side of the fort whereas section 1 shows clearly that on the northern front the *intervallum* road was only 2½ ft. from the back of the rampart.

The road surface of period III (layer 21) appears to extend eastwards in trench 3 from 86 ft. to at least 64 ft. where it ends on the side of post-hole F6, implying approximately the same western limit for the buildings of period III.

The period III levels are covered everywhere by nearly 6 ins. of brown clayey loam (layer 15). This would suggest a period of abandonment, so that the internal plan of period IV was somewhat different. The *intervallum* space had widened eastwards, and the period IV oven (pl. VC) came to be sited over the earlier *intervallum* road. The accompanying level extends only 4 ft. east of the oven as a trampled layer of red and white burnt clay that gives way to a 1 ft. strip of thin gravel, perhaps the edge of the period IV *intervallum* road. From 76 ft. eastwards this is cut away by erosion, so that no other features can be safely attributed to period IV. There are no stratified finds that date the constructions of this period.

Of the other features requiring comment may be noted two spreads of grey sandstone in trench 3 at 47 ft. and 72 ft. These were only one stone thick and sealed only by the medieval and modern topsoil. In the field they were considered to be either remnants of paving or the much robbed foundations of drystone walls. The western spread lies immediately on the period III road and being only 9 ft. from the period IV oven can hardly belong to buildings of that period. It seems better to regard both spreads as post-Roman, whatever their function. The possible robbed wall in the northern extension trench is open to the same interpretation.

At its northern end this extension, trench 9, was crossed at right angles by a trench cut 18 ins. (46 cm.) deep in the natural boulder-clay and 7 ins. (18 cm.) wide. The bottom 6 ins. (15 cm.) was filled with charcoal, covered by the same depth of yellow-brown clay. In the top 6 ins., where the trench funnelled out to 18 ins. wide the filling was of burnt daub. This appears to be a secondary phase of the feature, cut through a layer of flagstones on the north side. The original feature would seem to have acquired its bottom filling from adjacent burnt deposits on the north side. It would seem to represent a two-phase post-trench, most probably of Roman date.

Summary

Site A has provided ample evidence of occupation in period I before the construction of the timber-laced rampart. In the absence of military features this occupation is referred to a *vicus*. The timber-laced defences of period II have been examined in some detail, and there is indirect evidence for rampart wall construction in the succeeding period III. Ditch 2 was probably first cut in period IV with the refurbishing of the defences after a period of abandonment. Internally the succession of ovens and roads supports this sequence from II to IV and also the assumption that after period I we are dealing with a military occupation.

SITE B—ROMAN RISE

A rescue excavation for four weeks in February 1964 was blessed with an excellent labour force of six paid men and two or three skilled volunteers, but suffered from alternate frost and thaw, snow and rain. The area to be covered by the bungalow, garage and driveway was bared of topsoil mechanically and then cleaned by hand. Everywhere the black soil rested directly upon the natural boulder-clay, so that although the modern cover was 2-3 ft. thick, no ancient surfaces were preserved. None of the features shown on fig. 25 was sealed, and in theory, at least,

all could be post-medieval. In general the natural slope was gently southwards and eastwards at 1 in 15, but from 100 ft. E. erosion on the side of the High Street had steepened this to 1 in 10 and must have removed all trace of Roman features east of 110 ft. Of the features believed to be Roman some, including the stone foundations of a courtyard building (perhaps a *mansio*), will belong to the *vicus* occupation of period I. At least two phases of timber buildings are identified and allotted to the fort of periods II and III. Traces of buildings partly of stone may represent the final fort period IV.

FEATURES REVEALED

These are shown by plain numbers on fig. 25 and are referred to in the text as F1, F2, etc. Their main characteristics are tabulated below.

Abbreviations:

Filling: Y—yellow; B—brown; G—grey; c—clay; l—loam; s—large stones; g—gravel; x—charcoal.

Function: PH—post-holes; PT—post-trench; C—cess-pit; W—wall foundation; OP—other pit; D—drain; T—tree-pit.

No.	Depth in ft.	Fill	Function
1	2.1	Gls	C
2	0.4	Gls	PH
3	0.4	Gl	PH
4	0.4	Gl	PH
5	0.5	Glg	PH
6	0.4	Gl	PH
7	0.3	YGg	?PT
8	0.4	Glg	?PH
9	0.6	Glg	PT
10	0.4	Gl	PH
11	1.0	Gl	PH
12	1.0	Gls	PH
13	0.8	YGs	PH
14	1.0	Gl	PH
15	0.7	Gl	PH
16	0.7	Gl	PH
17	0.4	Gl	PH
18	4.2	Glg	C
19	0.7	Gl	?
20	0.6	Gl	PT
21	0.4	Gl	PH
22	4.2	GlBcs	C
23	1.0	Gls	?
24	0.5	Gl	?
25	0.5	Gls	PH
26	0.2	Stone spread	
27	—	Burnt clay	
28	0.2	BL	?
29	1.2	Gl	PH
30	0.3	s	W
31	0.2	Gl	D
32	0.3	Glg	T
33	0.5	Glg	T
34	1.3	YGl	PH
35	0.5	GBl	PH
36	1.5	sGl	PH
37	1.5	sGl	PH
38	1.3	sGl	PH
39	0.6	sGl	?
(40)	Natural feature		
41	1.2	sYc	W
42	1.5	sYc	W
43	—	GYl	PT
44	—	YGl	PT
45	—	Yc	PH
46	1.2	Gls	OP
47a	1.0	Gc	PH
48a	1.4	Gls	PT
49	1.2	Bc	OP
50	—	Glc	?
51	0.2	Gl	?PT
52	0.1	Gc	?
53	0.1	Gc	?
54	0.1	Gc	?
55	1.0	YBcGl	PH
56	0.7	GYc	?PT
57	0.8	Gls	C
58	1.0	Gls	C
59	0.6	Gls	C
60	0.2	sGl	?
61	0.9	Gl	OP
62	0.8	Gl	PH
(63)	Natural feature		
(64)	Natural feature		
(65)	Natural feature		
66	2.3	Gl	OP
67	1.4	Yc	PH
68	1.2	sYc	W
69	2.6	Bcx	PH
70	1.2	Bcx	OP
71	0.7	Glx	OP
72	0.1	Gls	?
73	1.5	Bc	PH
74	0.4	Gl	PH
75	0.2	GBl	?
76	1.6	Gls	C
77	3.8	Gls	C
78	0.3	SYc	?
79	0.7	YBc	PT
80	0.3	Gl	C
81	1.1	Gl	C
82	0.1	Gl	?C
83	0.1	YBc	?
84	2.2	GBl	OP
85	0.8	SGlx	OP
86	2.8	Gl	C
87	2.0	Glx	OP
88	1.2	Gls	C
89	0.7	Gl	?D
90	Part of 84		
91	3.5	Gls	C
92	1.3	Gl	OP
93	1.0	Gl	D
94			Roots
95	1.0	Gl YGc	PT
96	6.5	Gl	C
97	2.6	GBl	C
98	1.3	Glx	C
99	1.0	Ycs	PT
100	1.8	Glg	C
101	1.3	GBl	PT
102	0.5	Gl	D
103	1.4	Gls	C
104	0.3	Gl	D
105	0.4	Glg	D
106	1.0	GBl	PT
107	0.9	Yc	?
108	1.2	YGc	PT
109	2.5	Gc	C
110	0.3	Gls	?
111	0.3	Gl	Roots
112	0.2	Gl	D
113	0.2	Gl	?
114	0.7	GBc	PT
115	0.8	GBc	PT
116	0.5	GBc	PT
117	0.6	GBc	?
118	0.6	GBc	PT
119	2.0	YcGl	PH
120	0.5		PH
121	0.7	YBc	PT
122	—	Yc	?PT

Pits

The most obvious features were numerous pits, mostly filled with sticky black soil and confidently interpreted as cess-pits. Since they yielded ample Roman pottery it was assumed, in the field, that they were of Roman date. Small pieces of modern china, however, come from low down in F77, 86, 96, 103 and 107, and F77 is cut by F76. These include the deepest and two of the shallower pits on the site, and make it likely that a recent date is probable for the others. The bulk of the pottery found in the pits cannot therefore be regarded as forming contemporary groups; in the circumstances it must all be treated as though unstratified.

Two long narrow trenches, F66 and F84, are probably modern archaeological trenches. They were backfilled with their own upcast, F66 yielding a medieval cooking-pot rim, and F84 a piece of modern glazed ware. Three shallow rectangular pits (F49, 70 and 85) filled with charcoal and burnt clay, may have been dug by stone robbers removing the foundations of columns, and F46 was clearly a rubbish pit. Other intrusions in the same area (F52-54) may also be recent, or represent the bottoms of post-pits largely cut away by later digging.

The pits cut many other features, but are nowhere themselves cut by any feature other than a pit.

Post-holes

Particularly numerous at the western end were small post-holes, up to 1 ft. (30 cm.) deep and tapering from $1\frac{1}{2}$ ft. (45 cm.) to nine inches (22 cm.) at the bottom (e.g. features 2-17). They were normally filled with grey soil and gravel, and their occurrence in lines parallel to other building alignments makes it possible that they are of Roman date. A line of shallow holes at 26 ft. E was within a post-trench, and this may be true of many others, although not so recognized in the field.

Between 56 ft. and 100 ft. E there has been less erosion and a number of post-sockets approximately 1 ft. (30 cm.) square were found within large pits of square or circular outline, 2-3 ft. across (60-90 cm.). In these the post-position was filled with crumbly grey loam, contrasting sharply with the boulder-clay of the pit packings. In terms of structure such post-holes would belong to free-standing posts as required for a verandah, or result from the replacement of individual timbers in a wall.

Post-trenches

There was some difficulty in recognising and defining these, which were 1-2 ft. (30-60 cm.) wide, survived 9-12 ins. (23-30 cm.) deep and had been backfilled with their own boulder-clay upcast, with the exception of F48 which had much limestone in its filling. It is possible that some of the narrow bands of grey soil recorded on fig. 25 mark settlement into the top of otherwise unrecorded post-trenches.

Masonry features

The walls, F68, 42 and 41, were marked by foundations of pitched limestone bound with clay and topped by horizontal limestone footings. At most they were only 2 ft. (60 cm.) wide and up to 15 ins. (43 cm.) deep. No mortar was observed anywhere. Along the southern side between 58 and 78 ft. E. were three settings of large stone flags covered immediately by a charcoal layer with numerous burnt tiles. The two easterly settings were placed in hollows 3 and 6 ins. (8 and 15 cm.) deep. They would be explicable as foundations for the pillars of a verandah of the final Roman occupation.

INTERPRETATION (fig. 26)

What follows hinges upon the explanation adopted for the features between 56 and 100 ft. E. The only post-Roman features in this area are believed to be the archaeological trench F66 and possibly pits F49, 52-54, 70 and 85. A one-inch sherd of a medieval glazed handle or spout is recorded as the only find from the wall foundation F68. Against accepting this as evidence of a medieval date for the wall is the distinctly Roman character of the foundations (similar to those found on the north side of the bath-house site), the clean character of the filling, and the unusual plan of the building implied (pl. VIA). In the absence of a return wall before 105 ft. E. (beyond which erosion could have removed any wall) this must have been a courtyard building. Since the foundations of F68 projected into the topsoil it is assumed that the sherd became lodged between them in the course of cultivation.

It will be convenient to use this wall as a starting point for interpretation. Since no other foundations of this type have been found at Roman Rise or Chantreyland such a special building would have to be within the central administrative area if it belonged to the forts of periods II-IV. Since it is clearly not in such a position it must be allotted to the earlier occupation of period I. The possibility that it might be a fort *principia* (rather than *praetorium*, since there are no rooms along the west frontage) has been exhaustively explored and its implications examined during the drafting stage of this report. This would involve an early fort facing west, transverse to the line of the Watling Street West. If it was about the same size as Jay Lane or Buckton its northern ditch could be represented by Ditch 1 in trench 1 and its southern one would lie along the north side of the butchers' orchard, site C. The overriding objection to this hypothesis is that there is no sign of any rampart earlier than period II in either trench 1 or trench 3; and an even larger fort is ruled out by the absence of occupation before period II anywhere in trench 3 west of the stone spread of layer 26. We may therefore assign the courtyard building to the period I *vicus*, and adopt Professor Frere's suggestion that it could well be the *mansio*, for which purpose its siting beside the Watling Street West is appropriate. Post-trenches F121 and 122 are earlier than the wall foundations and raise the possibility that an earlier timber *mansio* stood here, and the earliest features in this area are so interpreted on fig. 26.

The interpretation of the other timber features is even more uncertain. It has not been possible to produce an explanation that is completely convincing, and the suggestions on fig. 26 must be regarded as tentative. The greatest complexity occurred between 70 and 100 ft. E., but the head of the new drive was unfortunately available for less than a week, and the intersection of post-trenches there was

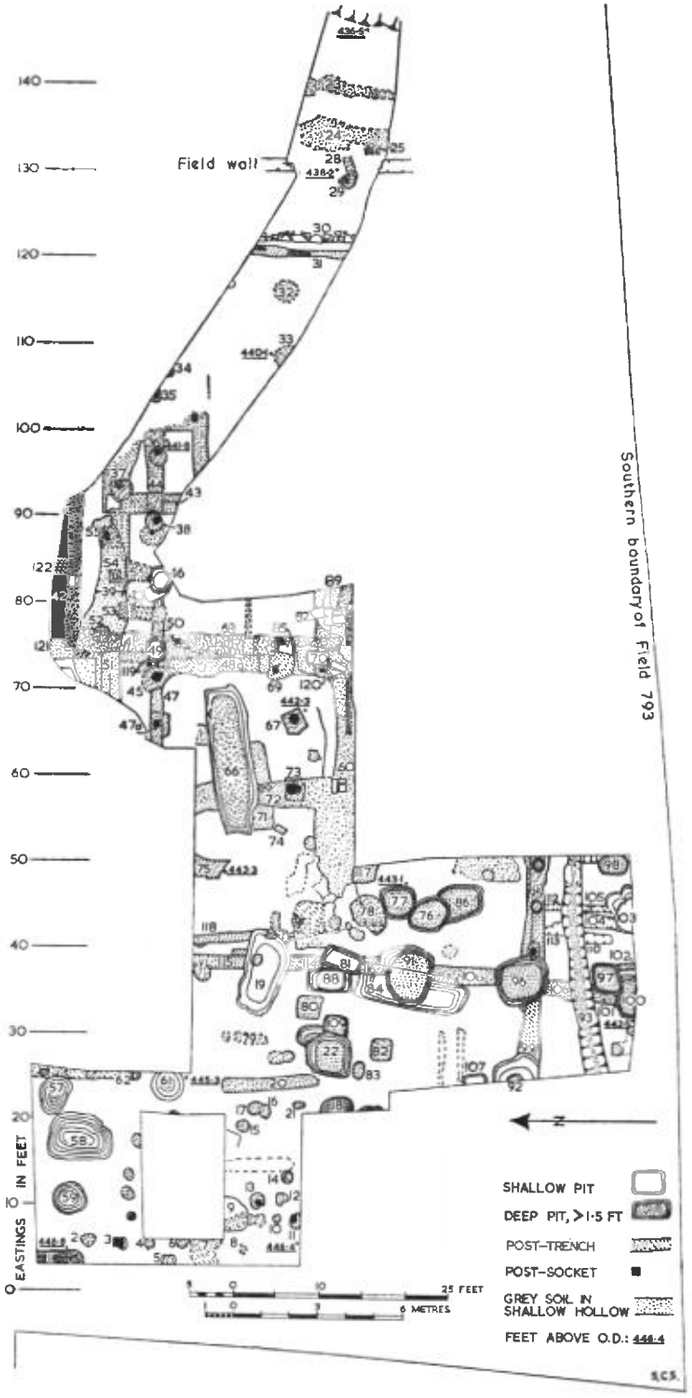


FIG. 25
Leintwardine, Site B, Roman Rise—Plan of all features.

difficult to define. The other important crossing of features, in the south-western corner, was cut out by the modern cess-pit F96.

The interpretation of periods II and III on fig. 26 involves similar buildings orientated east-west, and ending eastwards on the assumed western side of the fort's north-south axial road (*via decumana*). On the north side the post-trench F51 had disturbed the period IB stone foundations of F41, and appears to be continued as a feature through the much disturbed area to the west. Its line is picked up firmly by the post trench F37. The return of the latter southwards, as post-trench F43, was cut by the east-west post-trench F44. The wall-line F51-F37 is then later than period IB, and so allotted to period II; and the wall-line of F44, followed westwards through F50 and F47, is later again, and so placed in period III.

Turning to F20 (at 25 ft. E.), we have a short length of post-trench involving two cuts—a north-south one and another that is orientated slightly west of north. These alignments are repeated with post-trenches F114/115 and F118 (40 ft. E.), and may be reflected in the alignments of F72 and of the two elongated disturbances west of F20. The western of these (a hollow below F9) is 16 ft. from F20, which is 17 ft. from F118; F72 is 16 ft. to the east of F118, and F48 is the same distance further east. The spacing and alignments suggest partitions within one building, of which another phase is represented by truly north-south partition walls (F115 etc.).

These features are probably related to the two phases of buildings defined above, and since the post-trench F48A (clearly the latest post-trench in its area) is just slightly off a true north-south alignment, it is assumed that elsewhere the alignments parallel to F118 will be of period III; and those parallel to F115, of period II. The deep post-trench F108 is offset from the line of F114/115/116, but otherwise seems appropriate for the period II building.

The northern walls of these buildings have been defined as F37/51 and F44/47. The only post-trench available for the southern walls is F95/99. Unlike F115 and F118 which are each of a single phase, the trench F95 was demonstrably of two phases, with a shallower cut preserved as a ledge on the north side, and the final post positions clearly defined about 5 ft. (1.5 m.) apart. It may be noted that the projection of F118 southwards would meet the central of these three posts, and that four posts at this spacing would measure just under 16 ft. (4.9 m.) between post centres, within three inches of the width of the internal divisions postulated above. Judged by its outline F99 was of more than one phase, but it was not possible to distinguish separate phases in the filling. If this alignment does represent the southern wall, the building under discussion will be 50 ft. (15 m.) wide in its original period II form, and 45 ft. (13.5 m.) wide in period III. This is far too wide for a normal barrack block, but there is too little evidence to allow its purpose to be assessed.

Unexplained so far, is the post-trench F101/106, which is of two phases. It was cut by the drain F93 which probably lies along a street of periods II and III. If so, F101/106 will be earlier than period II, and is therefore allotted to period I.

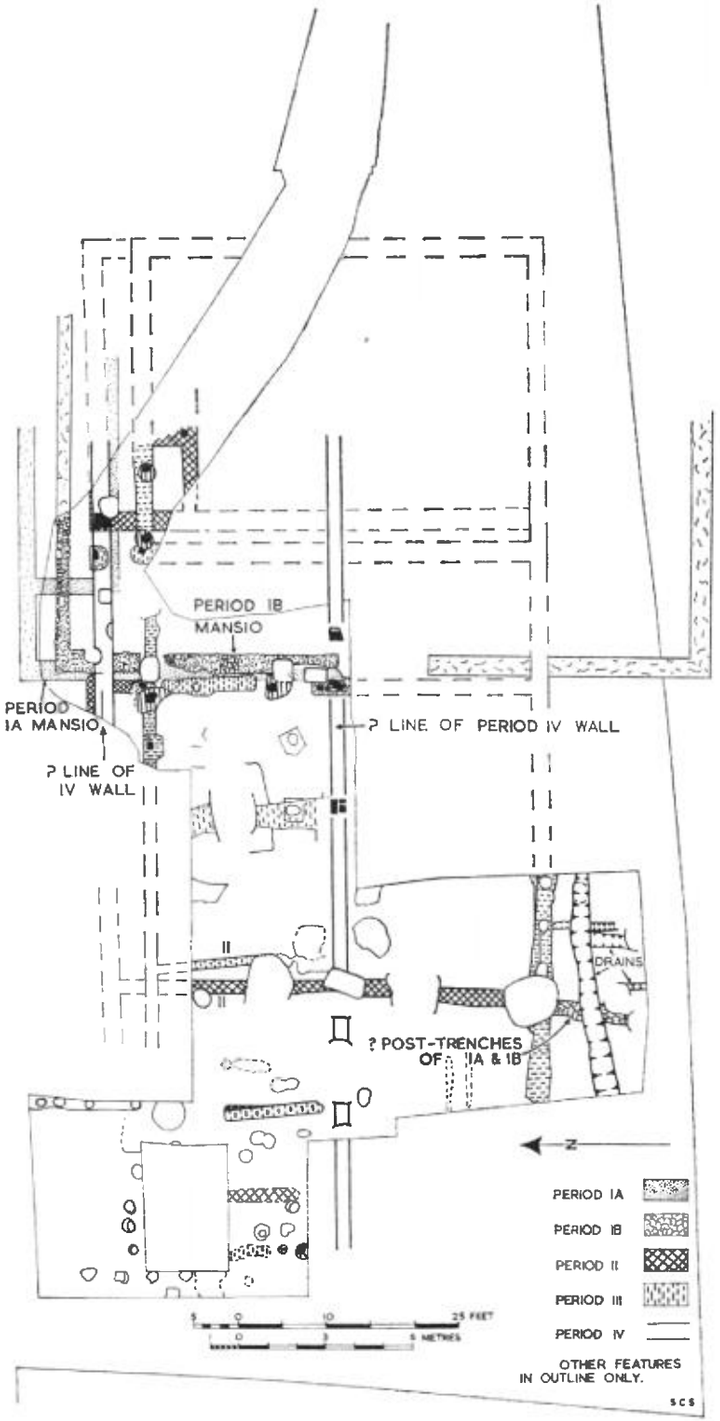


FIG. 26
Leintwardine, Site B—Interpretation of features.

Cutting the period III post-trenches F44 and F47 are three pits, F36, F38 and F45 which were apparently dug to remove posts standing within the post-trenches, and were backfilled with debris of various kinds. F36 was topped with stone over a layer of charcoal and burnt clay; F38 was filled with stone; and F45 yielded pot-sherds and an ox jaw. The filling of the robber-pit F69, which is thought to belong to period III, contained much ash and charcoal. The impression is that of a general dismantlement and tidying up.

This demolition, terminating period III, is the first for which there is any evidence of a fire on this part of the site, but the absence of charcoal in F38 and F47a precludes any suggestion that the fire was widespread.

It is possible that the buildings of period IV were aligned north-south and that the pits F49 and F85 mark the position of robbed pillar foundations. But the filling of F49 does not really fit a stone-robbing pit, for over a distinct layer of loose charcoal and burnt clay was a mixed layer of boulder-clay and charcoal. F85 was in much the same case except that the topping here was of stone (from the cut through F68) over charcoal and burnt clay. We may conclude that these two pits are unlikely to mark the site of Roman features. The strip of F60 with its litter of burnt tile-stones and charred beams along with the three settings of stones (pl. VIA) offers the most likely indication of a robbed wall line, parallel to the previous timber buildings. General support for this might be seen in the pieces of limestone that were common in the filling of pits F81, 88 and 22. The stone and tilestone debris in the hollow F39 between 70 and 90 ft. E. is less convincing evidence of a parallel wall there, but together with the evidence of fire in F60, allows speculation that the Leintwardine fort ended its days in flames. Its last barracks will have had freestanding drystone walls only, perhaps as sills for timber-framed superstructures. We can at least conclude that they were largely roofed with tilestones, since numerous fragments of these were present in F60 and parts of two of hexagonal form came from the cess-pit F91.

DATING

Nearly all the finds came from the pits or topsoil and are of value only in a general discussion of the occupation of Leintwardine (p. 314), but reference may be made here to the few finds which have any bearing on the structures so far described.

Period I. There are no stratified finds from the wall-trenches associated with the timber or the stone *mansio*. From the post-trenches F101 and 106, which have been tentatively allotted to period I, came a rim sherd of a black-burnished cooking-pot, a body sherd of a similar vessel with acute trellis decoration (both from F101) and an Antonine samian form 31 (No. 25, from F106). The later phase of this trench should therefore be dated no earlier than *c.* A.D. 140. A rim of native Malvernian-tempered pottery in F101 may come from the first-century occupation. On top of the *mansio* wall foundations, F41, was a stamped samian base of Suobnus (fig. 34, 46) dated A.D. 135-160.

Period II. No stratified finds can be securely attributed to this period.

Period III. Apart from a sherd with wave decoration (fig. 37, 11) and a flagon neck from the post-trench F95 which may belong to its latest form, period III, the only finds came from the filling of the robbed post-holes F38 and 45. From the former is a West Midlands necked bowl (fig. 37, 2), a black-burnished cooking-pot rim, a coin of Faustina II, and a stamped base of Iustus (170-200) (fig. 34, 28). If the correlation of structures on site B with the defence periods on Site A is correct, these finds add nothing to the evidence for what has already been seen to be a third-century occupation.

Period IV. There is no direct evidence for the construction date of the stone barracks. The unstratified coarse ware and coins indicate that occupation continued well into the fourth century.

SITE C (fig. 27)

In Field 791 behind the butcher's shop, owned at the time of the excavations by Mr. F. Hodges, trench 5 was dug in 1959 to test the hypothesis that the line of the southern defences was marked by the break of slope along the southern boundary of the orchard. As seen on the section this revealed the remains of certainly two and most probably three successive gravel roads running east-west. No trace of the expected rampart was to be seen above or below them. The lowest road of 1 in. of rammed gravel, was laid directly on the natural boulder-clay, indicative of terracing for its emplacement. This was covered by a fine wash of grey silt that deepened to 2 ins. (5 cm.) at the south-west corner, and then by 6 ins. (15 cm.) of packed gravel representing the second road. This extended just over a foot further north. At a higher level again to the north the edge of a third deposit of packed gravel lay over a 4 in. layer of humus, and is interpreted as a third road, removed by erosion and cultivation over the greater part of its former extent in trench 5. It is now clear that these roads belong to the fort of periods II-IV, the timber-laced rampart of which was revealed in two 4ft. square trenches towards the western end of the orchard. The northern one exposed the actual front of the rampart 46 ft. from the western hedge; the southern one revealed wood-stained clay in the body of the rampart. Both trenches were excavated to a depth of about 18 ins., sufficient only to show up the typical character of the period II rampart.

The lowest road will then belong to period II, and the middle one is probably to be correlated with period III. In trench 3 at Chantreyland it was seen that there was no great gap between the work of these two periods and this is so here too. The major shift of road position in trench 5 occurs with the construction of the uppermost road, and it will be recalled that in trench 3 the greatest change was between periods III and IV. It seems likely that this is to be equated with the sequence in trench 5, where the uppermost road is therefore regarded as the work of period IV.

An east-west road in this latitude would be appropriately placed for the *via prinicipalis* of the fort, implying a west gate at the south-western corner of the orchard with which the break in earthwork shown on the old O.S. 25-inch plan is in accord. Resistivity traverses (RT6, 7 and 8 on fig. 27) in this corner produced

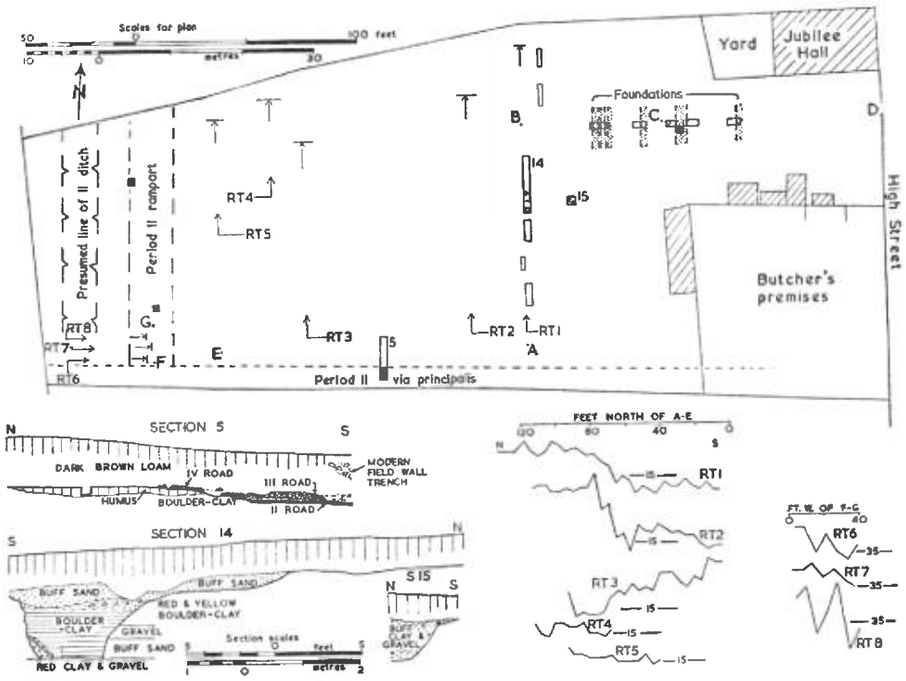


FIG. 27
Leintwardine—excavations and resistivity traverses on site C.

readings that are not inconsistent with the period II ditch approaching a causeway near the southern hedge. RT6, nearest the hedge, produced a shallow trough over the presumed ditch position, within which the lowest readings on RT7 and RT8 were also recorded.

In an attempt to locate any earlier defences a number of north-south traverses with a Martin Clark resistivity meter using 4 ft. probe spacings were made in 1962. RT1 and RT2 produced curves in general agreement showing a southern zone of low resistance and a northern area of high resistance. At the junction of the two, trench 14 revealed the end of a ditch-like feature, some 4 ft. (1.2 m.) deep and 8 ft. (2.4 m.) wide with a flat bottom 3½ ft. (1.1 m.) wide. The filling was so clean that a natural explanation was considered, but the profile and shoot of small flat stones against the southern side are clearly against this. Yet equally the profile is distinct from that of any other ditch at Leintwardine, and the cleanness of the filling must mean that whatever its intended function it was backfilled immediately with its own upcast. Although the possibility of a Roman explanation cannot be entirely discounted it now seems preferable to invoke some modern explanation such as an archaeological trench like those identified at Roman Rise, which were similarly cut

deeply into natural deposits. Just to the east trench 15 revealed the south-western corner of a somewhat similar cut with equally sterile filling.

In rejecting the possibility of these two cuts being opposed ditch-ends with causeway between, two further comments should be made about the resistivity traverses. RT1 proved to lie along the line of a buried cable from the electricity supply line along the north side of the orchard. The junction between high and low readings occurred at the point where the cable entered the traverse from the north-east to turn and run, with the traverse, southwards. The readings on RT1 probably reflect nothing more than the presence of the cable. On RT3 the pattern of earth resistance was quite the opposite of that in RT1 and RT2. It lends no support to the possibility that the feature revealed in trench 14 extends that far west. No significant variations are recorded in RT4 or RT5, nor were any other archaeological features found in the trenches along line AB or in the two north-east of B.

A resistivity traverse along line BD produced highly fluctuating readings. The trenches subsequently cut along this line showed a complexity of features between 1 ft. and 2 ft. from the surface, rendering any correlation between features and meter readings quite out of the question. Apart from some shallow spreads of stone and a modern ash pit a number of shallow gullies were found, running north-south and filled with stone. These were only 3-6 ins. deep in the natural boulder-clay and suggest the remains of wall foundations. They are not dated on their own evidence but are sited within the central administrative area of the fort, if the identification of the *via principalis* be correct; the two easternmost foundations could belong to the *principia* itself.

SITE D (fig. 28)

During the bath-house excavations in March 1964 it was noticed that mechanical levelling of the ground in Field 790 just north of Mill Lane for the erection of a chicken-house had exposed iron-stained pale grey clay similar to that found in the period II rampart on sites A and C. Heavy rain had left most of the cutting under water but it proved possible to clean and record the area shown on fig. 28 at the western end. No excavation in depth was carried out; indeed already the grey loam of the pre-rampart soil was showing through in three places.

This cleaning revealed firm log marks orientated W.S.W.-E.N.E. in a matrix of grey clay, and continuing beneath the unexcavated ground to the west. North-east of this band a parallel band of grey clay about 10 ft. wide showed traces of wood marks that were too fragmentary to be recorded with confidence. At the north-eastern corner the edge of a thin layer of gravel was preserved but eastwards and southwards it had already been destroyed by the bulldozer.

It is clear that we have here the base of the period II rampart, and a fragment of the contemporary *intervallum* road. Wherever logs have been exposed elsewhere they have been consistently at right angles to the rampart front. This implies that the rampart here was trending N.N.W.-S.S.E., and the parallel orientation of other structural lines in the deposits confirms this. But at the south-eastern corner of the area the division between the two clay deposits is trending eastwards as though

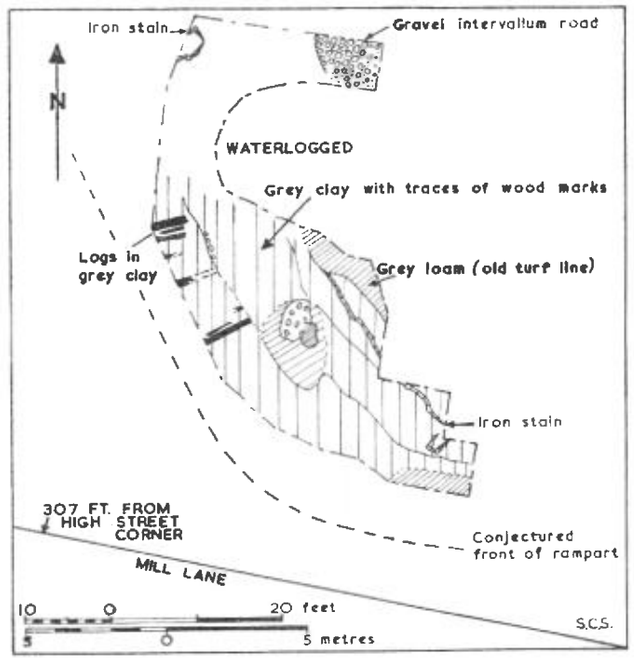


FIG. 28
Leintwardine, site D.

turning a corner. This unexpected exposure has in fact fixed the south-western corner of the period II fort, and has shown it to be planned in a similar way to the north-western corner on site A. Here again is a piece of the corner-facet which is firmly fixed for 15 ft. (4.6 m.) by the logs. If it is to join the line of the rampart coming south through site C, it will be somewhat more than 100 ft. (30 m.) long, closely comparable to the length of the north-west angle on fig. 21. The facetted corner would seem to be a deliberate feature of the period II defences.

In the narrow exposure available the western edge of the gravel road was curving away northwards diverging from the line of the rampart. If continued northwards the road would thus leave an *intervallum* space about 50 ft. wide behind the western rampart, and this is equivalent to the space indicated for periods II and III on site A. No finds were made in the course of this work.

SITE E—THE BATH-HOUSE (fig. 29)

The excavation by drag-line of a pit to accommodate an oil-storage tank west of Griffiths' Garage workshop revealed a wall at its southern end (pl. VIIA) and led to a rescue excavation financed by the Ministry of Public Building and Works in March and April 1964. A special debt is owed to Mr. Grffiths and his staff for their

co-operation which allowed the work to proceed while the area was still being used as a coach park. The earlier removal of the topsoil from the area east of the garden wall for this purpose meant that there was no overburden and Roman levels were at the surface. Concrete floor surfaces, probably of the final bath building, were exposed between trenches 10 and 12. Unfortunately the wall at the end of the tank-pit proved to be the only portion still intact, for elsewhere post-Roman robbing had virtually emptied the wall-trenches.

In 1964 a number of sheds occupied the ground just west of the garden wall. With their clearance in 1967 the area of trench 24 was bared mechanically following trial trenching to establish the southern and western limits of the building. This showed that the bath-house had not extended far to the west of the garden wall, and that the north-western part of trench 24 was over a yard area in which rubbish and ashes had been dumped. As there were few stratified finds from the rest of the site the excavation of this area promised a welcome increase in dating evidence.

Five phases of occupation are distinguished:

Period IA—A timber *vicus* occupation from *c.* A.D. 70.

Period IB—Small bath-house built for the *vicus c.* A.D. 140.

Period II—Bath-house enlarged for the period II fort after *c.* A.D. 160.

Period III—Minor modifications of the bath-house.

Period IV—Major alterations, presumably in the fourth century.

THE BATH-HOUSE YARD, trench 24, section 1 (fig. 30)

The section cut along the north side of trench 24 provides the most useful statement of the archaeological sequence in this part of Leintwardine and may conveniently be used as an introduction to site E.

Period IA. The gully on section 1 was only explored in a cut 1 ft. wide at the foot of the section. It was filled with dark grey turfy soil with numerous charcoal flecks and from near its bottom came sherds of grey rustic ware, presumably of the late first or early second century. No stone or tile was found in its lower filling. It may be related to various pre-bath timber features inadequately explored in trench 24 and occurring intermittently between the deep wall-trenches on the rest of the site. The pre-bath deposits in trench 24 include black-burnished ware (fig. 38, 15-17) and must extend as late as *c.* A.D. 120.

Period IB. The first bath-house construction is marked on the section by a scatter of tile fragments, including box-tile, over the period IA gully and in the old turf to the west. At the eastern end a narrow exposure of bright boulder-clay over the period IA turf line probably represents the upcast from the ash-pit. There are no masons' chippings or mortar droppings on top of it so clearly the wall F9 had not been built at this time. Dug during period IB, the pit was full of ashy soil and contained many small oyster shells. Among the finds, presumably residual from period IA, was a stamped samian base of Rufinus (No. 80) dated by Mr. Hartley

c. A.D. 70-85, but the West Midlands necked jar (fig. 38, 25) confirms that the period IB ocupation continued later than Buckton II, after *c.* A.D. 130.

Period II. The ash-pit is sealed by a wide spread of bright boulder-clay, brown soil and a heap of burnt clay, all of which is topped at the eastern end by a deposit of purple sandstone chippings and mortar. This marks the construction in period II of the large room at the eastern end of trench 24. From the upcast came samian sherd No. 98, which is probably Antonine. The surface of the upcast runs westward with a shallow terrace cut in the period IB turf for the emplacement of a gravel path only 7 ft. (2.1 m.) wide on this diagonal cut. The gravel ends as a trickle at the bottom of a charcoal patch lying against the back of a newly constructed rampart. This had been placed upon a turf surface that had developed to a depth of 2ins. (5 cm.) over the tile spread of period IB. The base showed faint and irregular wood marks too diffuse to be plotted, and over these was 6 ins. (15 cm.) of pale grey clay, separated from a similar deposit by a nearly horizontal iron-pan such as often occurred at Chantreyland associated with log layers in the period II rampart. This second clay layer was topped by a set of firm log marks running diagonally across the trench, NE-SW. These were only 3 ins. (8 cm.) wide at most, in contrast to the 6 ins. (15 cm.) standard at Chantreyland. A further 6 ins. of grey clay was surfaced by a broken iron-pan and may mark the top of the surviving work of period II. The back of the rampart was difficult to establish, through the squeezing out of the clay without leaving firm structural lines to be recorded but it is likely that originally it rose steeply from the western end of the charcoal layer.

The gravel walk must have soon gone out of use for the tile debris from the roofing of the period II bath-house was scattered over it, and this in turn was covered by 3 ins. or more of grey ash. The layer of turfy soil with charcoal flecks that developed to a depth of 9 ins. over the ash appears to mark accumulation during period II.

Period III. Over the western end of this turf extends the grey clay, partly weathered to orange, of the upper 18 ins. of the rampart, as though the rampart had been widened or had slumped in period III. Between the rampart and bath-house the area was now used as a site for ash-tips and fires, producing a rapid accumulation of burnt clay, charcoal and ash layers. The five sherds of samian from these deposits are all Antonine (Nos. 101-105).

Period IV. An ashy soil lying over the rampart back doubtless marks the end of III and is followed in the centre of the section by a lens of grey clay and a scatter, south of the section, of limestone flags. This is the same material as was used extensively as a foundation for the period IV floors of the baths, and is presumably attributable to the same building episode. A mortary spread above this is open to the topsoil but probably also results from period IV operations.

Trench 24 has indicated that a pre-bath occupation, period IA, was followed by two distinct periods of bath construction, IB and II, the second of which is related to a timber-laced rampart similar to that of period II of the adjacent fort. Beneath the rampart the clean turf line between IB and II suggests a brief interlude between

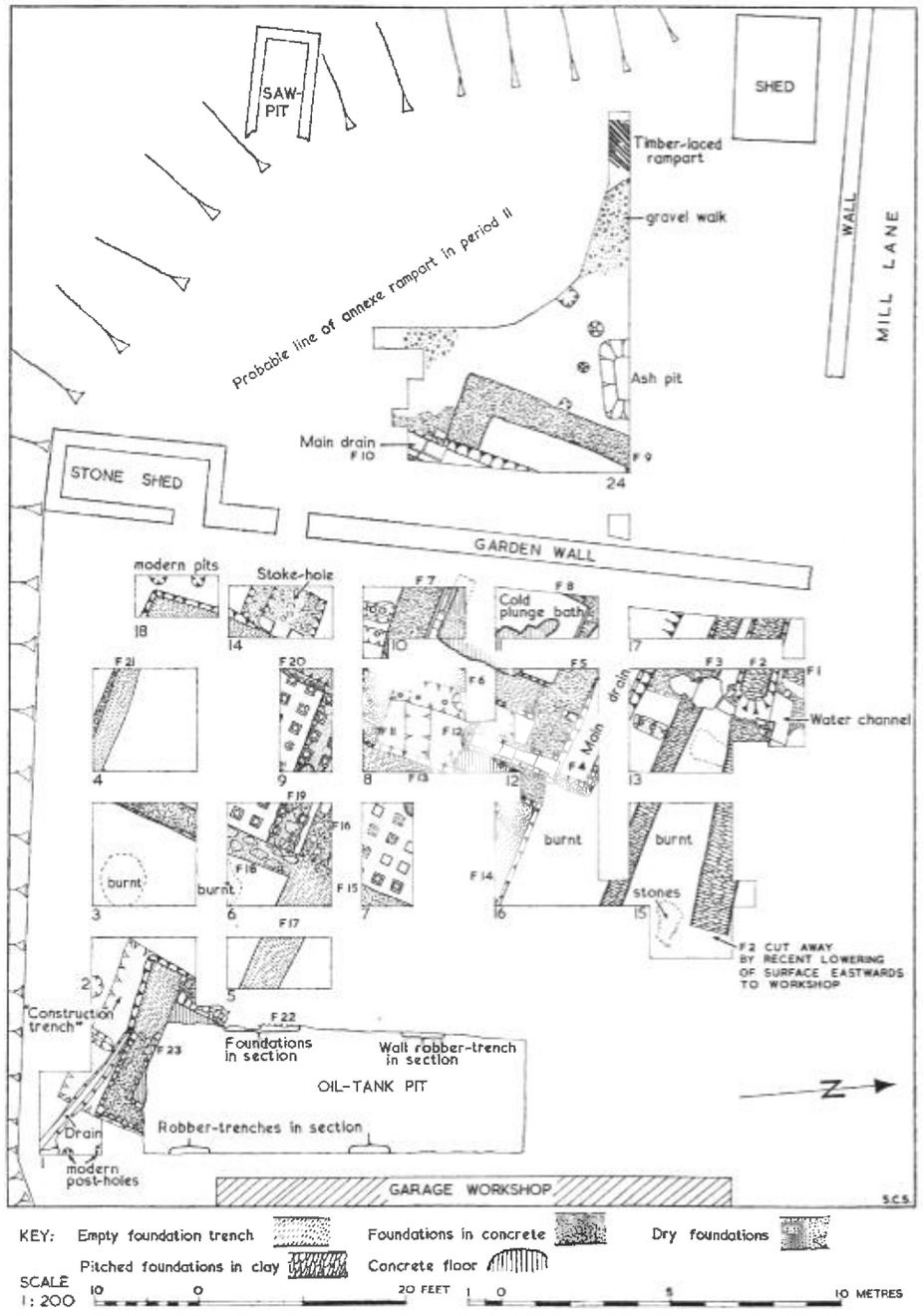


FIG. 29
Leintwardine—Excavations on the bath-house (site E).

these periods. A long occupation through periods II and III without sign of rebuilding was followed by the marks of a major rebuilding in period IV.

THE BATH-HOUSE

The excavated features are shown on fig. 29, and selected sections of the trenches on fig. 30 with levels marked in feet above Ordnance Datum. As there is no evidence of any stone buildings in the area before the first bath construction in period IB, it is assumed that all the masonry features belong to the bath-building. Much of the foundation material and all the surviving footings consisted of purplish-red quarried sandstone identical with that used at Buckton. It was some surprise to find many large blocks of dressed stone relegated to bottom foundations even in the earliest walls, and the explanation favoured for this is that the bath-house was in fact constructed with re-used stone won from the demolition of the Buckton fort.

Structural sequence

The explanation of the bath-house plan may be seen to hinge upon the relationship of the two northern walls (F2 and F3) to the cold plunge bath and of the southern hypocausted room (Room 1) to the same bath. F2 and F3 are alike in having foundations of nodular limestone pitched close in a yellow clay matrix, and differ in this respect from the other wall-trenches. Neither shows any wall joining it from the rest of the bath-house to the south, so they might be thought of as successive boundary-walls; F2 is 3 ft. wide, and F3 is 2 ft. Their convergence towards the garden wall marks them as of different periods. On section 2 both were seen to be cut through thick deposits of period 1A occupation-material including much daub and charcoal. F3 included purple sandstone in its foundations and beside both walls the masons' debris was of the same material. Neither should be earlier than period 1B.

On fig. 29 and in section 3 it is shown that both walls are crossed by the concrete bedding for a water channel, although robbing had nearly destroyed this relationship over F2. On this bedding were set grey micaceous sandstone flags (not dissimilar from those used in the Buckton gateway foundations), for the conduit bed (pl. VIIIA). The surviving ones show a level course through F2, but are then steeply inclined to cut at a slope the foundations of F3. This would indicate that the channel was planned at the time F2 was constructed, and suggests that F3 had already been demolished. It will be noticed on section 4 that the two sloping flags are at slightly different gradients and that where they meet there is also a break in their concrete bedding. Projected southwards the plane of the upper stone would cut the north face of the cold plunge-bath wall 16 ins. above the earlier floor level (section 5). It will be shown below that the floor of the cold plunge bath was subsequently raised 1 ft. and it may be suggested that the break in the channel bedding marks the adjustment of the channel to this new level, for the lower stone is inclined less steeply and the concrete bed south of it even less so. The projection of this latter surface as shown on section 5 would cut the north face of the cold bath 7 ins. above the level of its later floor. This relationship in history and plan

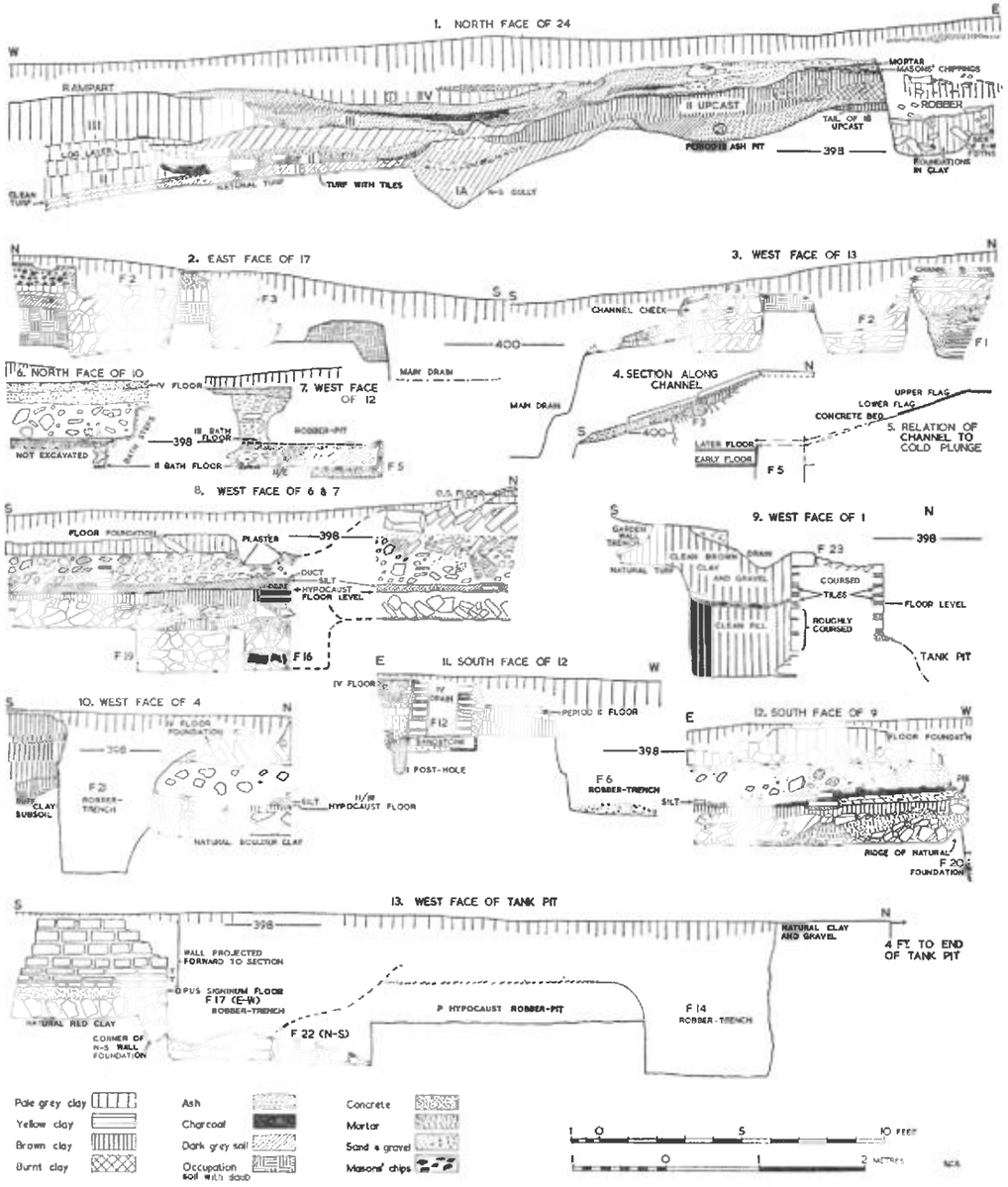


FIG. 30
Leintwardine—Sections on site E.

would seem to connect the channel quite adequately with the cold plunge bath. Its construction may be assumed to be contemporary with that of the cold bath.

From this discussion it has emerged that F3, the earlier of the two northern walls, preceded the construction of the cold plunge bath whereas F2 accompanied the construction of that bath. The only feature other than the water channel found to the north of the yard walls was F1, apparently the end of a wall-trench or pit. Most of the lower filling exposed was sand and clay but above this were concrete and purple sandstone and two layers of pitched limestone bound in clay. This fill marks F1 as not earlier than the earliest baths, and since its trench is cut by that of F2 it would seem to be placed as broadly contemporary with F3. Its function is not known, and could not be investigated because trench 13 was already up to the edge of the modern road.

On the southern side of the site the building sequence is well demonstrated in section 8 and pl. VIIB. Deep excavation for hypocausts has here removed all the timber levels of period 1A so that the earliest feature, F19, belongs to the first bath building. These foundations, of red sandstone, including many dressed blocks, were laid in dry sand and gravel, and at their east end (fig. 29) were bonded into the north-south wall F18. Westwards this foundation crossed trench 9, showing that Room 1 in its earliest form belongs to this period, presumably the earliest bath building and so period 1B of our sequence. Contemporary walls to the north are F13 (the junction with which was found in trench 9) and F15, which must take F14 with them to place the early form of Room 2 also in period 1B. As there are no contemporary foundation trenches going west from Room 2 the cold plunge bath must be a later addition; the period 1B baths will have been developed eastwards using F17 and F14 which are projected as robber-trenches through the modern tank-pit and under the garage workshop. These walls may be regarded as contemporary with the yard wall F3 which runs parallel to them and has also been seen to precede the construction of the cold plunge bath.

In section 8 the period 1B wall F19 is shown to be overlain by the foundations of a hypocaust floor abutting a new east-west wall, F16, with much concrete in its foundations. That this was indeed later than the north-south wall F15 was shown by a difference in level between the bottoms of their foundation-trenches which were separated by a low ridge of natural boulder-clay. The small enlargement of Room 1 is seen in plan to be required by wider replanning involving new roofing arrangements. The baths in this second phase, period II, were being enlarged westwards by prolonging the main walls, F17 and F14, of the old building. To carry the new roof F16 replaced F19 between F13 and F15, and the short length of F11 was put in (concrete-bound and 22 ins. shallower than F13) to bridge the gap between the old work and the new cold bath foundations, which are thus also placed in period II. F9 in trench 24 has its construction-litter of chippings and mortar on upcast sealing the period 1B ash-pit and should be part of the same work. It is in turn related in section 1 to the construction of the timber-laced rampart. Since the yard wall F2 is related to the cold plunge and itself diverges from its predecessor F3 as though to accommodate new extensions to the east, a major

enlargement of the bath-house in period II is indicated. The correlation of this with the construction of the fort in period II, when too the timber-laced rampart was introduced, seems certain.

Roofing-tile wasters were used to raise the floor of the cold plunge bath by 10 ins. (25 cm.) in its later form, referred here to period III. These wasters imply the manufacture of tiles on the site and we may infer a re-roofing operation now. No evidence of this period's work is discernible in section 8, where presumably the hypocausts lasted through period III, but in section 12 a renewal of the nearby stoke-hole flue seems indicated by a fan of mortar and tile fragments lying over the charcoal that covered the floor of the original period II hypocaust.

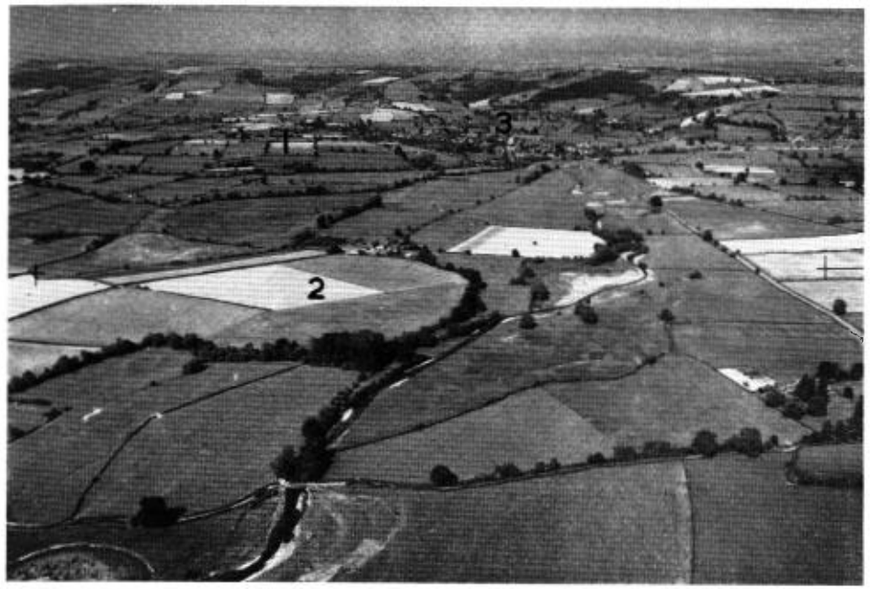
Over the hypocaust floors in section 8 the patches of soot were covered by 3 ins. (8 cm.) of dark grey silt with an almost level surface at 396.3 ft., the same conditions being recorded in trenches 4 and 9 (sections 10 and 12). This must have resulted from the flooding of the hypocausts and surely marks a period of neglect between periods III and IV. What follows will be linked with the period IV deposits of section 1, which are held to be related to the fort period IV at Chantreyland. In section 8 the hypocausts were filled in with sandstone rubble, broken tile and the smashed remains of concrete floors. Over this was placed in Room 1 a 6 in. bed of light grey clay, seen in trench 9 to be the foundation for an *opus signinum* floor with its base at 399.1 ft. A similar conversion from heated to cold room took place with Room 2 where section 8 shows the new floor surface to be at 399.8 ft. The two floors were thus at about the same level, which was also that of the concrete floor laid over the filled-in cold plunge bath (section 6). The surviving fragment of the latter floor in trench 12 (section 7) may have settled over the rubble fill of the bath owing to the extensive wall robbing which had undermined it, so may well belong to the level of the *opus signinum* floor, firmly founded, on the east side of trench 12, whose surface lay at 400.4 ft. If this is accepted, it places the small drain, F12 in Room 5, in the same period, for the floor overlies its tiled walls but not its channel (section 11); and with this also in period IV will go the main drain, F4, which is of one build with F12. At this western end of the site there has been a thorough-going conversion of rooms in Period IV, an appropriate sequel to the period of neglect and fort abandonment for which there is much evidence at the close of period III.

In summary then the bath site shows the following sequence of periods directly referable to the *vicus* and fort episodes recognized elsewhere in Leintwardine:

Period IA. A timber, wattle and daub occupation, associated presumably with a *vicus* dependent originally on the Jay Lane fort, and destroyed by fire before the first baths were established which happened (on the evidence of the dressed stones) after the abandonment of the Buckton fort.

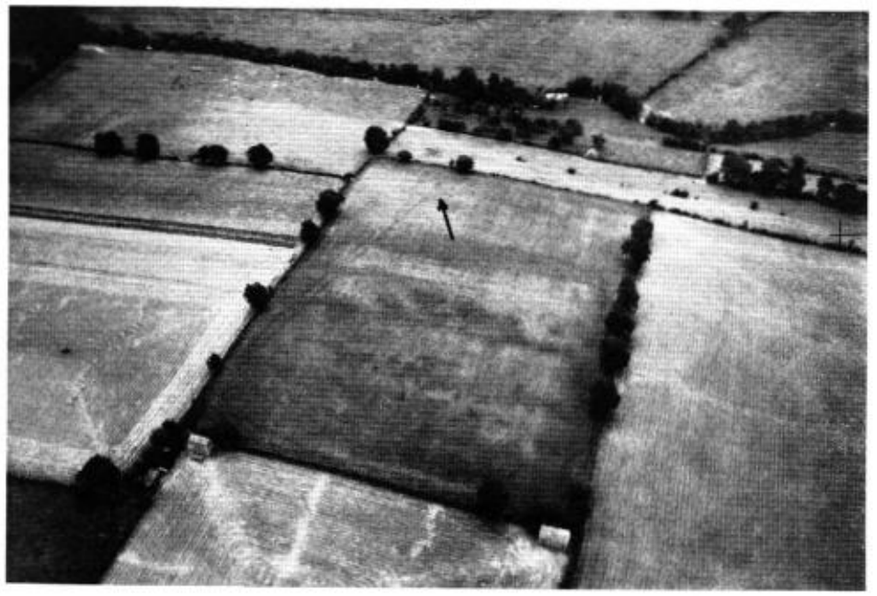
Period IB. A small bath-house with heated rooms at the west end.

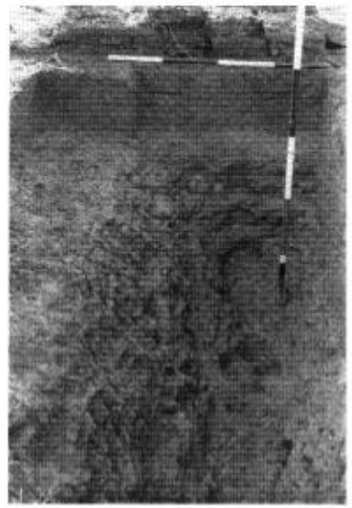
Period II. Enlargement of the baths with cold-plunge bath at the western end, and their enclosure by a timber-laced rampart.



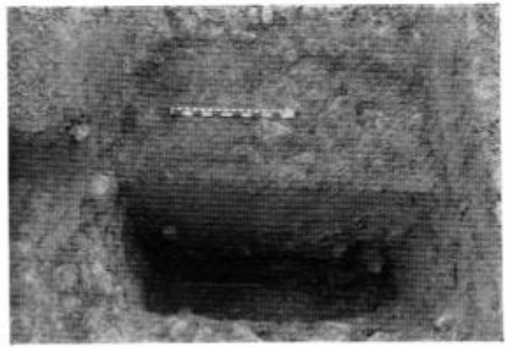
I—A (above). The Leintwardine and Buckton forts from the west. 1—Jay Lane; 2—Buckton; 3—Leintwardine.

B (below). The Jay Lane fort from the north; its southern corner marked by the arrow.
Photographs copyright W. A. Baker





A



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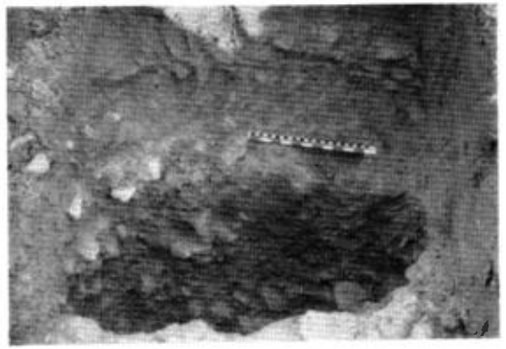
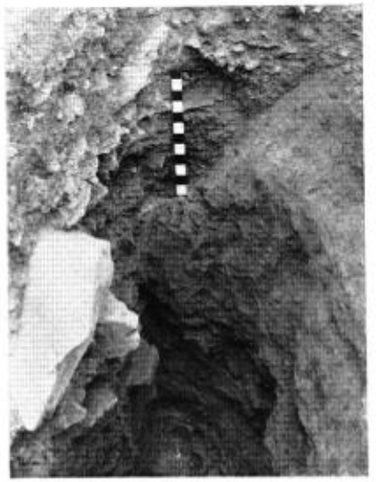


C

II & III—II (above), Jay Lane fort. A: Inner ditch end north-east of north-west gate. B and C: Sections of typical post-holes. III (below). The Buckton fort from the north-east.

Photograph copyright W. A. Baker

A



B

IV—Buckton, east gate.

A. Post-pit with socket filled with stone from the tower foundations in the foreground.

B. Period II gate-stop robber-trench (left face) over period I post-pit, with threshold beam slot behind scale.

C. Section 7-7 showing staircase foundation cutting period I post-pit.

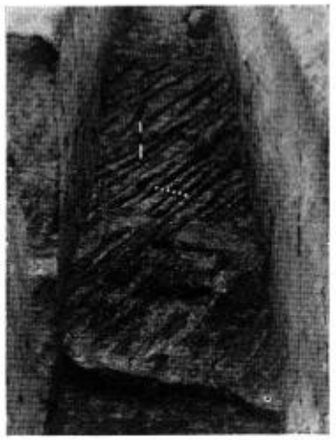
D. South-east corner of north tower footings.

Photographs by W. T. Jones

C

D

A



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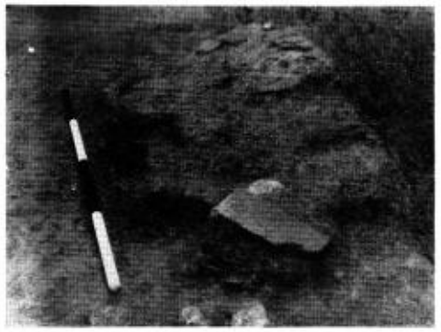


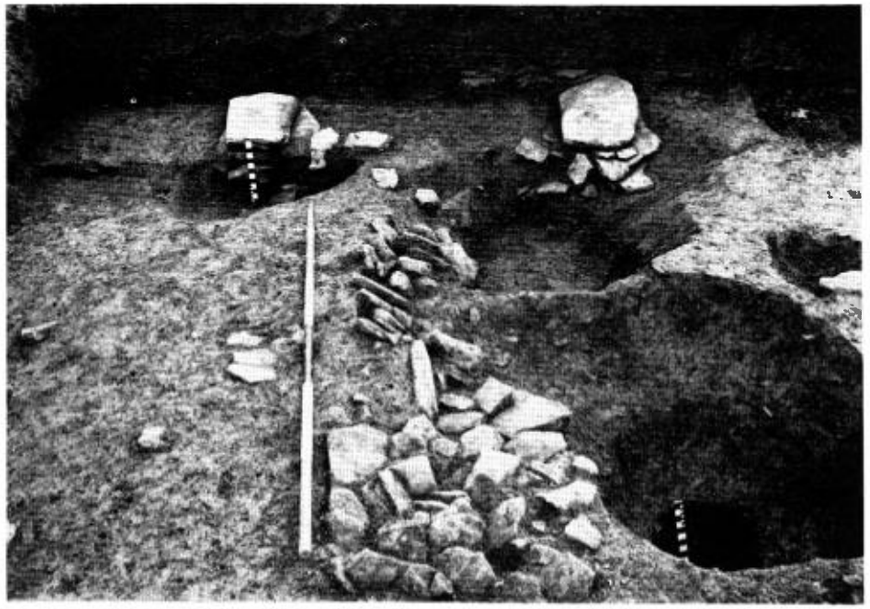
C

V—The Leintwardine fort.

A. Aerial view from the south
(Copyright W. A. Baker)

B. Log layer XIV in western rampart.

C. Period IV oven in trench 3.
Photographs B and C by B. Thomas



A

VI—Leintwardine site B (Roman Rise).

A. *Mansio* foundations F68 (ranging-rod) with period IV stone piles beyond.

B. Cess-pit F96 removing junction of post-trenches of period I (across photograph) and of periods II and III (on right with ranging-rod in bottom).

B

A

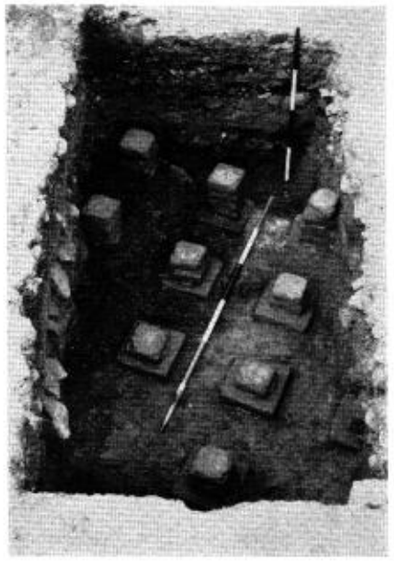
VII—The Leintwardine bath-house.

A. Wall F23 at southern end of the tank-pit.

B. Trench 6 from the east, showing bases of period II *pilae* and flue (right) over period IB wall F19, and through wall F16 (right).

B

A



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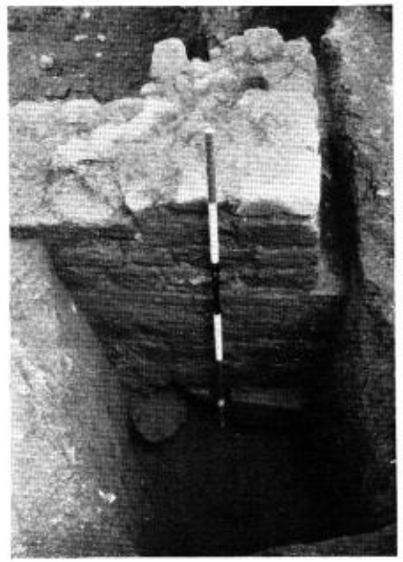

VIII—The Leintwardine bath-house.

A. Water Channel floor.

B. Period III hypocaust in trench 9.

C. Period IV drain F12.

D. South-east corner of room 7.

IX— Leintwardine. Inscribed lead strips (1/1).
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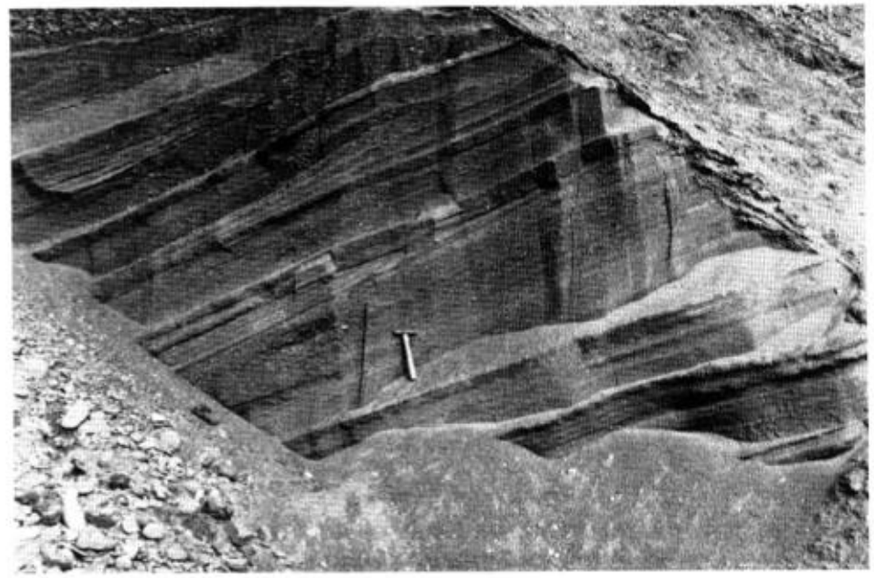

X Delta-bedded sands (dipping northwards) near base of exposure in Aymestrey Gravel Quarry.

Period III. Re-roofing of the baths and alteration of the cold plunge bath level, followed by abandonment.

Period IV. Extensive alterations involving the conversion of the western heated rooms to cold rooms; heated rooms now at the east end.

DETAILED DESCRIPTION OF THE BATHS (plan, fig. 31)

PERIOD IB. The arguments so far adduced imply that Rooms 1 and 2 formed the western wing of a building lying roughly E-W with a boundary wall F3 parallel to it 9 ft. to the north. For part of its length this could have also served as the wall of a corridor providing access to the bath-rooms. Its shallow foundations will have been cut away by modern levelling east of trench 15, and no sign survived in the tank-pit sections of its presumed eastern projection. The surviving natural surface within Rooms 1 and 2 showed no trace of any hypocaust *pilæ* for heated floors in period IB. The cut to this surface in both rooms is demonstrably of period II for it had left narrow ridges of natural boulder-clay against the side of the wall-trenches of F15 and F18 (e.g. sections 10 and 12). Despite this, it would be tempting to see the heavy foundation put in for the period II hypocausts as a levelling to raise them from an earlier low level, but the absence of concrete and broken tiles amongst the remarkably clean deposit of quarried purple sandstone rubble argues firmly against this possibility. The evidence is firm that Rooms 3 and 4 also had low level floors, presumably for hypocausts, in their final form. It is not therefore possible to know how any of these rooms were used in period IB. Section 8 shows that the walls of Room 1 were set as deep as those for the subsequent hypocausts, so that this room, and for all we know any of the others, could have been heated. The severely robbed stoke-hole in trench 14 which must have fed the period II hypocaust was only of a single period of construction as far as could be seen, but its foundations of unmixed sandstone in dry sand were just the same as those in the wall-trench F19. Its flue however is just 3 ins. (8 cm.) above the level of the period II hypocaust floor in trench 9. It will not serve for a lower level period IB hypocaust, and the excavated areas do not allow the possibility of room 1 being entered by a flue on any other side.

We cannot know how far, or on what plan the building extended eastwards under the modern workshop. In the other direction there is no sign of a return to the enclosure wall F3. If it did turn southwards to the riverside it must have done so no further west than the angle of the main drain, four or five feet beyond its most westerly excavated section. The bath-house of period IB itself then, is seen to consist of at least four rooms, providing an internal floor space of at least 803 sq. ft. (74.4 sq. m.).

PERIOD II. As already discussed, the building was now extended westwards by the addition of a long room (Room 5) containing a cold plunge bath. The old north wall of Room 1 was demolished (section 8) and replaced by F16. Short foundation trenches between the cold plunge bath and F13 provided the link for the new extension, although in the south-west corner of trench 8 robbing had removed any trace

of the last foot of this link. The water channel was now set in to feed the cold plunge bath, cutting across the demolished wall F3 which had been replaced by F2. It may be assumed that rooms 3 and 4 remained in use. The divergence of the yard wall F2 from the old line of F3 implies the enclosure of a new northern extension at the east end, most probably under the modern workshop, for no sign of such walls was to be seen in the oil-pipe trench dug from the road to the tank-pit. It would seem that the total effect was to double the size of the baths, at the time

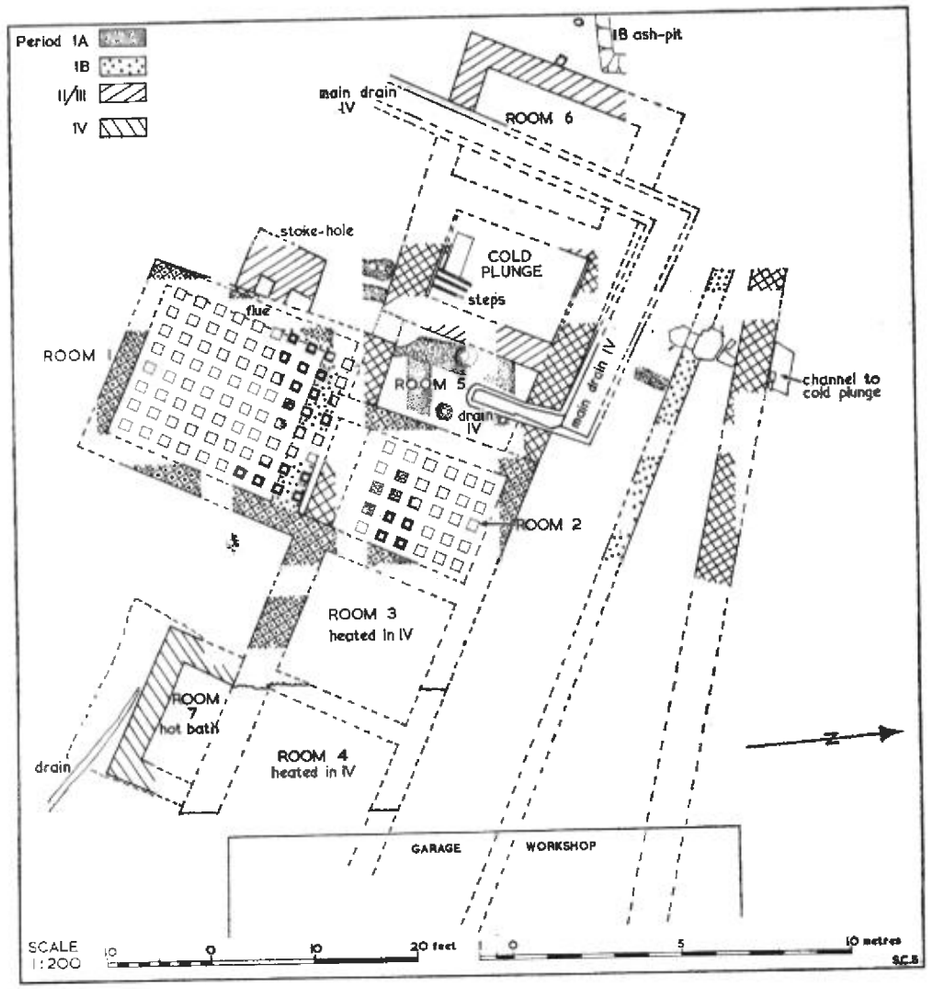

FIG. 31
Leintwardine Bath-house—period plan.

that the fort was built with a rampart of the same form as that now used to enclose the bath-house area in an annexe to the fort.

Although the modern garage buildings prevent any detailed assessment of the extent and function of the rooms east of the excavated area the maximum possible size of the bath-house may be calculated if the following assumptions are accepted: 1) There can be no rooms south or west of those already excavated. 2) There can be no rooms north of the projected alignment of the boundary wall F2. 3) The road between the south gate of the fort and the river-crossing lay no further east than the present High Street in that sector. 4) The south-eastern corner of the bath-house will not extend beyond the projected line of the southern terrace in Leintwardine House grounds (fig. 20), whether this represents the annexe rampart or a geological terrace. The record in the *Transactions* for 1929 (p. 229) of a bank overlying a burnt layer next to the grocer's shop south-east of Leintwardine House probably indicates that this was the annexe rampart, built over the burnt debris of the *vicus*.

On this basis the area of Leintwardine's bath-house could not have been more than 7,000 sq. ft. At Gelligaer the whole bath-house complex, including yards and latrines extended to over 8,000 sq. ft., while comparable garrisons at Chesters, Caersws, Castell Collen and Caerhun were provided with bath-houses (excluding yards) of between 5,000 and 7,000 sq. ft. It would appear that the Leintwardine bath-house is very small for the large fort to which it is attached. The implications of this are discussed further below (p. 315).

Details of period II rooms

Room 1 (20 x 15½ ft. internally). The hypocaust in rooms 1 and 2 was set on a deep foundation of pitched sandstone, levelled off with brown clay (section 8). The *pilae* were formed, as usual, of 2½ in. thick and 7 ins. square tiles set on base tiles 1 ft. square. Individual *pilae* in trenches 6 and 9 stood 6 tiles high, making the hypocaust at least 1 ft. 8 ins. (51 cm.) high (pl. VIIIB). In trenches 4 and 9 white plaster droppings in the hypocaust foundations beside the wall trenches indicate that Room 1, and presumably Room 2, were plastered. The hot air was introduced, along with much charcoal, through a stoke-hole on the west side of Room 1, where the surviving sandstone foundations would probably have carried the supports for a hot water tank over the flue. Room 1 then is the *caldarium*, the hottest room. From its hypocaust the air passed into that of Room 2 by a duct in F16, on section 8.
Room 2 (14 x 10½ ft. internally). This was similarly furnished with a hypocaust, and receiving its air after Room 1 will be a cooler room, or *tepidarium*. No trace of any duct survived in the short length of the deep robber-trench of F15 examined on the east side so we do not know whether the heating arrangements extended to Room 3.

Room 3 (13½ x 12½ ft. internally) and *Room 4* (13½ ft. wide but of unknown length), being used for hypocausts in the final baths, and with their walls quite robbed away, offer no features that can be certainly related to period II.
Room 5. The steps in the south-east corner of the earlier cold plunge bath show that

it was entered from the space to the east, and in F5 it was seen that tile courses in the concrete foundation went right through eastwards from the north side of the cold bath to beyond F12, the later drain. F5 will have been of one build in this sector at least and Room 5 is thus defined as 21½ long and 13½ ft. wide (6.6 m. x 4.1 m.) with a bath occupying the western 9 ft. The eastern end was probably quite featureless with a white concrete floor, of which only patches survived, at not lower than 399.5 ft. (on section 11).

The construction of the cold plunge bath is seen on sections 6 and 7. An initial bed of white concrete with brick fragments was coated with red *opus signinum* containing finely crushed brick. A ¼ in. smooth skim of white cement formed the finished floor of a bath measuring 13 x 8½ ft. (4 m. x 2.6 m.) at 397.2 ft. The two steps in the south-east corner (section 6) show it to have been 2.7 ft. deep, and bring its surround to a level (399.9 ft.) approximate to that of the surviving scraps of floor east of the surrounding robber-trench. We have seen that the bath's water, a cool flow from a spring across Mill Lane that was still used into recent years, was led in on the north side by a grey sandstone-flagged channel through the enclosure wall F2. The *opus signinum* facing of F5 survived in trench II to 398.6 ft. which will be the lowest level at which the channel can have entered the bath, 1.4 ft. above its floor. This is within 0.1 ft. of the level of entry calculated from the gradient of the upper channel flagstone (section 5). The outfall from the bath was doubtless at the southern end but was not established in the area excavated.

Room 6 (estimated 15½ x 10½ ft. internally). The deep robbing and presence of the garden wall prevents an accurate assessment of the relation of this room to Room 5. Section 1 shows clearly, however, that it should belong to period II and it is therefore likely to form part of the same work. Below the robbing levels the only intact deposit internally was a mortary layer alongside the wall-trench, showing that the internal floor level must have been higher than 399.2 ft. This clearly brings it within the range of the floor of Room 5 and shows that it was not sunken for a bath or hypocaust.

Summary of period III arrangements. As interpreted, entry to the bath building would probably be at the eastern end where there must have been some cool rooms for undressing and reclining. Through rooms 4 and 3 the bather would have gained the *tepidarium* (Room 2) and passed then into the heat of the *caldarium* (Room 1). From here a return via the *tepidarium* is possible to gain access to Room 5 for a cold dip before drying off in Room 6. From there the way back to the east end was sheltered by the enclosure wall, or there may even have been a corridor using the old wall F3 alongside the baths.

PERIOD III. The evidence for the re-roofing of the bath-house has been discussed on p. 286, and to the same period are allocated the raising of the cold plunge bath floor and alteration of the water channel. For the former a 7 in. (18 cm.) layer of clean broken roof-tiles (*imbrices and tegulae*) was deposited on the silt-free floor of the period II bath. Many of these were twisted and split, clearly wasters from a local firing of tiles for the new roof. Over these was a 3 in. layer of coarse *opus signinum* roughly surfaced, and covered by 1½ ins. of pale grey clay in which were set the finely shaped grey sandstone flags, 1½ ins. thick, of the period IV bath floor (398.1 ft.). Most of the slabs had been removed by a modern robber-pit but one surviving at the southern end of the bath measured 3 ft. 11 ins. x 2 ft. 6 ins. (1.20 m. x 0.76 m.). Assuming the same floor level in Room 5 as before the bath would now have been only 1.8 ft. deep, or slightly more if there was a raised surround to the bath.

The evidence of section 12 for the repair of the stoke-hole flue has already been noted. This, if correctly allocated to period III, means that Rooms 1 and 2 remained heated, and it may be assumed that the general arrangements for the rest of the bath-house remained as before.

PERIOD IV. This has been seen to follow a period of neglect reflected in the silting of the hypocausts of Rooms 1 and 2, which were now filled in with rubble and had *opus signinum* floors laid over both at 399.7 ft. in Room 2 and probably about the same in Room 1. Before this levelling took place a number of *pilae* were completely removed to be used, presumably, for the drains F4 and F12 which were constructed now. At the eastern end of section 12 the silt layer is seen to be broken where a *pila* had formerly stood, showing clearly that the tile robbing was subsequent to the flooding.

The cold plunge bath was now filled in too, again with rubble and tiles including many hypocaust tiles. In trench 12 this included one stack of tiles as though the bottom three tiles of a *pila* had been thrown in as one piece. If these are regarded as surplus to drain requirements the drain construction is, technically at least, earlier than the filling of the bath; but we cannot exclude the possibility that some strong-armed member of the demolition gang chose to demonstrate his strength by tossing half a *pila* from one of the hypocaust basements into the cold plunge bath. The levelling debris went directly on to the floor of the bath at the southern end where the floor was still intact. No quantity of silt had come in via the water channel during the neglect of the baths (sections 6 and 7), and the flooding of the hypocausts cannot therefore be seen to result from the overflowing of the cold plunge. Indeed the south face of trench 9 (section 12) shows clearly that the silt entered the hypocaust from the stoke-hole, for it lies thinly over the charcoal fan just inside from the flue.

It is most probably now that the narrow drain in Room 5 was constructed (section 11 and pl. VIIIC). In a trench 2½ ft. wide and nearly as deep was laid a nearly level floor of thick sandstone flags up to 6 inches thick. The dressed surfaces on these indicate that they had been previously used elsewhere, perhaps as a surround for the period III baths. The walls of the drain were entirely of hypocaust tiles, mostly 7 ins. square but including some 12 ins. The seven courses surviving were composed alternately of complete tiles and broken tiles. The mixture suggests that these came from the demolition of a hypocaust and could account for the missing *pilae* in Rooms 1 and 2. The drain thus formed was 22 ins. (56 cm.) deep and 1 ft. (30 cm.) wide. The top tiles were in many places overlain by an *opus signinum* floor surfaced at 400.4 ft. which was clearly tied to the construction of

the drain. The fragment of *opus signinum* oversailing the robber trench between the cold bath and drain, and the less disturbed floor at the southern end of the cold bath (at 400.2 ft. in section 6) show that room 5 was undivided in period IV. The main drain will be of the same period and shows features comparable to the smaller drain. In trench 12 although the southern face and floor of the main drain was robbed away the eastern end wall survived and consisted largely of tiles. In trench 24 where the drain passed beyond the building a section remained intact, and again included much tile in the walls and a floor of massive sandstone as in the smaller drain of Room 5. The northernmost surviving floor slab in trench 24 was 1 ft. (30 cm.) thick, and the drain itself there 4 ft. (1.22 m.) wide. With similar size slabs at the eastern end of the main drain its floor would have been but 6 or 9 ins. (15-23 cm.) lower than the north end of the small drain, 398.4 ft. The floor of the main drain trench north of Room 5 sloped down westwards. At the southern end of room 6 the drain floor was at 395.9 ft., providing an average gradient of 1 in 25. Its dimensions indicate that the main drain was more than just a deep outfall for the drain of Room 5. It seems best explained as a latrine still possibly flushed by the water channel. Its passage across Room 6 must raise the possibility that this room was now out of use for there would seem little point otherwise in driving a sewer through it, instead of rounding the corner and taking the drain to the river through the yard area beyond room 6.

With the western end of the bath-building now reduced in size and entirely converted to cold rooms, it is at the eastern end that we must look for heated rooms and any cold plunge bath there may have been. The small excavation (trench 5) within Room 3 showed the modern black soil and rubble to go straight down to a 4 inch layer of mortary rubble overlying a spread of masons' chippings embedded in the natural subsoil at 394.6 ft., nearly 4 ft. below the level of the natural soil on the south side of the robbed wall F17. Along the west face of the tank-pit section 13 shows a horizontal surface at the same level on the natural subsoil with nothing but disturbed soil above it. This surface is 2½ ft. lower than the floor of the period II cold plunge bath and seems best explained as the floor of a hypocaust of the final period. Beyond the east wall of room 3 which was fragmentarily preserved as a stretch of foundations abutting those of F17 in section 13, lay Room 4 whose function must be inferred from the east face of the modern tank-pit. Between two robbed wall-trenches going down to the same level as F17 and F14 in section 13 there was a flat surface on natural gravel at the same low level, 394.6 ft. Here, presumably, we have two hypocausted rooms of period IV. Room 3, closer to the cool rooms will be the *tepidarium* and Room 4 probably the *caldarium*. We cannot know what lay beyond these and the modern workshop in period IV, but no account has so far been taken of the small Room 7, at the end of the tank-pit, around which the excavations started.

The wall of Room 7 survives to the modern ground level showing a rubble and mortar core between dressed sandstone rubble faces (sections 9 and 13). On the inside, four courses of such rubble come down to two courses of tiles at which level, 395.7 ft., there remained intact the corners of an *opus signinum* floor 3 ins. thick,

resting on pitched foundations of purple sandstone on a level surface of natural clay at 394.6 ft. The wall had preserved a straight joint against the robber-trench of F17 and the floor of its foundation trench is separated from that of F17 by a residual ridge of natural gravel. This all points to its being later than the earliest form of F17 which we have argued must go back to period IB. The low level of the *opus signinum* floor of Room 7 indicates a bath of some kind, perhaps most likely a hot bath to the side of the heated Room 4. In this case it will belong to period IV. The size of Room 7, only 10 x 5 ft. (3 x 1.5 m.), is certainly more appropriate to a hot bath (*alveus*) than a cold plunge bath for which it is somewhat small. It can be noted on section 9 that the south wall of Room 7 (pl. VIIID) had an excavation 4 ft. (1.22 m.) wide alongside it going right down to the bottom of the foundations and backfilled in its lower 2½ ft. with clean brown clay and gravel. This is not a normal construction trench, for its floor lacked the abundant masons' chippings and mortar which would normally be there. It seems rather to be the result of over-excavation for the new room, backfilled as the wall rose. When the wall had reached the tile level backfilling ceased and masons' debris accumulated in the shallow trench surviving until the area was finally levelled with more clay and gravel. Whether the drain coming away from the robbed wall near the south-west corner of Room 7 took the overflow from the bath or whether it rather contained a pipe bringing hot water from a boiler situated further east, its level indicates that the bath was about 2 ft. deep.

The arrangements in period IV, then, place the heated rooms at the eastern end; the building was entered at the west where there were three, if not four, cold rooms and a latrine. From one of these, Room 2, the *tepidarium*, Room 3, would have been entered to lead through to a *caldarium*, Room 4, with *alveus* on the south side. The stoke-hole will presumably have lain further east, where too there may have been other rooms.

The extensive, post-Roman robbing has left little intact from which to judge the final condition and fate of the baths. The concrete floors of Rooms 2, 3 and 5 had remained in place until wall robbing had ripped away their margins. Even the deep main drain was gutted for its stone; only the small drain in Room 5 was left with a crumble of weathered *opus signinum* in its floor and a compact filling of smoth grey silt above. Fragments of wall plaster in the robber-trenches show that in its final form the bath-house was internally decorated with simple designs of panels outlined in brick-red and magenta on a white background.

DATING OF THE BATH-HOUSE SITE (samian p. 302; coarse ware pp. 306 and 311)

Period IA. The samian (Nos. 80-93) includes ten first-century pieces of which three could be as early as *c.* A.D. 60. It seems likely that the *vicus* was established late in the Neronian occupation of Jay Lane and continued into the early second century, perhaps (on the evidence of No. 83) into the early Antonine period. With this assessment the coarse ware in general agrees, for it includes three sherds of black-burnished ware (fig. 38, 15-17) and two mortaria (p. 306, Nos. 3 and 4) to mark the second-century occupation.

Period IB. The argument for the re-use of stone from Buckton for the first baths supports the evidence of the samian (early Antonine pieces Nos. 83 and 95) and coarse pottery (black-burnished ware fig. 38, 18) for construction in the 30's or 40's of the second century, following the destruction of timber buildings. It is presumably to be related to period IB of the conjectured *mansio* at Roman Rise.

Period II. There is only one additional piece of samian, No. 98 of Antonine date, to add to the evidence already present from pre-bath deposits, and a West Midlands necked jar (fig. 38, 25) supplements the evidence of the pre-bath coarse ware. But the structural arguments based on rampart type and bath-enlargement allow this period of the baths to be confidently linked with the construction of the Leintwardine fort and dated later than A.D. 160.

Period III. There is no useful material to date the inception of this work, but the occupation of period III has associated Antonine samian (Nos. 101-105, of which No. 102 is late-Antonine). The closest parallel in Gillam's pottery series for the cooking-pot No. 28 appears to be his No. 146 dated 280-350; this suggests that our period III may have continued into the late third century. But in view of the relatively slight changes in the form of this type of vessel from the mid-second to the fourth century no special weight can be attached to this parallel.

Period IV. No stratified finds of use in dating this construction were obtained, but the unstratified coarse ware (fig. 39) points to occupation, presumably to be linked with the baths, during, and possibly extending late into the fourth century.

LEINTWARDINE FINDS

A. COINS—Identified by Miss M. Archibald.

1 FAUSTINA II (Augusta 146-175). *Sestertius.*
Struck under Antoninus Pius between 146 and 161 A.D., towards end of period. *Rev:* AVGVSTI P II FIL. Spes. *B.M.C.* Antoninus Pius No. 2200. *From site B, F38.*

2 MARCUS AURELIUS (161-180). *Dupondius. Rev*: [SALVT]I A[VG COS III] Salus. *B.M.C.* 1380. *Site A unstratified.*

3 SEVERUS ALEXANDER (222-235). *Denarius. Rev*: [TRP] V I COS II PP. Pax. *B.M.C.* 420. *Site E, trench 1, fill of drain.*

4 POSTUMUS (259-267). *Antoninianus. Rev:* Neptune. NE[PTVNO REDVCI]. *Site B, modern pit F77.*

5 DIVUS CLAUDIUS. *Antoninianus.* Commemorative issue for Claudius Gothicus (268-70) struck after his death. *Rev:* CONSEC[RATIO]. Altar. *Site B unstratified.*

6 ? TETRICUS I (270-273) *Antoninianus. Rev:* Spes. *Obv:* uncertain. *Site B, modern pit F77.*

7 TETRICUS II (270-273). *Antoninianus. Rev*: SPES AVGG. Spes. *R.I.C.* 270. *Site E unstratified.*

8 ALLECTUS (293-296). *Antoninianus. Obv:* IMP C AL[LECTVS PF AVG]. *Rev*: PAX AVG. Pax with transverse sceptre. London mint. S/M-off flan *R.I.C.* 32 or 33. *Site B unstratified.* [ML]

9 Later third-century radiate. *Site B, modern pit, F96.*

10 CONSTANTINE I (308-337). *AE 3. Rev:* [GLOR]IA EXE[RCITVS]. 2 standards type, issued 330-335. Mint mark illegible. *As 2.*

11 "URBS ROMA". Issued 330-345. *Rev:* Wolf and twins. Mint mark illegible. *Site B, modern pit, F96.*

12 "URBS ROMA". Issued 330-345. *Rev:* Wolf and twins. Probably Trier Mint. *Site B, modern pit, F96.*

13 "URBS ROMA". As No. 12, but Lyons mint. *L.R.B.C.* I, 190. *Site E. unstratified.*

——
.PLG

14 CONSTANS (337-350). *Rev:* VICTORIAE D D AVGGQNN. 2 Victories. Period of issue 341-46. *L.R.B.C.* I, 158 or 162 (Uncertain whether mint mark is ⋎)

——
TRP TRP or TRP.) *Site B, unstratified.*

15 MAGNENTIUS (350-353). *Rev:* FELICITAS REIPVBLICE. Emperor holding victors and labarum. *L.R.B.C.* II 212. *Site B. F60.*

——
[RP]LG Mint of Lyons.

B. SMALL FINDS (fig. 32)

1 Enamelled disc brooch. *Site A, trench 9 (3).* Mr. M. R. Hull has kindly provided the following account:
The stud is missing and the spring betwen the two lugs decayed. There is an outer band of white and blue mosaic, and an inner one of white and bronze-like yellow in which are 16 bronze spots. This sort of brooch is usually dated to the second century and many were made at Anthée in Belgium. This one may or may not have been made there. Their incidence is far and wide in Britain but there is a noticeable bias towards the north and military sites. Three examples at Newstead support the second-century dating.

2 Bronze bracelet formed of two plain strips of rectangular section twisted and hammered together. *Site A, trench 3 (layer 15), III-IV accumulation.* Cf. *Richborough V*, No. 153.

3 Bronze harness pendant with traces of tinning. Somewhat like *Richborough IV*, No. 180 (pl. L1), and *Magna II*, 15 (pl. 33). *Site B, F89 (1), ? drain of period II.*

4 Bronze tweezers. *Site B, F58 (shallow pit, possibly modern).*

5 Part of sheet bronze mount with cast circular rivet 3 mm. long behind terminal. *Site B, unstratified.*

6 Iron knife with square tang. *Site B, F97 (1), modern pit.*

7 Iron cleaver with broken rectangular tang. Although it is deeply corroded it appears certain that the convex edge was the cutting edge. *Site B, F60, ? late barracks' wall robbing-trench.*

8 Two fragments of iron shears. *Site B, F84, modern trench.* Cf. *Richborough IV* No. 337 (pl. LX).

9 Iron key. *Site B, F76, modern pit.*

10 Iron key. The end is hammered out, pierced and bent over to form a ring at right angles to the key shaft. *Site B, F19, shallow pit.*

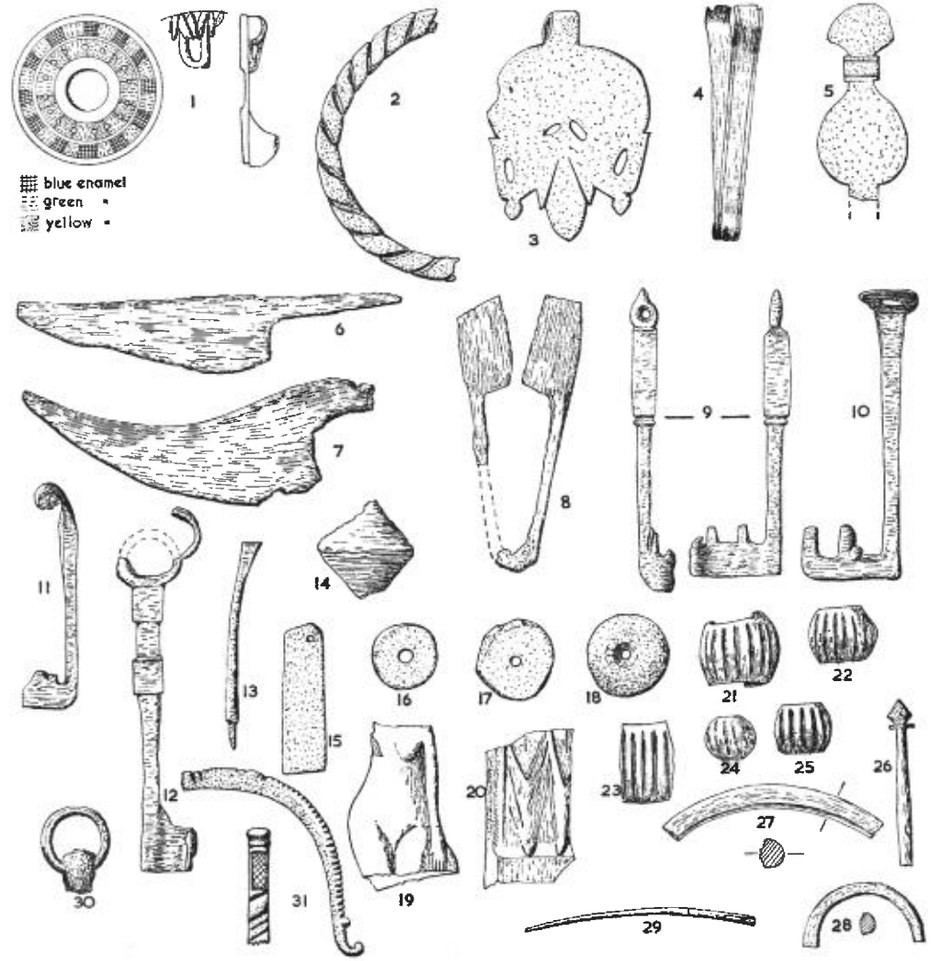

FIG. 32
Leintwardine—Small finds (1-5, 21-28 & 31, 2/3; remainder, 1/3).

11 Iron key of same general type as 9 and 10. Badly corroded. The top is worked over as though to form a holding ring. *Site B, F91 (2) modern pit.*

12 Iron key. *Site B, unstratified.*

13 Iron stylus. *Site B, F22, modern pit.*

14 Lead steelyard weight, much pitted by corrosion. Traces of an iron hook survive at the top within the body of the weight. *Site A, trench 1* (i) *clay below humus at back of rampart.*

15 Pocket whetstone of grey micaceous sandstone. *Site B, F46 ? Roman rubbish pit.*

16 Spindle whorl of fine grey sandstone, 9 mm. thick, weight ½ oz. *Site B, F37? period II post-hole.*

17 Spindle whorl of grey micacaeous sandstone, 8 mm. thick, weight ¾ oz. *Site A, trench 9 (3).*

18 Clay spindle whorl with conical perforation. 16 mm. thick, weight ¾ oz. *Site B unstratified.*

19 Pipeclay Venus figurine. *Site E, trench 21 (4), equivalent to 24 (2). Period III occupation; cf. Richborough III,* No. 43 (pl. XIII), and *Magna II,* pl. 35.

20 Pipeclay figurine. Lower part of seated draped figure. *Site B, F96, modern pit.*

21 Turquoise paste melon bead fragment. *Site B, F97, modern pit.*

22 Pale turquoise melon bead fragment. *From rampart in trench 3, site A.*

23 Deep blue melon bead fragment. *Site A, trench 8, unstratified.*

24 Pale turquoise melon bead. *Site B, F58, ? modern pit.*

25 Pale turquoise melon bead fragment. *Site A, trench 1 (18), period II rampart.*

26 Top of bone pin. *Site E, trench 12 (3), filling of period IV drain, F12.*

27 Part of shale bracelet. *As 26.*

28 Part of bone ring. *Site E, trench 12 (4) bottom filling of period IV drain, F12.*

29 Bronze needle. *Site E, trench 24 (21), period IB ash-pit.*

30 Bronze ring with corroded remains of iron staple attached. *As 29.*

31 Half of a bronze handle probably for a casket. Handles of similar size occur at *Richborough* (III, pl. XII, 34) and *Camulodunum* (1947, pl. C, 3). *Site E, unstratified.*

32 & 33 (fig. 33 & pl. IX). Two small pieces of lead with graffiti. 32 is nearly rectangular, 6 cm. x 2 cm. and 1 mm. thick, bent over at one end. 33 is irregularly shaped 9 cm. x 5 cm. overall and 2-4 mm. thick; it is curled over through 90° from the middle and inscribed on the concave surface. *Both from site E, trench 12 (2) top filling of period IV small drain, F12.*

Mr. R. P. Wright has kindly provided the following reading of the two pieces:

32 Beneath a horizontal line three proper names have been incised:

ENESTINVS
MOTIVS
COMITINVS

These are aligned vertically, and there is no trace of any letter before the first name. Unlike the other strip of lead the normal form has been used for the letters E and terminal S. It is not known for what purpose this list was made.

33 The text on the inscribed face reads:

CARINVS
SIMILIS
CONSORTIVS
COMES MASLORIV[S]
SENORIX CVNITTVS
CVNITTVS CVNEDECAN
ES
CEANATIS TIBERIN[VS]

These names have been carefully cut in an alphabet with two unusual features. The middle stroke of each E runs diagonally; and when the letter S terminates a name its tail has been emphasised by cutting a horizontal stroke

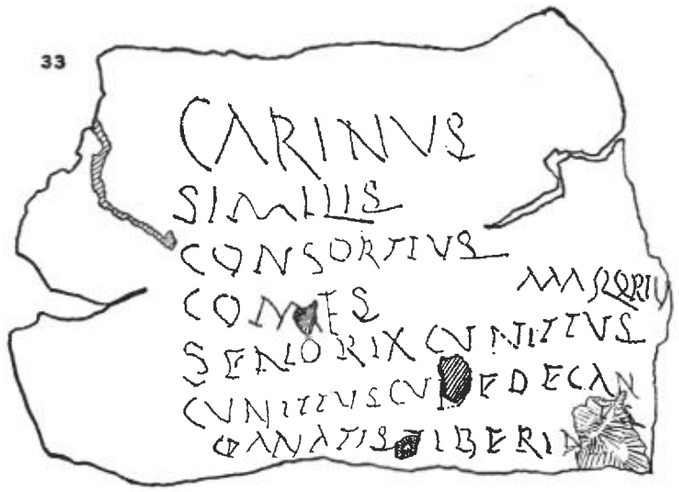

FIG. 33
Leintwardine—inscribed lead strips (1/1).
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towards the right. The sheet of lead seems to be complete, although in 1.4 the final letter of MASLORIVS has been lost in damage. The names have been carefully aligned, and there are two each in 11.4, 5 and 8 and either two or three in 1.6. It is not clear why this list of names was cut. The object, despite slight damage, is complete. It is not a *defixio* or curse. It may have served as a writing exercise, though frequently this was done on tiles before firing. The names Carinus, Similis, Comes, Senorix and Tiberinus are known, but the rest seem to be unmatched.

C. SAMIAN WARE by B. R. Hartley. (Asterisks indicate sherds illustrated on fig. 34.)

SITE A (additional to that published in 1958)

Period I occupation.

1 Form 35/36, Central Gaulish. Although the form is not in general an easy one to date, the coarse fabric and dull brown glaze strongly suggest an Antonine date in this case. *Trench 3 Pit 12 below layer 22.*

2 Form 33, Central Gaulish. The fabric suggests pre-Antonine manufacture. *Trench 3, layer 20.*

3 Form 18/31, Central Gaulish. Exhibits the pale pink fabric and 'soft' fracture common in much of the samian from Les Martres-de-Veyre. Trajanic or Hadrianic. *As 2.*

4 & 5 Two South Gaulish scraps (forms 37 and Curle II). *As* 2.

Period II occupation.

6 *Form 37, Central Gaulish. A typical Antonine freestyle bowl of the period *c.* A.D. 150-190. *Post-pit 13 in trench 3.*

7-9 A consistent Antonine group: forms 31R, 31 and 35/36 (two burnt). *Oven ash, layer 22, in trench 3.*

10 Rim of South Gaulish form 29 which must have been made before *c.* A.D. 85 (cf. 1958 report, No. 1). *Oven spread, layer 23, in trench 3.*

11 Rim of form 27 in early Central Gaulish fabric (probably Trajanic or Hadrianic. *As 10.*

12 & 13 Antonine scraps of forms 31 and 33. *As 10.*

14 Form 33 base in early Central Gaulish fabric. This is likely to be Trajanic or Hadrianic. *As 10.*

Period III Construction.

15 A late East Gaulish form 38, heavily worn. This is likely to be a third-century import. *Part from rampart tail, layer 19, remainder uncertainly located at this level to east, in trench 3.*

Stratified but uncertainly correlated.

16 *Form 37, South Gaulish. Heavily subdivided panel arrangement, including leaf tips characteristic of the period *c.* A.D. 75-100. *Trench 3, layer 8.*

17 Form 31R, a typically Antonine sherd. *Trench 9, layer 3.*

18 Fragment of a late South Gaulish form 37 (*c.* A.D. 85-105). *As 16.*

19 Form 18/31, probably South Gaulish and Flavian or Trajanic. *As 16.*

Unstratified.

20 Form 31, Central Gaulish. This is the shallow variety usually considered to be Hadrianic-Antonine. It occurs in quantity on the Antonine Wall and was probably in common use down to *c.* A.D. 160.

21 Form 31, Central Gaulish (burnt). A normal deep Antonine variety, probably later than *c.* A.D. 160.

22 *Form Ludovici Tg. This is an unusually delicate example of the form, which is a characteristic Antonine one. The fabric suggests Central Gaulish origin.

23 *Form 37. Central Gaulish with saltire typical of Trajanic and Hadrianic products.

24 Base of a samian mortarium in East Gaulish fabric, late second—or early third-century.

SITE B

?Period 1B construction.

25 Form 31, Central Gaulish. Antonine. *F106 post-trench.*

Period III demolition.

26 Form 27, South Gaulish. The weak rim and faint internal groove suggest manufacture *c.* A.D. 75-100. *Post robbing-pit, F45 (1).*

27 Form 37, Central Gaulish. The large irregular beads in the border point to Antonine, and probably late-Antonine date. *As 26.*

28 *Form 33, Central Gaulish, with stamp IVSTIMA of Iustus of Lezoux. Stamps from this die occur in the Pudding Pan Rock find and at several forts reoccupied in the mid-Antonine period after intermissions. *c.* A.D. 170-200. The footring is well worn. *Post robbing-pit, F38 (2).*

Unstratified and from pits.

29 Form 27, South Gaulish. Very high gloss typical of the Neronian-Flavian period.

30 Form 27, South Gaulish. The bold and slightly flattened rim could well be pre-Flavian, but an early-Flavian date cannot be entirely ruled out.

31 & 32 Form 29 rims, South Gaulish. Neronian or early-Flavian.

33 Form 29, South Gaulish. The strongly everted rim and clumsy scroll in the upper zone are typical of the Flavian period. *c.* A.D. 70-85.

34 Form 29, South Gaulish. The general style belongs to the latest examples of form 29. *c.* A.D. 75-85.

35 Form 37 rim, South Gaulish. Flavian.

36 Form 37, South Gaulish. The decoration is probably a large winding scroll. The large leaf points to Germanus or one of his school. Flavian.

37 Form 37, rim with rivet-hole. South Gaulish. The fragment of ovolo remaining suggests manufacture *c.* A.D. 90-110.

38 Form 15/17, or 18, South Gaulish. Probably Flavian.

39 Form 15/17 or 18, South Gaulish. Flavian.

40 Form 37, in the style of Stanfield's X-4, whose name was probably Igocatus. This potter worked at Les Martres-de-Veyre under Trajan, and his work is very common in forts abandoned when Hadrian's Wall was built. The fabric of this sherd, which adds nothing to his limited repertoire, is closer to some South Gaulish pieces than the normal fabric of Les Martres. *c.* A.D. 100-120/5.

41 Form 18/31, Central Gaulish and almost certainly from Les Martres-de-Veyre. Trajanic or Hadrianic.

42 Form 18/31 or 18/31R rim, Les Martres-de-Veyre. Probably Trajanic or Hadrianic.

43 A small fragment of form 37 showing part of a leaf, as used on bowls with large winding scrolls. Central Gaulish. In theory this could be either late-Hadrianic or Antonine. The fabric suggests the latter.

44 Form 37, Central Gaulish. The figure-type is a Neptune (D14=0.13), used by several Hadrianic and Antonine potters. The fabric of this piece matches best with late-Hadrianic and early-Antonine pieces by such potters as Arcanus and Cerialis.

45 Form 18/31R or 31, Central Gaulish. Probably early-Antonine.

46 *A rim fragment and part of the base of a form 31 with stamp SVOBN[I.M] of Suobnus of Les Martres-de-Veyre. Eight stamps from the same die are known from Antonine sites in Scotland, all on form 18/31 or early examples of form 31. The general record for Suobnus, including many stamps on form 27, points to a date *c.* A.D. 135-160.

47 Dish with concave wall, probably Curle 15 or Curle 23. Antonine.

48 Form Curle 15, burnt. This is a typical large, thick Antonine example, no doubt from Central Gaul.

49 Curle 23, Central Gaulish. Antonine.

50-52 Form 31, Central Gaulish. Antonine.

53 Form 31, Central Gaulish. Antonine, and probably late in the period.

54-58 Form 33, slightly burnt. Central Gaulish, Antonine.

59 Form 36. This is a typical late variant, with spreading rim beaded underneath. Cf. Oelmann, *Die Keramik des Kastells Niederbieber,* pl. I, No. 4b.), though this example appears to be Central Gaulish.

60 & 61 Form 37 rim, Central Gaulish. Antonine.

62 A tiny fragment of form 37 with unidentified decoration. Central Gaulish ware of the Antonine period.

63 & 64 Form 38, Central Gaulish. Antonine.

65 Form 38, burnt. Antonine.

66 Form 46 (the variant from the same set as Curle 23), Central Gaulish. Antonine.

67 Form 31, Central Gaulish. The deep, late-Antonine variety.

68 *Form 31, Central Gaulish, stamped [N]AMILIANIM by Namilianus of Lezoux. Clearer impressions from the die show a final dotted M (=MA). This die was used on form 79 and the fully developed form 31R. The stamps occur

several times at forts reoccupied *c.* A.D. 160, and A.D. 160-200 is the period within which they were used.

69 Form 31, probably East Gaulish. Late Antonine.

70 Form 31R, heavily burnt, but with standard Central Gaulish profile. *c.* A.D. 160-200.

71 Form 31R, burnt. Standard Central Gaulish profile of late-Antonine date.

72 Form 31R, burnt. Central Gaulish and late-Antonine.

73 Form 31 or 31R, probably the latter, slightly burnt. Central Gaulish, late-Antonine.

74 *Form 33, heavily burnt, with the stamp [MATER]AIAINI. This may or may not belong to Materninus of Lezoux, but it is certainly late-Antonine, as there are examples from Pudding Pan Rock as well as northern forts thought to have been reoccupied *c.* A.D. 160.

75 *Form 33, Central Gaulish. Stamped DEC[MI-AA] by Decimus of Lezoux. This stamp is known from several cups and dishes at Pudding Pan Rock. *c.* A.D. 170-200.

76 Form 37, Central Gaulish. A small fragment from an Antonine panelled bowl with double medallion and caryatid. It could well be by Advocisus or Divixtus. *c.* A.D. 150-190.

77 Form 80, Central Gaulish. Late-Antonine.

78 *Ludowici SMc (cf. Oswald and Pryce, pl. LXII), but apparently without the usual barbotine decoration on the wall. As usual, this example is East Gaulish and probably from Rheinzabern. Probably either late-Antonine or early third-century.

79 Ludowici Tx, burnt, but probably Central Gaulish. The form does not seem to have appeared before about A.D. 150-160.

SITE E

Period IA, pre-bath deposits.

80 *Form 15/17R or 18R, South Gaulish, and possibly from the same dish (18R) as No. 81. The potter's stamp, RVFINI[AA] is not uncommon, but only occurs at one dated site (Caerleon, twice on form 18). *c.* A.D. 70-85. *From ash-pit, trench 24, layer 21.*

81 From 18R, South Gaulish. Probably from the same dish as No. 80 and certainly of the same date. *As 80.*

82 Form 18/31, Central Gaulish. Hadrianic-Antonine. *Trench 3, layer 5.*

83 Form 18/31, Central Gaulish. The rim is badly warped and the piece is technically a waster, though no doubt usable. The nature and quality of the fabric suggests origin at Les Martres and Hadrianic or, more probably, early-Antonine date. *Trench 10, layer 2.*

84 Form 27, South Gaulish. The delicate beaked rim and well-defined internal groove suggest the period *c.* A.D. 60-80. *Trench 24, layer 16.*

85 *Form 29, South Gaulish. A typical Flavian profile of the period A.D. 75-85. The fragment of winding scroll is too banal to offer useful parallels. *As 84.*

86 *Form 29, South Gaulish. Scroll with hare in the upper zone. See No. 87. *As 84.*

87 *Form 29, South Gaulish and probably from the same bowl as No. 86, if so, adding leaf tips in the upper zone and a large scroll in the lower one. There is scarcely enough decoration to determine the potter, but cf. *Knorr 1952,* Taf. 38A for the hare and leaf on a bowl stamped OFMATV, *c.* A.D. 60-80. *As 84.*

88 Form 37 rim, South Gaulish. Flavian. *As 80.*

89 Form 37, South Gaulish. A conventional vine with bunches of grapes, as used by Crucuro (*Knorr 1919,* Taf. 29A). *c.* A.D. 75-100. *Trench 13, layer 7.*

90 Form 37, South Gaulish, with one of the common ovolos with trident-tongue. The workmanship is very bad—the ovolo blurred, an extraordinarily deep groove has been cut in turning the rim, and fragments of surplus clay have not been cleaned off. *c.* A.D. 90-110. *As 82.*

91 Form 37 by Stanfield's X-4 and with the same ovolo as 40. *c.* A.D. 100-120/5. *Trench 18, layer 6.*

92 Despite the differences in the glaze, this belongs to the same dish as No. 94. It is a large (diam. 9 ins.), thick variety of Ritterling 4b (cf. Ritterling, *Hofheim* pl. xxxi and *Oswald and Pryce* pl. xliii, 34, stamped by Primus), and would best fit a Neronian or very early Flavian date. The form does not appear on Agricolan sites. *As 91.*

93 *A small fragment from the rounded version of Knorr 78 (*A.J. xciii,* 107 No. 9, which also has the same wreath as the Leintwardine piece). Probably early-Flavian. *Trench 8, layer 5.*

Period IB construction deposits.

94 See No. 92. *From trench 13, layer 4.*

95 Form 27, Central Gaulish, probably from Lezoux rather than Les Martres. This has a profile intermediate between the normal South Gaulish form and the flat-walled early and mid-Antonine examples and is likely to be Hadrianic or early-Antonine. *Trench 3, layer 2.*

Period II construction deposits.

96 Form 18R, South Gaulish. From a similar vessel to No. 81 above. Flavian. *Trench 24, layer 3.*

97 *Form 29, South Gaulish. A large winding scroll in the lower zone with conventional plant in the lower concavities. Cf. *Knorr 1952,* Taf. 31A (OFIVCUN) and also the Rottercil bowl usually assigned to a hypothetical Sasmonos (*Fundberichte aus Schwaben* XVII (1909), Taf. IV, 1=*Knorr 1952,* Taf. 53A), but surely really with the signature of Memor (*JRS* IV, pl. XIV from the Pompeii Hoard). *c.* A.D. 70-85. *Trench 24, layer 8.*

98 *Form 37, Central Gaulish, with rivet-hole. The ovolo may be one used by Criciro. Probably Antonine. *As 96.*

99 *Form 67, South Gaulish. Only the lower part of a winding scroll at the bottom of the decoration is left. This cannot be assigned to a particular potter, but is certainly Flavian. *As 97.*

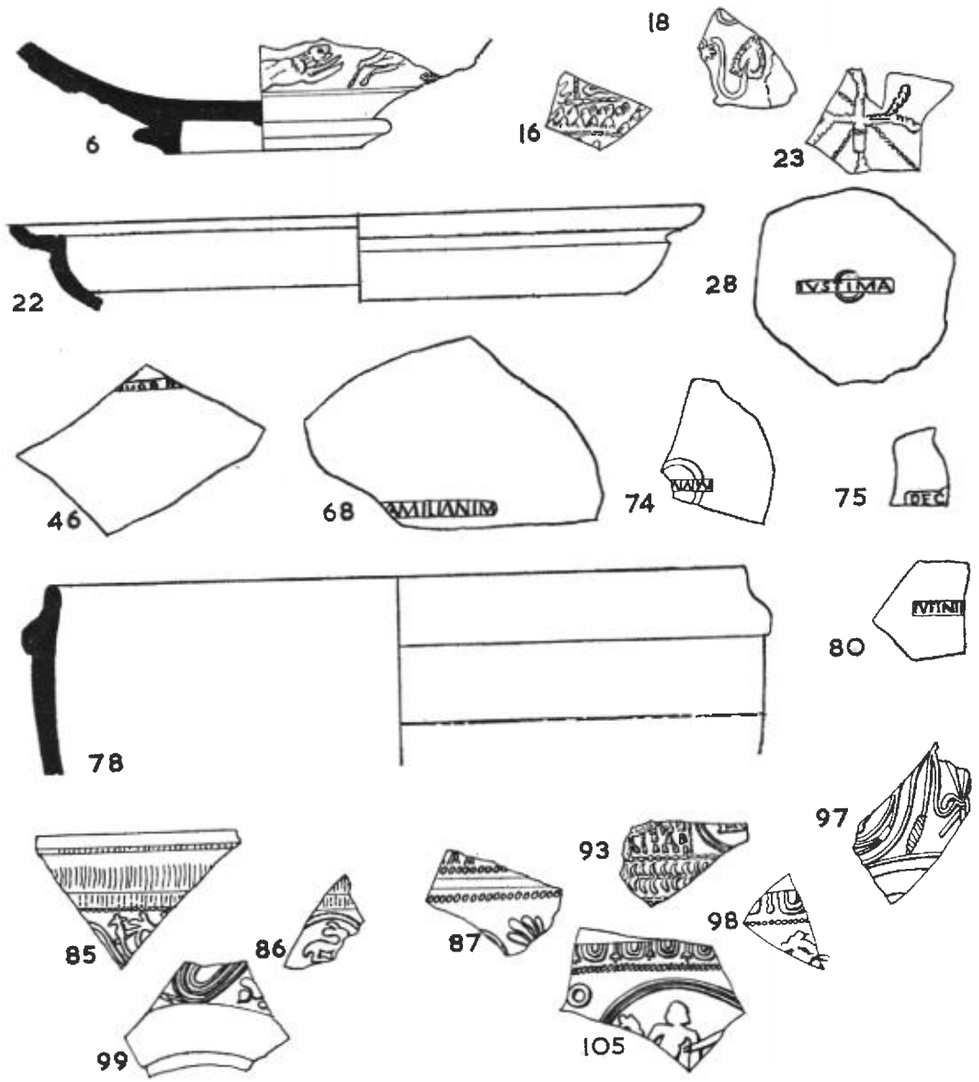


FIG. 34
Leintwardine—Samian ware (½).

? *Period III construction deposit.*

post cocturam inside the footring. DIA 100 Form 35/36 footring with graffito The fabric would normally be accepted as South Gaulish, but it is rather close to that of No. 96 above, and it is best to suggest a Flavian or early second-century date. *From stoke-hole repair, trench 9, layer 7.*

Period III occupation deposit (trench 24, layer 2).

101 Form 31, Central Gaulish, Antonine.

102 Form 31, Central Gaulish. Late-Antonine.

103 Form 31, Central Gaulish, Antonine.

104 Form 33, probably Central Gaulish. Antonine.

105 *Form 37, Central Gaulish. This ovolo with trident tongue was used, though rather rarely, by Cinnamus. It seems to have been commoner at his Vichy workshop than at Lezoux, though this bowl is in Lezoux fabric. The rest of the decoration, including the Venus (D. 184=0.322) is standard for Cinnamus *c.* A.D. 150-180.

Period IV construction deposits.

106 Form 27, Central Gaulish, probably from Les Martres. The profile exactly matches stamped cups by Donnaucus and Ioenalis. *c.* A.D. 100-125. *Trench 1, layer 5.*

107 Form 31R, Central Gaulish. The standard later or Antonine form with step in the profile. *Stoke-hole, trench 14, layer 4.*

Unstratified.

108 Form 29 rim, South Gaulish. No useful decoration left, but the clumsy overhanging rim is typical of the latest examples of the form *c.* A.D. 75-85.

109 Form 33, slightly burnt or encrusted with charcoal. Although only part of the base is left, this seems to be a normal Central Gaulish cup of Antonine date.

110 Form 37, South Gaulish. A late panelled bowl with cable borders, almost certainly to be ascribed to Mascuus. Cf. *Knorr, 1952,* Taf. 37 for the corresponding bird and satyr facing right (this sherd has D.352 and D.1033) combined with the same ovolo and rosette at the panel junctions. Bowls of this kind are entirely missing at Inchtuthil and are unlikely to have been made before A.D. 90 or much after A.D. 110.

111 Form 38, Central Gaulish. There is only a slight hint of the flange, but the identification seems certain. The modern tendency is to put all examples of form 38 into the Antonine period. However, a complete one discovered recently at Lezoux in a sealed pit with complete moulds of Libertus, Butrio, Birrantus and contemporaries suggests that the form was already in use before A.D. 140 at the latest. However, there is no evidence for early-Hadrianic manufacture. This piece should fall in the Antonine period to judge by its fabric.

D. MORTARIA by Mrs. K. Hartley (fig. 35, except No. 12)

1; 3; 4; (3 and 4 are certainly from the one mortarium and 1 could well be from the same one). In sandy, slightly greyish white fabric with a thin pinkish core and a cream slip; the fabric is tempered with fine grit and the transparent and brown and pink grit is all crystalline. The fabric and grit is typical of mortaria made near Oxford at Cowley (*Oxoniensia* VI, pp. 9-21), Littlemore (unpublished), Headington (*ibid.* XVII/XVIII, pp. 224-5). Dorchester (*ibid.* 81-102) and Sanford (*Archaeologia* LXXII, 226-42). This form is not uncommon among the earliest products and is probably to be dated A.D. 110-140. Of the kilns so far known, only those at Cowley and Littlemore produced mortaria so early. *From site E; 1 unstratified; 3 trench 18 (6), period IA; 4 trench 3 (5), period IA.*

5 The fabric is essentially the same as 1, 3 and 4 but is greyish white throughout. It is clearly from a pottery in the same area. This form and its variants fairly certainly belong to the late second and perhaps early third centuries, though dated stratified examples are lacking (cf. *Arch. Cant.* LXVI, p. 27, fig. 4, No. 96). *Site E, trench 6 (4), hypocaust filling for period IV floor.*

6; 7; 9. Three mortaria in the same fabric as 5, and from the same potteries. Although from three different vessels, they are so similar in form that one may reasonably accept them as contemporary. Third- and fourth-century mortaria from the Oxfordshire potteries are very difficult to date closely with conviction; these examples are most probably of the mid-fourth century. *Site B, 6 unstratified, 7 and 9 from modern pit F96.*

8 An imitation of the samian form Drag. 45, in orange-brown fabric with reddish brown slip; white, red-brown and grey grit. The form and fabric are again typical of the Oxfordshire potteries, particularly Dorchester (*Oxoniensia I*, p. 101, fig. 20, No. 17), where there were many wasters of this form. Most of the colour-coated mortaria from these potteries belong to the fourth century but the practice of colour-coating seems to have begun there in the late third century. *As 7.*

2 In hard, white fabric with cream slip, and a few red-brown and grey gritty particles in the clay. The fabric proclaims origin in the Hartshill-Mancetter

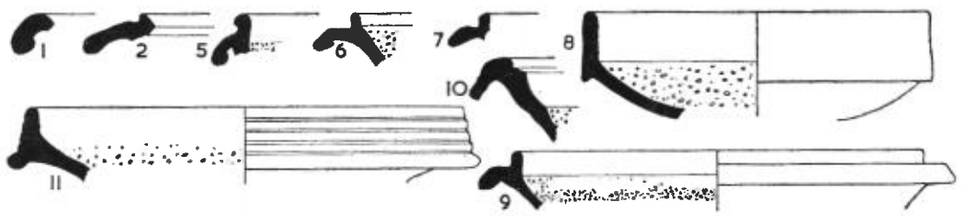


FIG. 35
Leintwardine—Mortaria from sites B and E (¼).

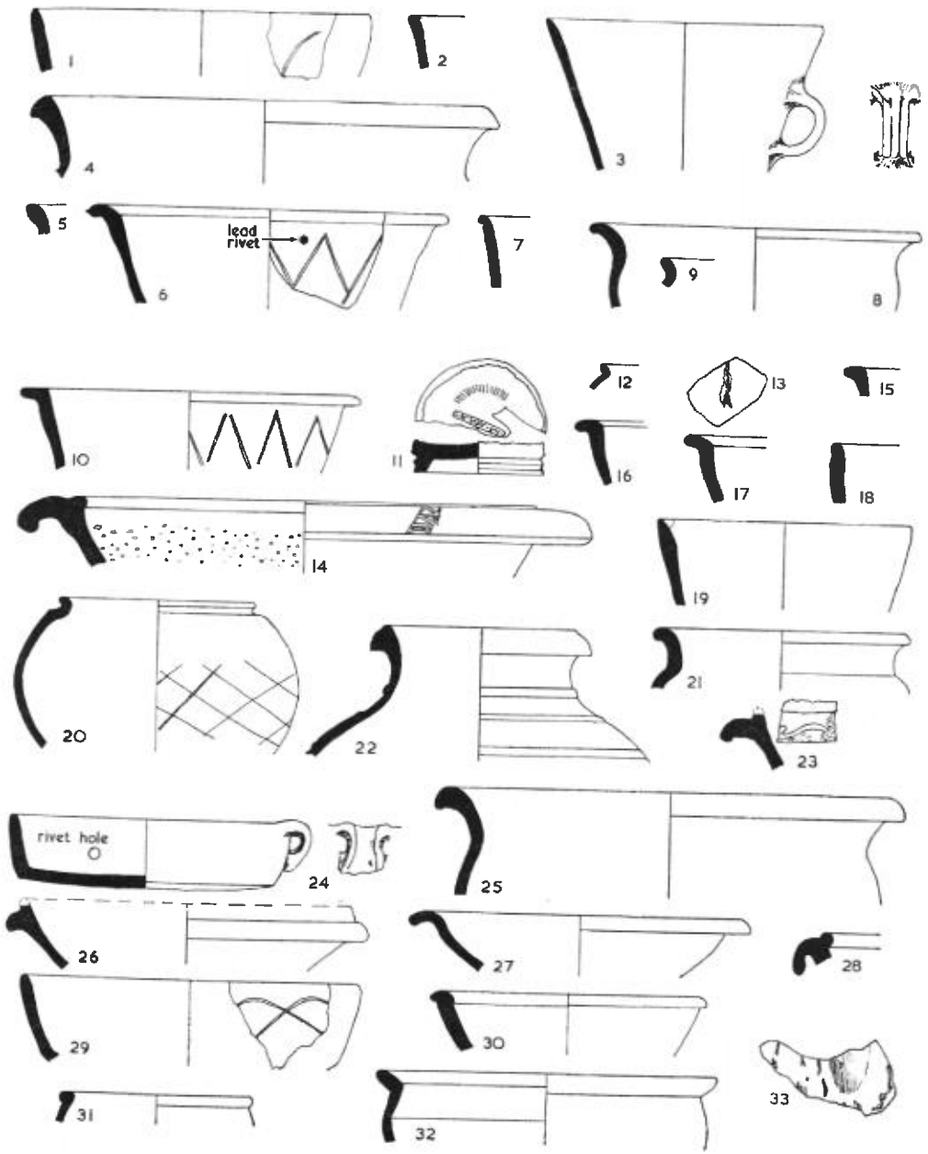


FIG. 36
Leintwardine Site A—Stratified coarse ware (¼).

potteries where the form would undoubtedly be third-century, perhaps A.D. 220-270. *Site E unstratified.*

11 The same fabric as 2, with red-brown and grey trituration grit. This is a product of the Hartshill-Mancetter potteries and is fairly similar to Gillam form 283 (*AA4* XXXV), which is dated to A.D. 290-370. *As 7.*

10 In hard red-brown fabric with grey core. A red slip is limited to the top of the flange and the concave zone below the bead; white and red-brown trituration grit. It is a typical example of one of the lug-handled mortaria commonly styled 'Raetian' because of their similarity to mortaria known to have been made in Raetia. It is however, certain that many copies and derivations were made in this country near Wroxeter, at Wilderspool and perhaps in the Carlisle area; this example is closest to examples at Wroxeter and is obviously most likely to be from there. The form occurs, though rarely, at forts on the Antonine Wall and also in the destruction deposit of the Antonine II fort at Corbridge (*AA4* XXVIII, p. 191, fig. 9, No. 74-76). It is mainly Antonine, perhaps extending into the early years of the third century. *Site B, drain F104.*

12 (fig. 36, No. 14). The stamp reads]DINI, showing a name in the genitive form. Some such name as Secundinus may be expected, but the possibilities are too numerous to allow conjecture. The stamp has horizontal grain-like ridges which are consistent with the use of a wooden die.

Other stamps from the same die have been noted from Wroxeter and Alcester, Warwicks., but neither site provides dating evidence. His rim-forms are consistent with a date in the mid-second century. The fabric suggests production in the West Midlands. A.D. 120-170. *Site A, trench 3 (23), period II oven debris.*

E. COARSE POTTERY

Site A (fig. 36). All from trench 3 except Nos. 26-29.

Period IB occupation, layer 30.

1 Rim of black-burnished dish. 2 Light red ware tankard rim.

Period II construction.

3 Buff handled tankard, and 4, red ware necked bowl, *layer 26 below stones.*
5 Grey ? rustic ware rim. *Body of timber-laced rampart.*
6 Black-burnished ware; cf. *Jewry Wall* Type A (90-220), *layer 26.*
7 Red tankard rim. *As 6.*

Period II occupation.

8 Light red ware necked bowl, and 9, grey ? rustic ware rim. *Oven ash, layer 22.*

Period III construction.

10 Black-burnished pie-dish. *Rampart tail, layer 19.* The general form is *Jewry Wall* Type A with the closest parallel for the horizontal rim found in a very large dish, fig. 19, 6 dated 150-220.

11-22 from period II oven debris, layer 23.

11 Imitation samian bowl base with illiterate stamp. 12 & 13 Rustic ware.

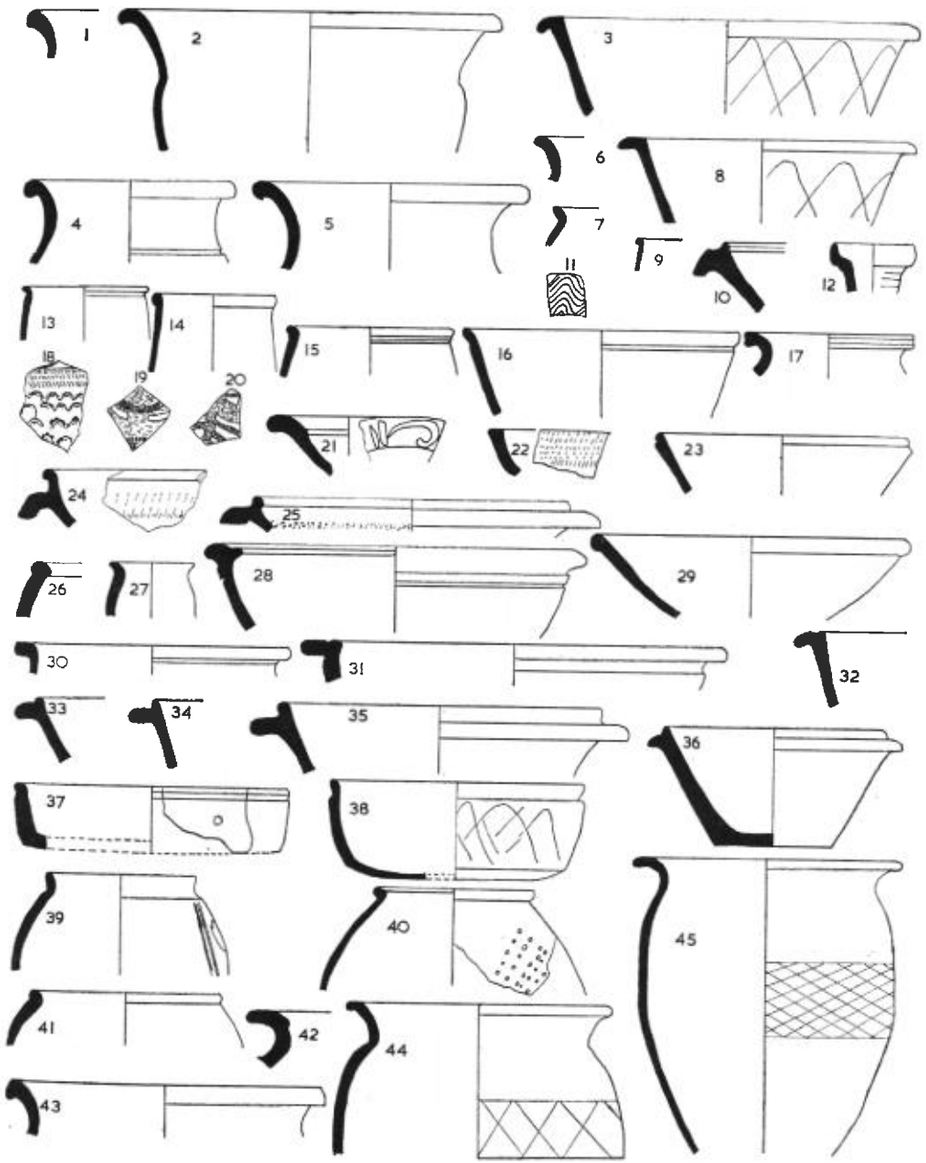


FIG. 37
Leintwardine—Stratified coarse ware from site B (1-12) and unstratified coarse ware from sites A & B (13-45) (¼).

14 Mortarium. See Mrs. Hartley's note on this above (D12).
15, 16, 17, 18. Black-burnished ware. 19 Burnished grey ware. 20 Black-burnished ware; cf. *Wroxeter* 1923-7, fig. 44, B4 (150-160), and fig. 45, C6 (second Forum destruction late third century), Gillam No. 118 (125-160) and *Jewry Wall* fig. 26, 26 (220-325). 21 Black-burnished ware; cf. Gillam No. 122 (120-160), *Jewry Wall* fig. 26, 10 (very common in period I of the Forum, now seen to be Antonine). 22 West Midlands necked jar.
23 *From period III road, layer 21.* Imitation samian flanged bowl rim.

Period III occupation (layer 15)

24 Black-burnished ware, oval 4¼ ins. wide.

Period IV occupation surface on rampart back.

25 West Midlands necked bowl.

Uncertainly correlated, from loam and gravel below recognizable construction surfaces.

Trench 9, Layer 3: 26 Red ware flanged bowl with red slip. 27 Gritty red ware.
28 Mortarium rim. 29 Black-burnished fabric.

Trench 3, layer 20: 30 Hand-made Malvernian bowl in native tradition.
31 Gritty grey-brown ware. 32 Burnished gritty red ware.
33 Rustic ware folded beaker.

Site B, in feature number order (fig. 37, Nos. 1-12).

1 *F20* (*period III*). West Midlands ware. 2 *F38* (*III*). West Midlands ware necked bowl and a black-burnished cooking-pot rim (not illustrated).
3 *F45* (*III*). Black-burnished ware; another similar; also red colander base and West Midlands necked bowl rim. 4 *F46* West Midlands necked jar.
5 *F71*. West Midlands necked jar, and 6 Black-burnished ware.
7 *F72*. Light grey rustic ware fabric. 8 *F89*. Black-burnished ware.
9 *F93*. Dark grey-green colour-coated ware and 10 Pale grey ware.
11 *F95* (*III*) Grey ware with combed pattern, and 12 Orange flagon rim with white slip.

Not illustrated:
F48 (*III*). Black-burnished cooking-pot with obtuse lattice. *F93* Rustic ware base and black-burnished cooking-pot rim. *F101* (*IB*) Rim of native Malvernian cooking-pot and sherd of black-burnished cooking-pot with acute lattice. *F106* (*IB*) Black-burnished cooking-pot rim.

Unstratified coarse pottery from sites A & B (fig. 37, Nos. 13-45).

Here are shown the types not already illustrated from stratified contexts.
13 Gritty red ware. 14 External brown slip. 15 Similar ware to 13.
16 Red ware tankard. 17 Red ware. 18 Thin red ware.
19 Light red ware; brown slip externally with grey and white painted decoration.
20 White ware with yellow ochre painted decoration.

21 Red painted bowl with white barbotine decoration. 22 Red-coated with rouletted decoration. 23 Brown colour-coated on white fabric.
24 Brown colour-coated. 25 White colour-coated mortarium.
26 Native Malvernian ware. 27 Light grey ware. 28 Red ware bowl.
29 Imitation samian form 31 in red ware. 30 Mid-grey ware.
31 Reeded-rim bowl in grey ware. 32-36 Black-burnished ware pie-dishes or bowls. 37 Light brown ware with internal pink slip.
38 Black-burnished ware. 39 Black-burnished ware, handled beaker.
40 Black-burnished fabric with barbotine dots. 41 Grey-brown ware.
42-43 Black and dark-grey calcite-gritted wares. 44-45 Black-burnished cooking pots.

Site E, stratified coarse ware (fig. 38).
Pre-bath deposits, period 1A.

1 Orange-red ware; *from trench 3* (*5*). 2 Burnished grey ware; *as 1*.
3 Grey ware; *trench 13* (*7*). 4 Dark grey reeded-rim bowl; *as 3*.
5 Orange ware; *trench 18* (*6*). 6 Dark grey ware; *trench 4* (*13*).
7 Grey ware with combed decoration; *trench 18* (*6*). 8-11 Native, Malvernian ware. *No. 8 from trench 13* (*7*); *9 from trench 10* (*7*); *10 from trench 4* (*14*); *11 from trench 4* (*14*). 12 Overall rusticated sherd; *trench 10* (*7*).
13 Grey rustic fabric; *trench 18* (*6*). 14 Similar fabric; *trench 3* (*5*).
15 Black-burnished cooking-pot rim; *trench 18* (*6*). 16 Black-burnished cooking-pot rim; *trench 4* (*14*). 17 Black-burnished ware; *trench 13* (*7*).

Period 1B construction deposits.

18 Black-burnished ware; *from trench 3* (*2*). 19 West Midlands red ware tankard; *as 18*.

Period 1B occupation deposits.

20 Grey ware; *trench 24* (*16*). 21 Buff ware; *as 20*. 22 Fine orange ware; *as 20*. 23 Orange flagon; *trench 24* (*21*). 24 Black-burnished cooking-pot rim; *trench 23* (*5*). 25 West Midlands red ware necked jar; *as 20*.

Period III reconstruction deposits.

26 Black-burnished ware; *from rampart top, trench 23* (*1*).
27 Grey ware burnished vertically; *from stoke-hole repair debris, trench 9* (*7*).

Period III occupation deposits.

28 Black-burnished ware; *from hypocaust charcoal, trench 9* (*6*); cf. Gillam, No. 146 (280-350). 29 Brown colour-coated; *trench 21* (*6*) (*part of trench 24*).
30 Black-burnished ware; *trench 24* (*2*). 31 Black-burnished ware; *trench 24* (*12*). 32 & 33 West Midlands red ware; *trench 24* (*12*). 34 Abraded red ware; *as 32*.

Period III-IV abandonment (*hypocaust silt*).

35 Black-burnished ware, cf. No. 30; *trench 9* (*5*). 36 Black-burnished ware; *trench 4* (*4*).

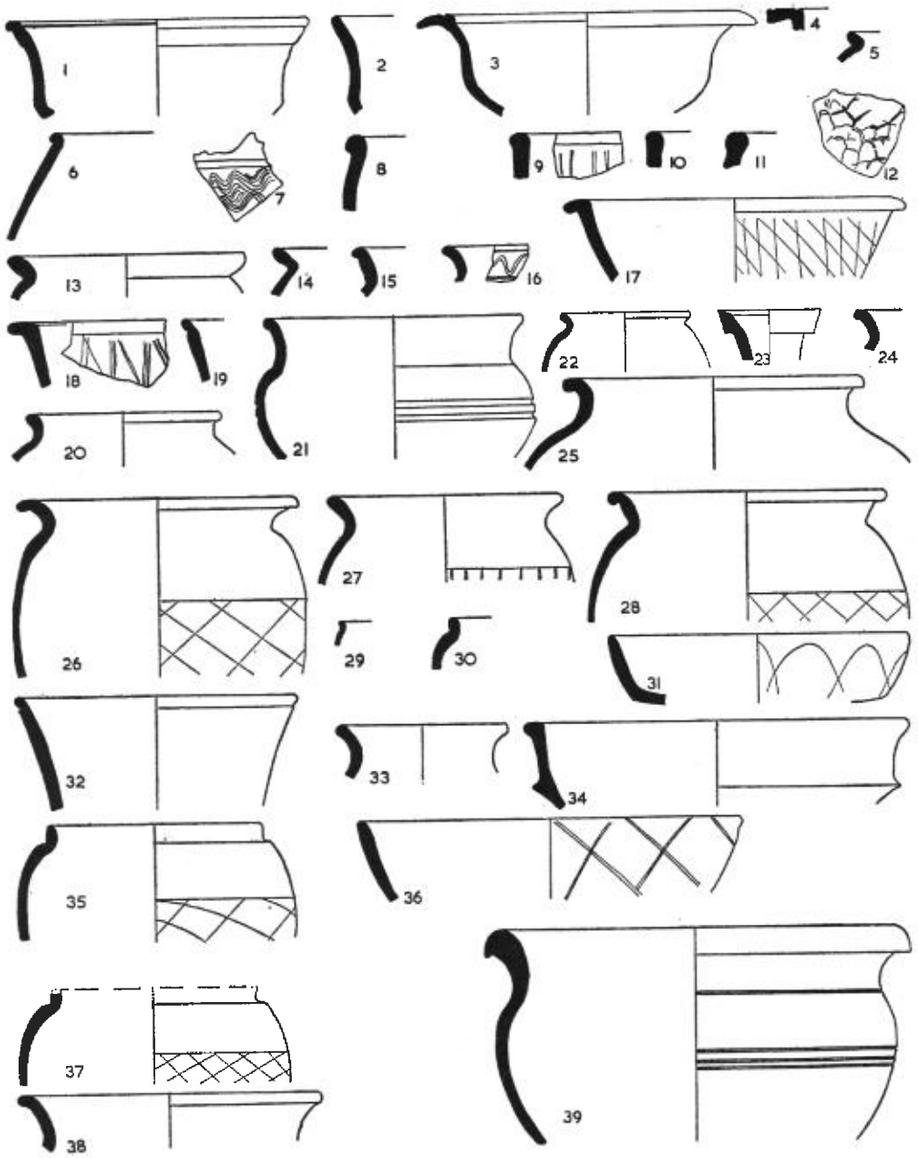


FIG. 38
Leintwardine—Stratified coarse ware from site E (¼).

From period IV construction deposits (trench 24 (I)).

37 Abraded black-burnished ware; cf. Nos. 35 and 30. 38 & 39 West Midlands red ware necked bowls.

Unstratified (fig. 39, 1-8).

1 Abraded red-ware mortarium. 2 Black-burnished ware with rim-groove.
3 Black ware with burnished decoration. 4 Brown ware with burnished decoration. 5 and 6 Black-burnished ware. 7 Calcite-gritted ware.
8 Red-brown colour-coated ware with rouletted decoration.
The flanged pie-dishes, 3-5, and the calcite-gritted rim, 7, are sure indices of a fourth-century occupation.

F. MEDIEVAL POTTERY (fig. 39, 9-23)

The cooking-pot rims, 9-19, are from site E robber-trenches and 20-23 from disturbed deposits on sites A and B. Only No. 20, in a very gritty fabric looks particularly early, perhaps of the twelfth century. The remainder are all in a micaceous fabric, Nos. 10, 12 and 16 being paralleled in form at Hampton Wafer (*Trans. Woolhope N.F.C.* XXXIX (1968), fig. 6, 55, 47 and 27 respectively). The others are not matched on that site, considered to have been abandoned in the early fourteenth century. They may be later, or with their sharply moulded rims reflect the different traditions observed at Detton Hall near Cleobury Mortimer (*Trans. Shropshire A.S.* LVIII (1965), 37).

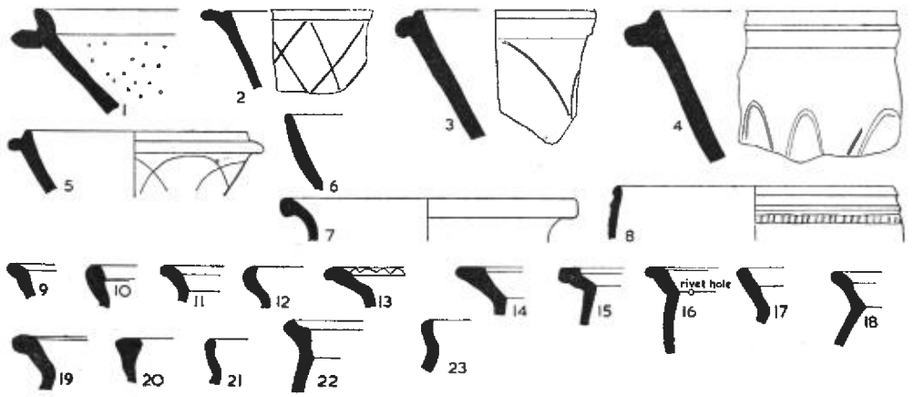


FIG. 39
Leintwardine—Unstratified Roman coarse ware from site E (1-8) and medieval pottery from sites A, B and E (9-23) (¼).

SUMMARY OF THE ROMAN OCCUPATION OF LEINTWARDINE (fig. 20)

Period IA. On site A it was shown that an occupation from the late first to the middle of the second century extended beneath and northwards of the timber-laced rampart. The features assigned to this period include the shallow ditch 4 and a number of post-holes and post-trenches on sites A, B and E. In the absence of diagnostic military features it appears that this was a civilian occupation extending along the Watling Street West (the present High Street) from the riverside (site E) northwards to Chantreyland (site A). Since there are no usefully sealed finds, this first occupation can only be dated by consideration of the earliest pottery found, whatever its context. The coarse wares declare it to go back to the first century, but do not allow any further refinement. Amongst the samian (summarized on fig. 40) from all the Leintwardine village sites there is none that *has* to have been made before A.D. 75, but thirteen whose period of manufacture Mr. Hartley places not later than *c.* A.D. 85. Alternative approaches to this problem are to average the central date of all the first-century sherds (18 from sites A & B) or of the earliest sherds (6 from A & B). These point to the foundation of the *vicus c.* A.D. 74 or *c.* 71 respectively. The samian from site E (14 first-century sherds, of which the 6 earliest are selected) gives comparable estimates of *c.* 78 and *c.* 72. We may conclude that the *vicus* was established in the early seventies, before the evacuation of the Jay Lane fort for which the suggested date is *c.* A.D. 78.

Period IB. This settlement underwent improvement, possibly in status, in the early Antonine period. A bath-house was built by the riverside, replacing the timber buildings that had formerly stood there, and it may be that the courtyard building identified as the *mansio* on site B was reconstructed in stone at about the same time. The samian sherds Nos. 83 and 95 indicate a Hadrianic or early-Antonine date for the period IB bath-house, and on the evidence of the West Midlands ware (fig. 38, 20) it is argued that this bath-house was in use later than Buckton II. The evidence of the re-used stone suggests that it was not in fact begun until the dismantlement of Buckton. A date of *c.* A.D. 140 would be in accord with the limited evidence. There is no particular evidence illustrating the reason for the settlement's demolition and the substitution of a fort on the site in period II.

Period II. The structural evidence is now firm for the erection of the timber-laced rampart of the fort and bath-house annexe in the second half of the second century. The most precise dating-evidence for this remains the sherd of Paternus of *c.* 160-190 (1958 report, No. 4), from site A, section 2. Period II will begin after *c.* A.D. 160.

The fort as now planned remains largely defined by existing earthworks, which show its area to have been 14 acres (5.47 hectares) over the ramparts. Whereas the northern and southern *intervallum* roads were directly behind the rampart, on the western side there appears to have been a 50 ft. (15.3 m.) space between road and rampart. This is restored symmetrically on the east side as well in fig. 20, for the excavation of both western angles makes it certain that long straight facets on the corners were a planned feature of the fort. Within the *intervallum* roads the

dimensions of the built-up area would be approximately 460 ft. (140 m.) by 820 ft. (250 m.), 8.7 acres (3.48 hectares). The succession of roads in trench 5 on site C, and the break in the western rampart, make the identification of the period II *via principalis* virtually certain. With a conjectural central *via praetoria* the dimensions of the halves of the *praetentura* become approximately 210 x 270 ft. (64 m. x 82 m.). In either direction this is unduly long for an auxiliary barrack block, but the longer dimension would be sufficient for legionary blocks set *per strigas*. There is room for eight such buildings in the *praetentura* as planned and for more than that in the *retentura*. There seems no special reason for invoking a legionary vexillation of say 1500-2000 men, but such a possibility illustrates the capacity of the enclosed area. For a fort of equal size in an earlier period reference may be made to the Domitianic reconstruction of Newstead (14.3 acres—5.8 hectares) where a legionary vexillation of two cohorts was combined with a cavalry *ala*.

Professor Frere has suggested to me the possibility that rather than housing a large garrison Leintwardine may have been a large ordnance depot, a supply-base for the forts of the central Marches. We have insufficient information about internal buildings to decide the matter, but the idea is attractive for it might explain the unusual features of the fort: its facetted corners and wide longitudinal *intervallum* spaces. Moreover, it has been noted above that the area available for the fort bath-house is more appropriate for a garrison of 500 men rather than one of three or four times that number. This argues strongly in favour of a supply-base garrisoned by a single cohort.

The duration of the period II occupation cannot be determined from the ceramic evidence. There is no reason to suggest that it outlasts the second century, though the high proportion of Antonine samian would suggest that it lasted until late in the second century.

Period III. The way in which the few features referable to this period follow closely the plan of their period II precursors implies that there was no long break in occupation. Thus the period III roads in trenches 3 and 5 (sites A and C) were closely above those of period II, and there are no signs of major rebuilding in the bath-house, only roofing and flue repairs and adjustment of the level of the cold plunge bath. The short break that is indicated could be accommodated within the historical hiatus A.D. 196-*c.* 200 when the province was partly stripped of its garrisons. Period III would on this reasoning be expected to be Severan, of the early years of the third century. The third-century imported samian vessel in the rampart tail (trench 3, layer 19) places the features allocated to this period on site A at least, no earlier than this.

There are in all only three samian sherds (Nos. 23, 24 and 78) and one mortarium (No. 2) of forms known to have been manufactured in the third century. Of the black-burnished bowls with grooved rims which are of the third century in northern Britain (Gillam's Nos. 226 and 227) there are only two examples from Leintwardine (fig. 37, 32 and fig. 39, 2). It may be concluded that the period III occupation, probably in the early third-century, was of brief duration. The fort and bath-house

remained as in period II, though we cannot know whether the whole of the space available was still utilized.

Period IV. The stratification on site A (trench 3) and the silting of the bath-house hypocausts show that a long period of neglect intervened between periods III and IV. There are no securely stratified finds of value in dating the construction of period IV either in the fort itself or on the bath-house site. The occupation surfaces of this period, where preserved at all, were open to the disturbed modern soil from which the unstratified Roman material must be used as a group to substantiate the fourth-century re-occupation of the fort. There is no lack of fourth-century coarse ware, notably the flanged bowls (fig. 36, 26; fig. 37, 33-36; and fig. 39, 3-5) and mortaria (Nos. 6, 7, 8, 9 and 11). Six of the fifteen coins from these excavations are of the fourth century, and five more are dated later than 270.

To judge by the oven on site A (trench 3) and the uppermost road on site C (trench 5) the earlier plan of the fort was still largely maintained, although the bath-house was altered drastically, with the former heated rooms now cold and new hypocausts added at the eastern end. There is some evidence from site B to suggest that the fort was eventually burnt. The latest date available from the unstratified coins is A.D. 350.

THE SEQUENCE OF FORTS AROUND LEINTWARDINE

If the samian ware from Jay Lane is regarded as essentially a group whose context is late in the occupation of the fort, we have ceramic support for the topographical likelihood that it represents the earliest fort site. None of the samian needs dating later than *c.* 70, and the average central date for the six sherds is *c.* A.D. 71. This is the same as that obtained by the same means above for the earliest occupation in Leintwardine village, while the same calculation for the occupation below the Baths gave an initial date of A.D. 72.

On this evidence, the Leintwardine *vicus* could have been established immediately upon the dismantlement of the Jay Lane fort, but it is perhaps unlikely that a civilian settlement would have grown up in the early seventies in this frontier area without the stimulus and protection of a nearby fort. If the fort had already been established at Buckton, a better showing of early samian might have been expected on that site. As it is the average central date for the five first-century sherds from Buckton is *c.* A.D. 80, significantly later than the starting dates for Leintwardine. In the absence of a fort at Buckton early enough to protect the Leintwardine *vicus* it seems preferable to envisage the occupation of Jay Lane extending until towards A.D. 78, by which time Flavian forts in upland Wales had advanced the frontier far to the west. In this way too the later movement of the fort site across the Clun to Buckton would be explained; the obvious site closer to the river at Leintwardine had already been taken over by the *vicus*. The limited ceramic evidence for a gap between Jay Lane and Buckton might derive support from the 4 acre temporary camp beside the Buckton fort, which it is tempting to see as a labour camp occupied during the construction of Buckton I. Had Jay Lane still been in existence there would hardly have been any need for this. The fort sequence, as outlined in

the introduction above, will be Jay Lane (dismantled in the late seventies), Buckton I (established in the eighties, and perhaps towards A.D. 90), Buckton II (built *c.* 120, and probably abandoned *c.* 130), Leintwardine II (the large fort with timber-laced rampart, in the later second century, after *c.* 160), Leintwardine III (a brief occupation in the early third century), and finally Leintwardine IV (in the fourth century, lasting probably until at least A.D. 350).

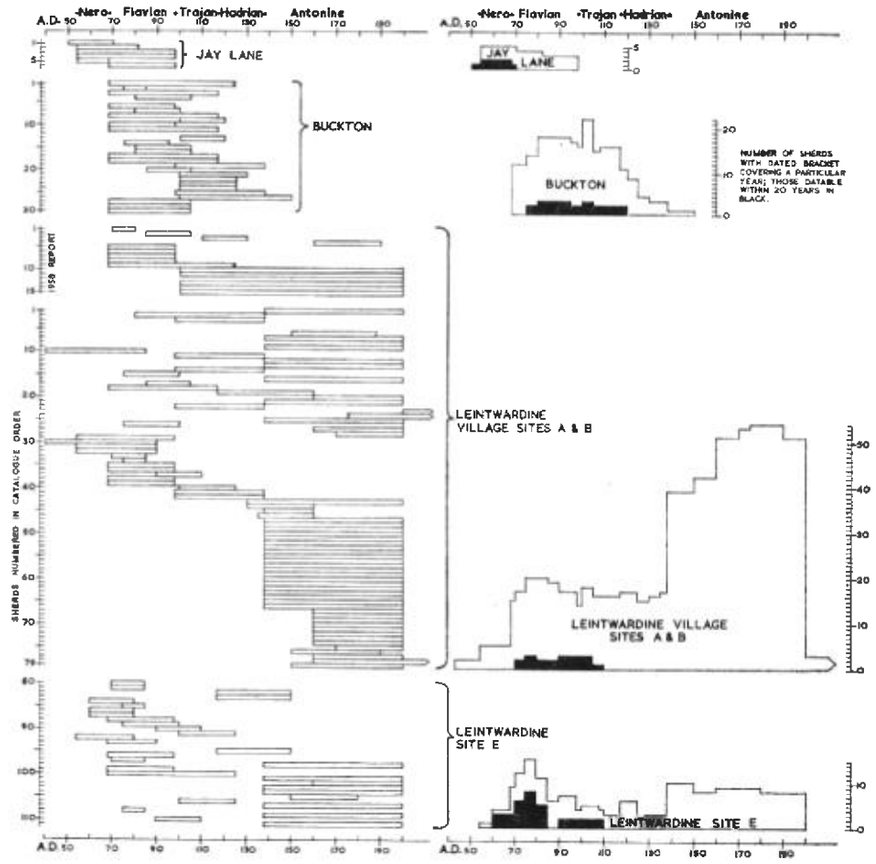


FIG. 40
Samian from the Jay Lane, Buckton and Leintwardine forts.

LEINTWARDINE AND THE ROMAN FRONTIER IN WALES

Dr. Jarrett's review of the intricacies of the historical facts and the paucity of archaeological evidence has emphasized the difficulty of documenting the early Roman campaigns into Wales. ([50]) We have seen that Jay Lane will have been built some considerable time before *c.* A.D. 78 since some of its posts were rotten when the fort was dismantled and the context of construction may be narrowed to some moment in the years A.D. 47-61, i.e. between the start of the governorship of Ostorius Scapula and the reorganization following the Boudiccan revolt.

If the Kenchester milestone ([51]) is accepted as proof that Herefordshire came within the *Civitas Dobunnorum* we must ask whether it was in that part of Dobunnic territory thought to have been surrendered in A.D. 43. ([52]) Against this possibility it must be asserted that there is no evidence that Herefordshire north-west of Weston-under-Penyard was culturally one with the Cotswolds in the closing years of the Iron Age. From the excavated hill-forts there is neither pottery nor coins to support such an idea, and the sampling has by now been fairly extensive: Sutton Walls, ([53]) Poston, ([54]) Credenhill, ([55]) Midsummer Camp, ([56]) Croft Ambrey ([57]) (all in Herefordshire) and Caynham Camp (Salop). ([58]) These offer no evidence to suggest that the Dobunni took over Herefordshire before the Roman Conquest, and the continued occupation of Sutton Walls, Poston, and Credenhill into Roman times confirms the survival of some hill-fort settlements beyond the Iron Age.

If Iron Age Herefordshire was not then Dobunnic it may have to be regarded as part of an anti-Roman Silurian confederacy. The fate of its hill-forts accords better with this view. Credenhill Camp, a site larger than Maiden Castle, Dorset, with 50 acres enclosed, was abandoned early in the Roman period. On the plain below, Herefordshire's largest Roman walled settlement, the 22 acre straggling town at Kenchester, was to develop. At Croft Ambrey the final gate-posts were removed and the huts burnt; there is no evidence of occupation as a village into the Roman period. Midsummer Camp on the Malverns also appears to have been deserted at about the time of the Roman conquest. At Sutton Walls, although occupation continued into the second century A.D., an undated, but probably Roman, slaughter may mark the retribution wrought on a people who had been traditionally hostile to Rome. ([59])

The Silures and their associates may have been amongst those who raided deeply into Roman allied territory in A.D. 47, ([60]) but the first mention of the Silures by name is in 49 when, having disarmed the suspected peoples between the Trent and Severn, Scapula advanced into Silurian territory. If Herefordshire was allied to the Silures, 49 will become the earliest possible date for the establishment of the Jay Lane fort. The associated changes in legionary dispositions would provide an appropriate context, as Dr. Webster recognized, ([61]) for a major change in frontier line, and the construction of the Watling Street West through Leintwardine. Professor Frere has questioned whether this frontier was established quite so early and suggested that, marking the end of this phase of conquest, it is more likely to be the

work of Didius Gallus (52-57), Scapula's successor. ([62]) There are two possible difficulties involved in this interpretation. First, it uses the years 49 and 50 to prepare the Midlands east of the Severn as an invasion base, whereas the campaign against the Deceangli in 48 seems to imply that the flank on the Severn was already partially secured by riverside forts and lateral roads. Secondly, it requires Caratacus to abandon the populous southern Marches before the Roman assault had even developed. This area must have been regarded as potentially the largest reservoir of warriors in unconquered Britain. Its abandonment seems better explained by a successful Roman advance into the Hereford plain which thereby threatened to destroy the British forces in Monmouthshire by encirclement, and to catch those of Herefordshire and Shropshire in the pincers formed by forces advancing along the Wye-Lugg and Church Stretton valleys. The lack of evidence for a Roman assault on any of the Herefordshire hill-forts except possibly Sutton Walls suggests that, in the event, the Romans met little resistance, so that Caratacus had no choice but to abandon the Wye valley at an early stage and turn to raise new allies amongst the Ordovices. Meanwhile there will have been plenty to fill the Tacitean silence for 49-50. It would have been folly indeed to have pressed on into Wales before the hill-forts of the Marches had been adequately demilitarised and the area garrisoned. An initial movement forward to a frontier on the Watling Street West from Wroxeter to Hereford must have been a prerequisite for any further campaigning in Wales, and its establishment would have given Scapula's forces plenty to do in the two years' grace. Between the new frontier road and the Severn over twenty hill-forts were now taken in, and the road passes so close to three others, including Credenhill, that these too must have been annexed.

Along this frontier only two forts are known in any detail—Wroxeter and Jay Lane. The dimensions of the Wroxeter fort are suggestively similar to those of Jay Lane—515 x 470 ft. (157 x 143 m.) within two ditches enclosing 5.7 acres (2.3 hectares). ([63]) There would probably have been others near Church Stretton and at Stretford (midway between Hereford and Leintwardine) where a gold stater of Corio was found beside the Watling Street West in 1968. ([64]) These would have reduced the spacing to 12 miles, assuming the Wye crossing was controlled by a fort at Hereford. The comparability in size of Wroxeter and Jay Lane may indicate cavalry at both sites, and with such garrisons a 24 mile spacing may have been considered adequate. It should be noted, however, that a tombstone ([65]) found in the Wroxeter cemetery, a mile away from the fort, has led to the suggestion that a part-mounted Thracian cohort was stationed there. In view of the comparability of size between Wroxeter and Chesters (5.75 acres over the ramparts), where an *ala* is recorded, this association has to be regarded with caution. The new frontier was least satisfactory north of Leintwardine where the road lay in the shadow of the Longmynd but to the south of Aymestrey it secured a buffer of unoccupied forest between the Province and the hills of central Wales.

To place Jay Lane much later than A.D. 50 would leave little time before the end of active hostilities in 61 for pre-Flavian forts at Usk, ([66]) Abergavenny and Clyro, ([67]) since these must surely be subsequent to the control of the Marches.

Drawn by the Claudian finds from Usk, Dr. Webster has suggested that the Scapulan frontier ran from Leintwardine to Usk via Kenchester (instead of Hereford) and Monmouth. ([68]) Although it must be emphasized that there is no evidence of a fort at Hereford, a straight alignment from Monmouth to Hereford, using the higher ground, seems more likely than a westward salient to cross the Wye south of Kenchester; or the Wye itself may have formed the frontier below Hereford. With Jay Lane established in A.D. 50 the season of 51 will have been taken up by the culminating drive against Caratacus and the Ordovices; and the end of 51 and 52 was a time for suppressing new uprisings amongst the Silures and holding on to what was won rather than the large-scale expansion of the Province. ([69]) Didius Gallus is credited with some advancement of the frontier, ([70]) but this seems to provide no warrant for the major reorganization implied by the establishment of Jay Lane; his advance may well have been to control west Monmouthshire and the Wye-Usk gateways to the Welsh uplands; to answer the geographical puzzle of a north-south frontier in the hills of the southern border by substituting an Usk frontier for one on the Wye. The pottery from the Welsh forts will not allow the time between these two lines to be great and Professor Frere has suggested that the Usk valley forts may be the work of Didius. ([71]) Certainly the conquest of the Central Marches and the establishment of the new Welsh forts could hardly have all been achieved in the single campaigning season of 57 available to Veranius, the succeeding governor, ([72]) who must, as Frere has seen, have been able to penetrate deeply into Silurian territory in order to make possible the activities of his successor, Suetonius Paullinus, in 58-60.

Following Boudicca's revolt in A.D. 60 a widespread reorganization of military dispositions has been postulated, ([73]) and Mr. Hartley has pointed out to me that the samian from Jay Lane would be compatible with a foundation then. In the absence of another fort site to hold the Leintwardine position through the critical developments of the previous decade, or of two periods of work at Jay Lane, it seems preferable to regard this fort as already in existence, and its occupation to have remained unbroken through the year of the great revolt.

The next important stage in Wales involved the campaigns of Frontinus (74-75) against the Silures whose strength by now, as Jarrett has reminded us, would have been revived. With the legionary base coming forward to Caerleon, the Watling Street West was by now regarded as a secure rearward line of communication. The success of Frontinus' campaign and the establishment of new forts westwards in Wales would have provided the likely context for the dismantlement of Jay Lane, possibly before Agricola's arrival in A.D. 78.

There is insufficient evidence to show whether the postulated break between Jay Lane and Buckton is real, but it would not be incompatible with developments elsewhere in the province in the late first century. The forces established by Agricola north of the Clyde-Forth isthmus were withdrawn in or soon after A.D. 87, and a new deployment was effected in the Southern Uplands, centred on Newsteads which was itself reconstructed. ([74]) If a similar policy was followed on the Welsh frontier

one might expect the reinforcement of the rearward line with forts like Buckton as the complement of possible reductions in the upland garrisons.

The British wars, dated some time between A.D. 89 and 128 might provide an alternative context for Buckton I, for Frere has raised the possibility that these might have been before 100 and have been reflected in Wales by the late first century destruction of Forden Gaer and the establishment of Bryn-y-Gefeiliau (Caer Llugwy). ([75]) The evidence for these sites, ([76]) like that from Buckton itself, is insufficient to encourage a firm opinion either way.

Whatever its precise context Buckton I must reflect continued concern for the security of the frontier in Wales. More immediately its purpose was to control the hill-country of North Herefordshire and South Shropshire, and defend the Watling Street West against incursions from the Upper Teme valley. The new fort, although on low ground, retained something of the all-round visibility formerly enjoyed at Jay Lane (fig. 4), and could have had a bath-house beside the river of which traces may be discernible to the east on some of Mr. Baker's photographs.

The second-century rebuilding of Buckton indicates a serious concern for the safety of the Welsh frontier in Trajanic, or early Hadrianic times. With a lavish expenditure of stone on its defences and administrative buildings it echoes the impression of the Trajanic work at Gelligaer and Castell Collen that the policy remained that of a permanent military occupation of Wales. It may be seen as part of the widespread consolidation of the Province that took place under Trajan. Although troops from the Welsh garrison were employed on the building of Hadrian's Wall they did not leave empty forts behind them, and Wales remained under the vigilant eyes of its auxiliary garrisons. We do not know how many forts were maintained in all but Dr. Simpson's analysis of the samian from Wales showed material datable to the periods 100-120 and 120-150 in virtually all the excavated forts, i.e. Gelligaer, Penydarren, Caersws, Forden Gaer, Caernarvon, Brecon Gaer, Usk, Caerhun, Castell Collen, and Tomen y Mur. ([77])

The dismantlement of Buckton probably by *c.* A.D. 130, and the absence of any Leintwardine fort to fill the years until Leintwardine II was built, after *c.* A.D. 160, shows that once again the local garrison had been withdrawn for service elsewhere. Tomen y Mur, reduced in the early second century, may have been abandoned by 140, ([78]) but at Caerleon, Chester, Caerhun, Caersws, Forden Gaer and Brecon Dr. Simpson's study shows occupation *c.* 130-150. To the east the inadequacy of the former hypothesis of early conquest and unbroken subsequent civilian development has been widely demonstrated in recent years. The second-century fort at Tedstone Wafer, ([79]) may have been succeeded by a fortlet at Clifton-on-Teme; ([80]) and Mr. Walker's work on the fort at Walltown Farm, Cleobury Mortimer, has shown that it had a complex history from Neronian times. ([81]) Its stone revetment is held to be constructed in the first half of the second century, and the fort to have been abandoned in the third quarter of that century. The evidence generally is too imprecise to show whether the abandonment of Buckton was accompanied by reductions in the size of the total Welsh garrison. If it was, this new confidence in the west would be appropriate for the northern re-advance in the 140's to the Antonine Wall.

The construction of Leintwardine II behind a timber-laced rampart after *c.* A.D. 160 would seem to imply a major re-appraisal of the Welsh frontier. At one time it seemed that the approximately contemporary reconstruction of Forden Gaer with similar rampart might indicate that the rampart type itself was narrowly datable, and Mr. Hartley raised the possibility that it might have been introduced by the Sarmatian troops brought to Britain in A.D. 175. Since then similar construction has been found at Caersws ([82]) and Walltown ([83]) in apparently Flavian contexts. The time range is therefore wide, and the geographical spread has increased with similar work recorded from Coelbren, Leintwardine, Walltown, Forden Gaer and Caersws. Although there is now no structural reason for making Leintwardine II as late as 175 that date provides a context as likely as any other for a reorganization of the frontier. The status of the Leintwardine fort is of fundamental importance in the assessment of the Roman control of central Wales. If it was occupied by a very large garrison we might expect there to have been a marked reduction of the upland forts, made possible by holding 2,000 men at Leintwardine ready for deployment as needed. If, as has been argued above, Leintwardine was a supply-base its periods of activity should be matched by occupation of forts in Wales, without which there would be no reason for the maintenance of Leintwardine. Its history will therefore reflect Roman activity generally in central Wales. It also follows from this explanation that the nearest excavated forts (Castell Collen and Forden Gaer) are too far from Leintwardine to protect the base, so that others may be expected to exist to the west of Leintwardine. ([84]) We do not yet know what the complementary adjustments were elsewhere in Wales but occupation of some kind in the second half of the century is indicated by Dr. Simpson's analysis for all the forts listed above except Penydarren and Tomen y Mur, and with the addition of Cardiff. Of these the Antonine reoccupation of Gelligaer may have been brief, ([85]) and the reduction of Castell Collen is possibly as early as the 60's although Mr. Alcock has stressed the likelihood of the unstratified coin evidence pointing to the later part of the century for this. ([86])

The ash at the rampart foot in trench 3 at Leintwardine may indicate the firing of the palisade and possibly the corner-tower very soon after the rampart was built. The effect of such disturbances on settlement in the territory of the Cornovii was discussed by the late Sir Ian Richmond, who saw a possible explanation of the rarity of villas and of the great size of Wroxeter, in the insecurity of life in the countryside. ([87])

The intensity of occupation at Leintwardine through the latter half of the second century is clearly attested by the abundant Antonine samian, and it has been seen that there are stratigraphical reasons for supposing that the reoccupation of period III followed at no great interval after the end of period II. It has been tentatively suggested that the break may have occurred in 196 when the British garrison was largely withdrawn for the continental campaign of Clodius Albinus which proved disastrous for northern Britain. In Wales Dr. Simpson has seen the Severan rebuilding at Caerleon and the construction of Caernarvon as evidence of reoccupation necessitated by further trouble there too. If Leintwardine was re-furbished then,

there is no evidence that its occupation was prolonged. Rather does it appear that the third- and perhaps the fourth-century occupations were of brief duration, as elsewhere in Wales. It could be that apart from short troublesome interludes the frontier zone remained quiet within, although raids from outside were presumably the reason for the construction and maintenance of the coastal forts. In the 360's disturbances came closer to the lowlands; widely now throughout the province town walls were provided with bastions. At Kenchester it has been shown that no earlier than the late fourth century the west gate was narrowed and redesigned. ([88])

Finds that are at all closely datable are relatively few for the fourth century in the Welsh forts so that it is not possible to know how many of the sites producing such material are contemporary. We can only note Dr. Simpson's review and reassessment of the evidence for fourth-century occupation at Caernarvon, Caerhun, Caersws and Forden Gaer in north Wales, ([89]) and Brecon, Gelligaer and Cardiff in south Wales, ([90]) to add to Castell Collen ([91]) and Leintwardine.

The north Herefordshire forts have proved to hold important evidence for our understanding of the Roman occupation not only of the county, but of the Welsh frontier and the West Midlands in general. By way of a postscript to this account we may compare the unique juxtaposition of the three forts with Walters' summary assessment of Roman fortified sites in the county, written in 1908 (*Victoria County History*): "Herefordshire has no Melandra nor Gelligaer, and the one station in which the Romans fortified themselves against their highland foes (i.e. *Bravonium*) was a place of no great importance".

FOOTNOTES

[1] Mrs. J. G. Calderbank, N. Grimmett, M. U. Jones, G. Pulzer, E. Reid, A. T. Shaw, C. Thorne and P. Watkins; the Misses H. Andersson, E. V. G. Brown, P. Chapman, A. D. Ewing, G. Gardner, D. Harrison, R. Hickling, C. Holmes, B. Howard, P. Jackson, K. Moxham, M. Phillips, G. Rind, A. Spear, J. Tarrant, P. M. Tombs, and P. Willis; and Messrs. R. Beech, N. P. Bridgewater, M. Brooker, H. Buzzard, J. G. Calderbank, R. Clive, K. Cooper, P. Cooper, D. Evans, T. Ewart, A. Fleming, A. French, A. Faulkner, D. Faulkner, P. Faulkner, B. Golden, N. Grimmett, T. Hetherington, T. Holmes, J. Inglis, E. Jenks, R. J. Jenkins, D. Jones, Cdr. Lawson, C. D. Miller, P. Morris, F. Noble, J. Paterson, K. Pettersson, B. J. Philp, J. C. Price, G. Pulzer, P. F. Russell, A. C. Selway, R. Shoesmith, L. Skelton, I. Tawse, D. B. Thomas, W. H. Thomas, J. Turner, D. Whitehouse, J. Canning and S. Clarke; and Mrs. M. Stephens.

[2] Especially Mrs. B. W. Bourne and Mrs. W. Hadyn Thomas, Miss V. Bedford, Drs. R. H. B. Bell, J. G. Hunt and G. Webster, and Messrs. D. G. Bayliss, V. H. Coleman, G. B. Coombs, G. Davies, K. E. France, C. Hartley and W. R. Symonds.

[3] S. C. Stanford, Excavations at the Roman camp of *Bravonium* (Leintwardine), *T. Woolhope N.F.C.* XXXVI (1958), 87-99.

[4] S. C. Stanford, The Roman fort at Buckton, Herefordshire, *T. Woolhope N.F.C.* XXXVI (1959), 210-18.

[5] I should like to record my thanks to Miss Sarnia Butcher of the Ancient Monuments Branch for the interest and speed with which she dealt with the threats to this and the Mill Lane site.

[6] J. K. St. Joseph, Air Reconnaissance in Britain 1961-4, *J.R.S.* LV (1965), 85.

[7] Information from W. A. Baker. The site is referred to in J. K. St. Joseph *loc. cit.* fn. 6.

[8] S. C. Stanford, The Roman Marching Camp at Bromfield, *T. Shropshire A.S.* forthcoming, amending G. Webster's plan in *T. Shropshire A.S.* LVII (1964), 187, but close to J. K. St. Joseph's estimate based on the aerial photographs of 1080 by 850 ft. (21 acres) in *J.R.S.* (1965).

[9] *loc. cit.* fn. 6.

[10] S. C. Stanford, *T. Woolhope N.F.C.* XXXVI (1959), 210.

[11] G. Webster, The Roman military advance under Ostorius Scapula, *A.J.* CXV (1958), 66.

[12] On the basis of the legion encamped in 20.1 acres at Rey Cross (*T. Cumberland and Westmorland A.A.S.*[2] XXXIV (1934) 50 ff.). I am indebted to Professor Frere for guidance here, and for the suggested complements of the two camps.
[13] *loc. cit.* fn. 6.
[14] S. C. Stanford, Croft Ambrey—Some interim conclusions, *T. Woolhope N.F.C.* XXXIX (1967), 31 ff.
[15] P. S. Gelling, Excavations at Caynham Camp, *T. Shropshire A.S.* LVI (1960), 145 ff.; (1961) 218 ff.; LVII (1962-3), 91 ff.; LVIII (1966), 96 ff.
[16] J. K. St. Joseph, Air reconnaissance in Britain 1958-60, *J.R.S.* LI (1961), 124. Plan in K. A. Steer and R. W. Feachem, Excavations at Lyne, *P.S.A.S.* XCV (1961-2), 209 fig. 1.
[17] Sir Ian Richmond, *Hod Hill II* (1968), 68.
[18] Aileen Fox and W. L. D. Ravenhill, Early Roman outposts on the North Devon Coast, Old Burrow and Martinhoe, *Proc. Devon A.E.S.* 24 (1966), 9.
[19] A. H. A. Hogg, Pen Llystyn, *A.J.* CXXV (1968), fig. 22. I am indebted to Mr. Hogg for plans of the Pen Llystyn towers in advance of publication.
[20] H. Schönberger, Rommerkastell Künzing, Grabung 1962, *Saalburg Jahrbuch* XXI (1963-4), 65.
[21] A. E. Van Giffen, Opgravingen in de Dorpswierde te Ezinge en de Romeinse terpen van Utrecht, Valkenburg Z.H. en Vechten, *Jaarverslag van de Vereeniging voor Terpenonderzoek*, 29-32 (1944-48), pl. 8.
[22] *op. cit.* fn. 4, fig. 1.
[23] I. A. Richmond and J. McIntyre, The Agricolan fort at Fendoch, *P.S.A.S.* LXXII (1939), 116, fig. 3.
[24] *loc. cit.* fn. 19.
[25] Plan, *J.R.S.* LVIII (1968), 190.
[26] *op. cit.* fn. 17, fig. 41A.
[27] I. A. Richmond and F. A. Child, Gateways of forts on Hadrian's Wall, *A.A.*[4] XX (1942), 147.
[28] *J.R.S.* L (1960), 221; LI (1961), 170; LII (1962), 167, pl. XXII, 1. I am indebted to Mr. J. B. Whitwell for a plan of this gate prior to publication.
[29] K. M. Kenyon, *Jewry Wall Site, Leicester* (1948), 88.
[30] J. P. Gillam, *Types of Roman coarse pottery vessels in Northern Britain* (1968), 2nd ed.
[31] *loc. cit.* fn. 18.
[32] *loc. cit.* fn. 19.
[33] *op. cit.* fn. 17, fig. 50. M. Todd ed. *The Roman Fort at Great Casterton* (1968), 24-6.
[34] *op. cit.* fn. 17, fig. 41B.
[35] Plan, *J.R.S.* LVIII (1968), 189.
[36] A. Fox and W. L. D. Ravenhill, Excavation of the Roman fort at Tregaer, Nanstallon, 1965. Int. Report, *Cornish Arch.* 5 (1966), 28-30.
[37] *op. cit.* fn. 23.
[38] *op. cit.* fn. 17, fig. 41A.
[39] *loc. cit.* fn. 19.
[40] *loc. cit.* fn. 23.
[41] *loc. cit.* fn. 33.
[42] *loc. cit.* fn. 25.
[43] *op. cit.* fn. 17, fig. 49. M. Todd ed. *The Roman fort at Great Casterton* (1968), 36.
[44] J. Ward, *The Roman fort of Gellygaer* (1903), pl. V and General Plan.
[45] Conveniently in J. Collingwood Bruce, *Handbook to the Roman Wall*, XII ed. (1966).
[46] Parker Brewis, Roman Rudchester, *A.A.*[4] I (1924), pls. II & IV.
[47] Plan *J.R.S.* LVII (1967), 178.
[48] G. Simpson, Wales in the second century A.D., Pt. 2—South Wales, *A.C.* CXII (1963), 23 and 37.
[49] L. Alcock, The defences and gates of Castell Collen, *A.C.* CXIII (1964), 76.
[50] M. G. Jarrett, Early Roman Campaigns into Wales, *A.J.* CXXI (1964), 23-39.
[51] Collingwood, R. G. and Wright, R. P., *Roman Inscriptions of Britain*, I (1965), 2250.
[52] E. M. Clifford, *Bagendon—a Belgic oppidum* (1961), 60. For a different allocation of Dobunnic territories *c.* A.D. 43, see S. S. Frere *op. cit.* fn. 60, 69.
[53] K. M. Kenyon, Excavations at Sutton Walls, *A.J.* CX (1953), 1-87.
[54] I. E. Anthony, *The Iron Age Camp at Poston* (1958).
[55] Unpublished excavation (1963) by the writer.
[56] Current excavations (1965-68) by the writer.
[57] Excavations 1960-1966 by the writer; interim report, *op. cit.* fn. 14.
[58] *op. cit.* fn. 15.
[59] *op. cit.* fn. 53, App. II, 86-7.
[60] For the most recent comprehensive account of the province's history see S. S. Frere, *Britannia* (1967), and for Wales M. G. Jarrett, ed. *The Roman Frontier in Wales* (1969), 1-28.
[61] G. Webster, The Roman military advance under Ostorius Scapula, *A.J.* CX (1954), 7-10.

[62] *op. cit.* fn. 60, 80.
[63] J. K. St. Joseph, Roman forts on Watling Street near Penkridge and Wroxeter, *T. Birmingham A.S.* LXIX (1951), 53-56; *J.R.S.* XLVIII (1958), 95.
[64] See these Transactions, p. 367.
[65] *op. cit.* fn. 51, 291.
[66] G. C. Boon, Remarks on Roman Usk, *Monmouthshire Antiquary*, 1 (1962), 28-33.
[67] *J.R.S.* LV (1965), 199.
[68] G. Webster and D. R. Dudley, *The Roman Conquest of Britain* (1965), 147.
[69] Tacitus, *Ann.* XII, xxxviii-xl.
[70] Tacitus, *Agricola*, XIV.
[71] *op. cit.* fn. 60, 84.
[72] Tacitus, *Agricola*, XIV.
[73] *op. cit.* fn. 60, 91-92.
[74] *Ibid*, 120-1.
[75] *Ibid*, 124.
[76] Reassessed by G. Simpson, Wales in the second century A.D. Pt. 1 Caerleon and North Wales, *A.C.* CXI (1962), 141 and 164.
[77] G. Simpson, *Britons and the Roman Army* (1964), 99, fig. 11.
[78] M. G. Jarrett, Excavations at Tomen-y-Mur, Interim Report, *J. Merioneth H. and R.S.* (1962), 171.
[79] G. Webster, The Roman Fort at Tedstone Wafer, *T. Woolhope N.F.C.* XXXIV (1954), 284-7. In view of the accumulation of military evidence elsewhere in the Midlands, Dr. Webster's later caution in accepting the site as a fort seems unwarranted (*A.J.* CXV (1958), 66).
[80] S. C. Stanford, The Roman outpost at Clifton-on-Teme, *T. Worcestershire A.S.* (1959), 31.
[81] C. I. Walker, The Roman fort at Walltown Farm, *T. Shropshire A.S.* (1965), 8-18.
[82] C. M. Daniels, G. D. B. Jones and W. G. Putnam, Caersws 1966; Interim Summary, *Montgomeryshire Collections* LIX (1965-66), 112-5.
[83] *op. cit.* fn. 81.
[84] Dr. G. D. B. Jones and Mr. W. G. Putnam have suggested one at Bicton, N.W. of Clun. *J.R.S.* LVIII (1968), 187.
[85] *op. cit* .fn. 60, 162.
[86] *op. cit.* fn. 49, 84.
[87] I. A. Richmond, The Cornovii, in L. L. Foster and L. Alcock, Ed. *Culture and Environment* (1963), 251-62.
[88] F. G. Heys & M. J. Thomas, Excavations on the defences of the Romano-British town at Kenchester, *T. Woolhope N.F.C.* XXXVII (1962), 165.
[89] *op. cit.* fn. 76, 115, 129, 156, 165.
[90] *op. cit.* fn. 48, 37, 41, 65, 72
[91] *op. cit.* fn. 49, 84-5.

ABBREVIATIONS

A.A.[4]	—*Archaeologia Aeliana*, fourth series.
A.C.	—*Archaeologia Cambrensis.*
Arch. Cant.	—*Archaeologia Cantiana.*
A.J.	—*Archaeological Journal.*
B.M.C.	—*British Museum Catalogue of Imperial Coinage.*
Camulodunum	—C. F. C. Hawkes and M. R. Hull, *Camulodunum* (1947).
Gillam	—J. P. Gillam, *Types of Roman coarse pottery vessels in Northern Britain* (1968).
Hofheim	—E. Ritterling, Das frührömische Lager bei Hofheim im Taunus. *Annalen des Vereins f. Nassauische Altertumskunde*, XL (1913).
Jewry Wall	—K. M. Kenyon, *Jewry Wall Site, Leicester* (1948).
J.R.S.	—*Journal of Roman Studies.*
Knorr 1919	—R. Knorr, *Töpfer und Fabriken verzeirter Terra-Sigillata des ersten Jahrhunderts* (1919).
Knorr 1952	—*Terra-Sigillata-Gefässe der ersten Jahrhunderts mit Töpfernamen* (1952).
L.R.B.C.	—R. A. G. Carson, P. V. Hill and J. P. C. Kent, *Late Roman Bronze Coinage* (1960).
Oswald & Pryce	—F. Oswald and T. Davies Pryce, *An introduction to the study of Terra Sigillata* (1920).
P.S.A.S.	—*Proceedings of the Society of Antiquaries of Scotland.*
Prysg Field II	—V. E. Nash-Williams, *Caerleon-Prysg Field, Pt. II* (1932).

Richborough —*Excavations on the Roman Fort at Richborough,*
III—Third report, J. P. Bushe-Fox (1932).
IV—Fourth report, J. P. Bushe-Fox (1949).
V—Fifth report, B. W. Cunliffe, Ed. (1968).
R.I.C. —H. Mattingly and E. A. Sydenham, *The Roman Imperial Coinage* (1923, etc.).
Wroxeter 1923-7 —D. Atkinson, *Excavations at Wroxeter*, 1923-7 (1942).

The Club acknowledges with gratitude permission from the Society of Antiquaries of Scotland, the Society of Antiquaries of Newcastle-upon-Tyne and the Honourable Society of Cymmrodorion to reproduce plans of Fendoch; Birdoswald, Housesteads and Halton Chesters; and Brecon West Gate in Fig. 19.

The Club is much indebted to the Ministry of Public Building and Works for a grant towards the cost of publishing the reports on sites B and E at Leintwardine and to the Council for British Archaeology for a grant towards publishing the reports on Jay Lane and Buckton.

Roman Roads in Herefordshire

By MATHEW HALE

THIS paper is based on a discussion by the Archaeological Research Group on 7th November, 1967, and further field work in the summer of 1968. One of its objects is to encourage members of the Club to follow the alignments themselves or to undertake investigations on their own. For the latter purpose an auger is essential—about 2 ft. 6 ins. to 3 ft. long, which can be made readily by a blacksmith.

The roads described below do not appear on the Ordnance Survey *Map of Roman Britain*, nor with one exception, in I. D. Margary's *Roman Roads in Britain*. They have been inferred from the study of place names and field names, old maps (including the Ordnance Survey 1831 Edition in the Hereford City Library), earlier volumes of the *Transactions* and the aerial photographs in the County Library. All the routes have been carefully studied on the 6 inch Ordnance Survey maps in the City Library.

To provide a general conspectus of the road system copies of the one-inch Ordnance Survey Maps Nos. 129 and 142 were mounted on a sheet of Celotex Board to form one continuous map sheet. The course of the certain and possible Roman Roads was then plotted using coloured map pins and coloured elastic thread, different colours being used for each category, e.g. "Course certain", "Course inferred", "Possible".

A number of the roads run across private property and the writer is greatly indebted to those owners who have freely and generously granted permission for the field-work, and have also given valuable information and advice.
The principal roads which have been investigated are:—

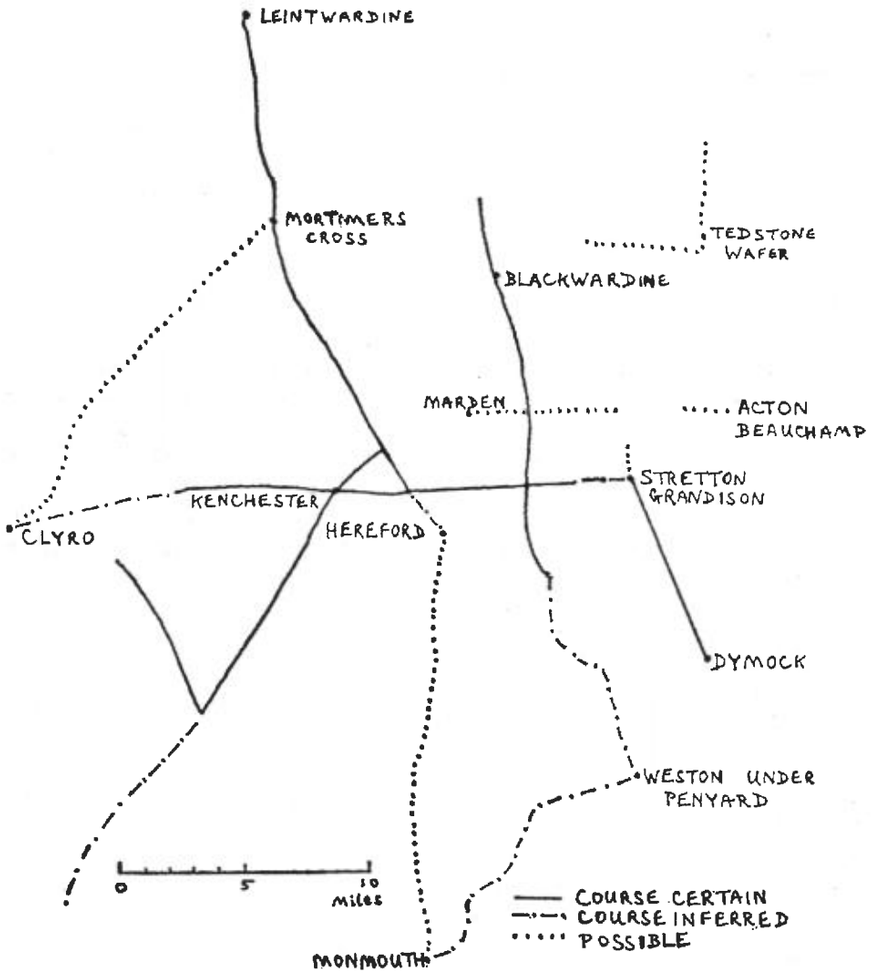
(1) *Road up the Golden Valley*

The course of this road is well-known to Mr. V. H. Coleman who walked it some years ago. The exposed portion of a road in the station yard at Abbeydore (385307) formed part of it, and it ran up the Golden Valley to the south and west of the River Dore, passing through Turnastone and across the fields where in places an agger was clearly visible, to Fairfield (345382). Soundings taken with an auger in a lane at Fairfield, and in a field to the south, clearly showed a metalled surface. The road continued, probably along the same alignment to Fine Street (332395) and is presumed to have been heading for the Roman fort at Clyro. This road is now included in the one-volume edition of Margary's *Roman Roads in Britain*.

(2) *Possible Road from Mortimer's Cross-Shobdon-Lyonshall to Clyro*

In the Centenary Volume of the *Transactions* (1951) page 123 it was suggested that "at this point (Mortimer's Cross) a Roman road may have gone off to the south-west past Shobdon, Staunton on Arrow and Lyonshall nearly to Michælchurch on Arrow." Jonathan Williams in the *History of Radnorshire* (1) says "A

Roman Road may be traced in the vicinity of the Camp called Y Gaer in the Parish of Michaelchurch on Arrow, along the level summit of Brilley Mountain, descending at the west end of Bwlch-ar-heol (Pass of the road) where it forks; one road going to Pen-yr-heol in the Parish of Bettws-Clyro, the other to the River Ithon in the Parish of Llanfihangel Helygen by the Camp of Castell Collen."



At the meeting of the Archaeological Research Group in November 1967, these passages were discussed and members pointed out that Williams' *Radnorshire* was by no means always reliable. At the same time, Mr. V. H. Coleman and the writer who had examined the air photographs of the Michaelchurch on Arrow area said

that the road showed up quite clearly on the photographs. There is similar evidence on the ground itself, where the paved surface shows up clearly in places. As to the "fork" mentioned by Williams, there is a junction clearly defined by metalling at the position 225495. The southern fork descends towards Clyro; the northern fork goes to the earthwork (possibly a signal station) at Little Mountain (216496). After full consideration it seems that this road may be classed as probably Roman.

It should be pointed out that this road, the Golden Valley road and also the well-known Stretton Grandison-Kenchester-Clyro Roman road, all head towards the Roman fort at Clyro.

(3) *Possible Road between Blackwardine and Tedstone Wafer*

The possibility of a Roman road between these two known Roman sites has occurred quite independently to Mr. Roy Perry and, later, to the writer. At its western end the road is presumed to have followed the present road west from Hatfield (595595). East from Hatfield it is shown on the Ordnance Survey Map as a footpath through Velvet Stone (605592) to Streetfield (621588). This alignment shows up most clearly on air photographs. It then passes across fields, where there are remains of stone paving, to Thornbury Mill. It is then presumed to pass south of Wall Hills Camp to Hubbage, then down to the road B.4214 which it follows for a short distance. The exact alignment to the west of Stoney Bridge (670593) is not traced but it must have followed approximately the present road.

In June, 1966, Mr. and Mrs. Roy Perry and the writer cut two trenches on the alignment at Hubbage (645592) on the line of a former road. In the first trench an uneven layer of sandstone was revealed 3 ft. 6 ins. wide at a depth of 12-15 ins. Larger stones (8-10 ins. across) appeared to form a kerb on the south side. The second trench was 60 yards to the east and showed a similar stone surface at a depth of 12 ins. The width was 6 ft. with a marked depression 4 ins. deep in the middle and 3 ins. wide. A further test with an auger made at a point 60 yards east of the second trench indicated stone at a depth of 12-15 ins. The fact that a metalled surface extended in a direct line for 120 yards rules out the possibility of this being the foundations of any building, and points to the existence of a road. On the other hand the width of the metalling exposed is much less than that of the normal Roman road so that the evidence at this point cannot be regarded, of itself, as conclusive.

At Stoney Bridge a cottage (now untenanted) may have been built with the road as a foundation. To the east there is a marked depression 6-7 yards wide. No trace of stone at the bottom could be found with the auger but stone could be detected on the banks on either side. In a large field at 675595, about half a mile south of the Roman Fort site at Tedstone Wafer, there is a level terrace on a slope, running in an east-west direction for 300 yards or more. Tests with an auger show a hard surface at depths between 9 and 15 ins. and at one point a small trial trench showed a definite paved surface at a depth of 9 ins.

In the next field to the west (an orchard) auger tests showed a hard surface on the alignment but a small trench showed this almost certainly to be a rocky outcrop.

A local report was received of an old road still further to the east, possibly along the County boundary.

The names and the above evidence seem to lead to a fairly definite conclusion that there was a Roman road on this alignment, possibly making for Droitwich.

(4) *Possible North-South Road at Tedstone Wafer*

When carrying out this investigation, which was greatly assisted by the co-operation and help of Mr. R. J. Dullam of the Green Farm, Tedstone Wafer, Mr. Perry and the writer noticed a paved section at the entrance to the field mentioned above at 677593 which looked remarkably like an ancient road. The present hedge runs north and south towards the Roman Fort site on the north and the alignment would actually pass just to the west of the Roman fort. There is a paved road running close to the hedge in a northerly direction on a falling slope towards a stream bed where there is a paved ford. The paved road is about 11 ft. across and 6-9 ins. below the surface. Mr. Perry and the writer made a small trial trench across it at one point and exposed quite a definite paved surface. On the rising slope beyond the stream, the road reappears for a short stretch but is then lost.

The course of this road to the south seems quite uncertain though a slight clue might be provided by a stretch of modern road marked "Green Lane" on the large-scale Ordnance Survey Map at 683485 near Evesbatch. It is on a straight alignment and runs south-south-east for about quarter of a mile.

In May, 1968, an investigation was carried out into a possible extension of this road to the north beyond Tedstone Wafer. At 676621 there is a track leading to a farm in a northerly direction which would link to the south with a junction with the High Lane. Then to the north at 676654 there is a green lane leading off the main road B.4204 to the south at the side of a farm. This continues in a southerly direction for about one mile to Lea Farm (676643). The surface is visible in a number of places and for most of the course of the lane there is a metalled surface identified by an auger on the grass verge on the west side. The track disappears into a farmyard but clearly leads on to the track mentioned earlier and thence by High Lane to Tedstone Wafer.

Local enquiries produced the information that at the northern end (676654) there had at one time been a track across the field leading to the Church at Hanley William (673660). The north side of the main road B.4204 is now bordered by a coppice and soundings with an auger at the bend opposite the entrance to the lane produced a hard surface at about 18 ins. depth. The only known Roman site towards which this road may be leading is the fort at Walltown Farm near Cleobury Mortimer (693783).

(5) *Possible Road Marden-Ullingswick-Acton Beauchamp*

The writer first noticed this possible alignment on the Ordnance Survey Map and he has gone over part of the ground with Mr. V. H. Coleman and also with Capt. H. S. Gracie, C.B., F.S.A. At the west end the alignment first showed in Marden at 522475 and followed the modern road to the east to Hawkersland Cross

and thence to Venn Wood, passing about ½ mile north of the site where Roman pottery was found some years ago when digging the foundations of a garage. (²) There is also a name Stoney Cross in Marden. Near Venn Wood (548488) it crosses the known Roman road between Weston under Penyard and Ashton.

The alignment continues as a modern road east to Holbeach Farm (553488) where the metalling ends although the road continues with a definite curve along a green lane, which forms a boundary between Felton and Bodenham parishes. Mr. Coleman has suggested to the writer that this change in alignment, unusual on the level for a Roman road, may be explained by the Roman road continuing straight on over high ground to the north and rejoining the alignment further east near the Crosen (578490). The alignment then descends a slope and crosses the main road A.417 at right angles. From air photographs it seems probable that the alignment is slightly to the south of the modern road at this point.

To the east the alignment is lost for a distance but reappears again near 600498 where the modern road forms part of the parish boundary for about one mile. It finally goes into a field at the 'T' junction at 613497; there are traces of a paved surface in the field and it finally ends in a green lane.

The alignment is picked up again about ½ mile north of Bishop's Frome on a side road off the B.4214 at 654498. Proceeding east there is a marked change of direction on the crest of a slope and the road to the east on a falling slope is on a straight alignment for half a mile. The alignment probably goes through a hopyard at Paunton Court crossing the River Frome and thence up to the cross roads at 672503. It reappears in a field below Acton Beauchamp Church (679502) where there is a definite track and signs of an agger.

By kind permission of Mr. K. T. Parker of Church House Farm, Acton Beauchamp, a trench was dug across the surface of this road. The surface showed up quite clearly at a depth of about one foot. The width was about 13 ft. and the surface continuous with larger stones at the edges. At another point a test with an auger showed a hard surface about 7 ft. in width. Mr. Parker confirmed the existence of an old road through his land and said that it continued through the woods to the east, where there were a number of derelict cottages on the line of the road. Further investigation seems desirable but it seems that this road may well have been making for Worcester. At the Marden end there is an obvious alignment for Kenchester.

(6) *Old Ford of the Wye at Hoarwithy*

The possibility of an ancient ford of the Wye about half a mile below the village of Hoarwithy at 548283 was brought to the writer's notice by Mr. J. C. Hook of Kings Caple: and a preliminary investigation was carried out in August, 1968. On the west bank there is a track leading down to the Wye, though much obstructed in the summer by undergrowth. Tests with an auger showed a metalled surface at a depth of 18 ins.

On the east bank tests were carried out by kind permission of Captain J. F. Cockburn of Pennoxstone Court; these showed a metalled surface leading down to

within 100 yards of the riverbank where it is lost in a pond. Further investigations are in progress and will be continued during the coming summer.

Conclusions

Although this paper is limited in its scope it is possible to draw two general conclusions from it.

1) The decision as to whether a particular road can be classed as Roman or not is, in general, only a question of a balance of probabilities. It seems therefore that there is a need for a recognised system of grading of possible Roman roads, and of the evidence in support of them.

The most practical system appears to be one based on the grading system for Intelligence Reports used by the Services during the war. Under such a system each road would be graded under one of, say, five headings: from Grade 1 "Certain", to Grade 5, "Possible, but on the present evidence, unlikely". The road can be upgraded or downgraded in the light of subsequent evidence.

It is important that all reports of possible Roman roads should be recorded, even if the evidence only justifies a low grading, in the first instance.

2) The study of Roman roads cannot be carried out in isolation, but must be related to the whole system of transport and communications, to the conditions of trade; and particularly in a frontier area such as Herefordshire, to strategic and military requirements.

[1] *T. Woolhope N.F.C.* for 1927, xiii.
[2] *T. Woolhope N.F.C.* XXXVII (1963), 249.

Early Christianity In Herefordshire

By R. W. D. FENN

THE Saxon settlement of England gradually strangled the long-established connections between the Church in Britain and continental Christianity. The number and distribution of Christians in Roman Britain are matters of doubt and debate, but the urban orientation of Romano-British Christianity makes it more than likely that Viroconium, capital of the Cornovii and the fourth town in Roman Britain in point of size, had a Christian congregation under its own bishop and with its own place of worship. (1)

The Christian congregation at Viroconium dispersed with the decline and eventual abandonment of the town. Christianity was thereby first disseminated amongst the *pagani* of the civitas. The relative absence of Roman villas and other similar remains is thought to reflect disturbed conditions on the western frontiers of the Cornovii, (2) so that the kind of rural environment capable of sustaining Christianity when urban life collapsed at Viroconium was lacking, though Christianity did not entirely disappear.

Professor Kenneth Jackson tells us that "where Eccles, Eccleston, etc. are probably from the Primitive Welsh *egles*, 'church' (and other derivations are possible in some cases), we seem to have proof of a surviving local population of Britons sufficiently organized to make a definite Christian community." (3) Eccleston, near Chester, and Eccleshall in Staffordshire, are both within the bounds of pre-Mercian Powys and the former land of the Cornovii. Eccleswall and Eccles Green in Herefordshire, though not in Powys, belong to the same category, representing two communities of British Christians which survived first the decline of Viroconium and then the general breakdown of Roman life in Britain.

Christianity as represented at Eccleswall and Eccles Green was probably never very strong. The traditions connecting St. Germanus of Auxerre with Powys and Vortigern must be abandoned, (4) but both the existence of Christianity and its relative weakness are underlined by the theory that the real character of Vortigern's great offence, which gave rise to the legendary account of his dramatic conflict with St. Germanus, was Pelagianism. The orthodox Christianity of the Christians of Viroconium declined into heresy at the hands of their rural successors. Its return to stability and orthodoxy belongs to the Age of the Saints.

Belonging to the fifth, sixth, and seventh centuries, the Age of the Saints marked the golden age of Celtic piety and devotion in Wales. It expressed itself through monasticism, and in the still Celtic west of Britain the decline in communications between British Christians and those of continental Europe was halted by a renewal of trade with the Mediterranean in the mid-fifth century. This reorientation of the Celtic west towards the Mediterranean opened routes along which spiritual ideas travelled as freely as commercial traffic, (5) and one of the centres to which missionaries and traders alike made their way was Erging.

Erging or Archenfield was that part of present-day Herefordshire embraced by the Wye, the Monnow, and the Black Mountains. Both the English and the Welsh names of the district are derived from the Latin name Ariconium, borne by the local capital, a Roman mining town, some two miles east of present-day Ross-on-Wye. Though the Wye became the principality's eastern boundary from Hay to where it flows into the Severn at Beachley, in the sixth century Erging may have extended "to the Malvern Hills and the Severn". (6) Ariconium is east of the Wye, and it is hardly likely that it would give its name to the area unless it was actually in it. Smith found it tempting to associate the first element of the Gloucestershire place-name Yartleton with Ariconium, three miles away to the south-east. This is an obscure name which can, perhaps, be associated with York Hill in West Dean and Yarkhill in Herefordshire, seventeen miles north-north-west of Yartleton. (7) A connection between these place-names and Ariconium argues for a more extensive Erging, of which the Wye seems to have become its eastern frontier as a result of subsequent territorial contraction.

Ariconium stood at the centre of a network of Roman roads leading to all parts of Britain. Gloucester where, as at Viroconium, some Christians were to be expected, was not far away, and Eccleswall, already mentioned, is in Linton parish, very near the site of Ariconium. Thus it is not unlikely that early-sixth-century Erging possessed some latent Christianity, inherited from the days of the Roman occupation. An environment such as this offered missionaries good ground for their evangelistic seed, and it is not coincidental that a generation after this renewal of trade and communication with the Mediterranean the historical figure of St. Dyfrig should emerge in Erging.

There are five main sources of information about his life and work.

1) His *Life* in the *Book of Llandaff* is a very sketchy affair, and its heading "Lectiones de vita sancti Dubricii" shows it made no claims to be a comprehensive biography. (8) It is a loose collection of Dyfrig traditions, derived from Erging, augmented by the relevant parts of the seventh-century *Life* of St. Samson. The editor of the *Book of Llandaff* added to this his account of the translation of St. Dyfrig's body from Bardsey to Llandaff in 1120.

St. Dyfrig appears as the illegitimate son of Ebrdil, daughter of Pepiau, son of Erb, king of Erging. He was born at Madley which, together with the region round about *Ynys Erbdil*, was granted to the infant Dyfrig by Pepiau. He acquired at school the learning for which he was later so famous, and he afterwards founded his own school at Hentland, numbering St. Teilo and St. Samson amongst his scholars. Seven years later he moved from Hentland to Mochros, nine miles north-west of Hereford and five from Madley. Apart from the miraculous, the only other event related in the *Life* is his retirement and death in 612 (taken from the *Annales Cambriæ*) on Bardsey.

2) The *Book of Llandaff* also contains a statement 'de primo statu landauensis ecclesie", which is a fanciful account of the origins of British Christianity. (9) It borrows from both Bede and Nennius and says of St. Dyfrig that St. Germanus and St. Lupus when visiting Britain made him archbishop. (10) It also claims that St. Dyfrig consecrated St. Deiniol and others as bishops for his province, and that he made St. Illtud abbot of Llantwit Major. (11) This document has a different source from the *Life*. The *De primo statu* makes St. Dyfrig the contemporary of St. Germanus, whereas the *Life* places his death in 612. St. Samson, associated with St. Dyfrig in the *Life*, is not mentioned in the *De primo statu*.

3) There are nine charters in the Dyfrig section of the *Book of Llandaff*, and though made up centuries later, these charters conceivably include factual memoranda. Four of them are witnessed by the saint himself, and six by the local king, Pepiau, and members of his family. All nine charters have been modified for their inclusion in the *Book of Llandaff*, so that St. Dyfrig is always *Archiepiscopus dextralis Britanniæ* or *Archiepiscopus archmonasterii landauie*. These are Norman editorial glosses, but manipulation such as this does not undermine the basic historicity of the people and the grants recorded in these charters.

The grant of *Lann Custenhinn garthbenni in ercicg* is identified with Welsh Bicknor. (12) It makes Constantine Pepiau's father-in-law, *socri sui*, whom Wade-Evans thought might be Constantine, son of Maxim Wletic, d.387. (13) His wife Elen, and his sons Peblig and Constantine, all figure in Welsh hagiography. The Custenhin who witnessed the grant may be an eponym, as occurs in other charters. It was made to St. Dyfrig and "iunapeio consobrino suo". Iunapeius figures in the *Book of Llandaff* as a disciple both of St. Dyfrig (witnessing six charters for him) and St. Teilo. Doble (14) interpreted *consobrino suo* as meaning Iunapeius was Pepiau's cousin rather than Dyfrig's. But since he was both a disciple of, and an episcopal successor to, St. Dyfrig, the implication is that the grant was made to St. Dyfrig's monastery, of which Iunapeius was abbot by being the founder's cousin. This interpretation is supported by the precedents of St. Teilo's nephew Oudoceus, and St. Illtud's nephew who attempted to poison St. Samson because the latter was a strong contestant for the abbacy at Llanilltud Fawr. St. Dyfrig, in this charter, has resigned the care of the monastery to a junior, just as St. Cadoc gave Llancarfan in Glamorgan to St. Elli.

Lann Cerniu, possibly the site of Abbey Dore, is a straightforward grant made by Pepiau to St. Dyfrig. (15) *Lann Iunabui*, (16) identified with Bredwardine, was thought by Doble to have been given, not to St. Dyfrig in person, but to Iunapeius. This overlooks the possibility that Pepiau originally made the grant to St. Dyfrig, and that it was later renamed *Lann Iunabui* when St. Dyfrig gave the church to his disciple. There are several other doublets in the *Book of Llandaff*, (17) which makes this a feasible suggestion.

The grant of *Cum Barruc*, in the Golden Valley, was made to St. Dyfrig by two sons of Pepiau. (18) It is closely related to another grant in the *Book of Llandaff*, made to Bishop Elguistil. (79) It seems that two versions of the same charter were available to the Norman editor of the *Book of Llandaff*. One gave *Cum Barruc* to St. Dyfrig and the other to Elgistil. The two charters were rationalized by altering the later version to read *redederunt*, instead of *dederunt*. The clerical witnesses to both grants are identical in name and order; so are their lay counterparts.

Lann Bocha, alias *Lann Mocha*, is identified with St. Maughan in Monmouthshire. ([20]) Pebiau does not figure in this charter which does not belong to this group. It has been misplaced and really belongs to the grant recording the gift of seven churches, one of which was *Lann Mocha*, during the episcopate of Grecielis, *c.* 820-850. ([21])

Cil Hal, which may have been Pencoy, Herefordshire, was given to St. Dyfrig by Erb, king of Gwent and Erging. ([22]) Wade-Evans rejected this charter because he considered Erb to have been St. Dyfrig's great-grandfather. ([23]) The charter is acceptable, nevertheless, as the earliest of the group, being signed before Pepiau succeeded his father (and perhaps even before his marriage, as his sons do not appear).

Tir Conloc, identified as Eaton Bishop in the Golden Valley, is another straightforward grant by Pepiau to St. Dyfrig. ([24]) *Porth Tulon* is probably Caswell, on the Gower. ([25]) *Porth* commemorates a *portus* or harbour, so must be on the coast. This identification is preferable to the alternative of Bishopston. Guorduc made the grant to St. Dyfrig when the former's daughter became a nun during the reign of Merchguin ap Glywys. Merchguin was ruler of Gower and uncle to St. Cadoc. *Porth Tulon* appears again in the *Book of Llandaff* as *Lann Teiliau Porthtulon*. ([26]) Gruffydd made amends for selling *Porth Tulon* without leave of the bishop, though it was "ecclesiam sancti dubricii a primo tempore." ([27])

Penn Alun, Penally, near Tenby, is alleged to have been given to St. Dyfrig by Noe ap Arthur. ([28]) Since he lived, however, *c.* 600, the grant must have been made to one of the saint's successors. Nevertheless, the grant does reflect St. Dyfrig's connections with west Wales, where he was a frequent visitor to Llanilltud Fawr, just off the cost from Penally. The *Book of Llandaff* tells of the seven watermen, disciples of St. Teilo, who spent a while with St. Dyfrig, ([29]) whilst the *Life* of St. Oudocous mentions the restoration of Penally, Llandeilo Fawr, and Llanddowror to Llandaff, "prius fuerant archiepiscopi Dubricii". ([30]) Doble quoted, apparently with approval, Baring-Gould and Fisher's interpretation of the imperfect Ogham inscription on Caldey, "MAGL DUBR INB" as "the tonsured servant of Dubricius." ([31]) Unfortunately this interpretation has not the support of Nash-Williams, who read it as "MAGL(IA?) DBR(ACUNAS? MAQI)INB?", "the stone of Maglia Dubacunas, son of . . . " and dated it as belonging to either the fifth or sixth century. Apparently Mael Doborchon was well known in Irish literature and genealogies. ([32])

It is immediately obvious that the *Life* and the *Book of Llandaff* charters do not agree as regards St. Dyfrig, the two sources giving different pedigrees. In the *Book of Llandaff* charters Pepiau; his two sons Guidci and Cinuin, who succeeded him; then Cinuin's son, Gurcant, form a succession of kings for Erging down to *c.* 570. But there is nothing in the charters which support in any way the assertions in the *Life* that St. Dyfrig was a member of the royal house of Erging. Instead, they make him a contemporary of Pepiau's father, Erb, and Pepiau himself is not credited with a daughter called Ebrdil. Nevertheless, she was an historical person, and her name

figures five times in the *Book of Llandaff* charters. Doble thought she was "a saint of very early date (perhaps really a male saint) whose career has been entirely forgotten." ([33]) But illegitimacy and irregular nativities figure large in the *Lives* of the saints, and there is no reason for denying that the name of St. Dyfrig's mother was Ebrdil. She was probably a member of the local tribe, becoming the 'daughter' of Pepiau through the close association of her son with the local king. The demands of Welsh hagiography for illegitimacy and royal blood fostered this confusion. Dyfrig is a Welsh name, suggesting he was of native stock.

4) St. Dyfrig figures in the *Lives* of five other saints: *a*) The *Life* of St. Illtud narrates St. Illtud's visit for penance and the tonsure to St. Dyfrig, who plans his monastic cemetery for him. ([34]) This *Life* is unaware of St. Dyfrig's custom of visiting Llanilltud Fawr for Lent and ordinations. Like that of St. Woollos, it belongs to the twelfth century Vespasian A XIV collection. *b*) In the Life of St. Woollos, St. Cadoc and St. Dyfrig are sent for by the dying saint. ([35]) The parallel account in the generally more reliable *Life* of St. Cadoc omits the reference to St. Dyfrig, perhaps because he was a senior contemporary who does not appear to have co-operated with the founder of Llancarfan. ([36])

c) According to the *Life* of St. David, the joint appeals of St. Deiniol and St. Dyfrig persuaded the saint to come to the Synod of Brefi. ([37]) The synod was held between 550 and 569, and St. Dyfrig was dead before 547.

d) In the *Life* of St. Teilo, before going to St. Paulinus's school, he was a pupil of St. Dyfrig. ([38]) On his return from Brittany, where he had fled during the Yellow Plague of 547, St. Teilo attracted to himself several of St. Dyfrig's pupils. ([39])

e) According to the *Life* of St. Samson, St. Dyfrig made St. Samson deacon, ordained him priest, and consecrated him bishop. ([40]) This *Life* was written at the end of the eighth century, but "the framework of the narrative is an account of Samson made by a contemporary, who, however, had gone back to his native Wales before his hero died. This framework keeps the *Vita* on historical lines, notwithstanding the embroidery of fancy and marvel that enwraps it." ([41]) Here we have the earliest literary evidence for the life of St. Dyfrig, who is described in such terms as *papa, sanctus Dubricius*, and *sanctus Dubricius papa*. ([42])

5) The main concentration of Dyfrig dedications is in west and south Herefordshire, at Whitchurch, Hentland, Ballingham, and St. Devereux, besides a chapel dedicated to him in the parish of Woolhope. He has no dedications in west Wales, though we have seen that grants were made to him at Penally and Gower. The location of the majority of his dedications within the triangle of the Golden Valley and the Rivers Monnow and Wye make it difficult to see why Dr. John Morris should believe of St. Dyfrig that "his see must have been some substantial surviving *civitas*, Caerwent or possibly Gloucester." ([43]) Both the *Book of Llandaff* and St. Dyfrig's dedication pattern locate the main sphere of his activity in Erging. ([44])

The *Life* of the saint knows nothing about his early education and there is an interesting absence of any conversion narrative (such as figures in the *Life* of St.

Illtud), which suggests he was brought up in a Christian environment. The Christianity he learned from his mother was probably a declining native inheritance, resuscitated by the Gallic missionaries commemorated in the local dedications to Elen and Constantine. The chronology of the *Book of Llandaff* charters makes him a contemporary of Erb, so that his birth must be placed *c.* 440-450. The date of his death as given in his *Life* is unacceptable. It is derived from the *Annales Cambriæ* for 612, and the *Annales* give equally inaccurate dates for the deaths of St. David and St. Kentigern.

The life and work of St. Dyfrig divides itself into two parts: first as a missionary and a teacher, and then as a bishop. Though Christianity had but slender roots in Erging when St. Dyfrig was young, the pattern of his dedications shows its strength at his death. The centre of this missionary endeavour was Hentland, whose fame should equal that of Ty Gwyn and Llanilltud Fawr. Of the pupils there mentioned in his *Life*, apart from St. Samson and St. Teilo, four became bishops. At Hentland St. Dyfrig could make full use of the roads which converged on nearby Ariconium. This not only facilitated the conversion of Erging and Gwent, but also gave access to places farther afield. The question of communications led him eventually to move his school from Hentland to Mochros, where a few miles to the east there was the Chester-Caerleon road, and the main route to the west of Wales was easily accessible to the south. But Mochros did not achieve the same fame as Hentland. St. Dyfrig had changed his emphases, and there were several other monastic schools growing up, so that Mochros slipped into obscurity. One of St. Dyfrig's successors, Bishop Comereg, had been abbot of Mochros, but he is its last known abbot. After him, *c.* 590, it is of no further consequence, its later appearances in charters being simply as a church.

The charters of the *Book of Llandaff* reflect the complexity of the ecclesiastical history of Erging during and immediately after St. Dyfrig's lifetime. But they do not tell who consecrated him bishop. Laying aside the spurious Germanus tradition of his consecration, it has to be remembered that unlike other Celts, he was not a tireless traveller. He has no continental dedications, and few beyond Wales. Thus, it seems he was consecrated by some bishop active before him, whose identity and origin are unknown. Such bishops certainly existed; the generally considered reliable *Life* of St. Samson tells how St. Dyfrig was joined by some of them for St. Samson's consecration. (45) St. Dyfrig stands out against this background of anonymous episcopal predecessors and contemporaries as a far less shadowy and insubstantial figure than scholars like Dr. Morris would have us believe.

The Celtic Christianity introduced to Herefordshire during the Age of the Saints by St. Dyfrig and his contemporaries survived the Anglo-Saxon penetration and settlement of the plain of Hereford and southern Shropshire by the pagan Magonsætan. These people took their name from the district of Magana, now Maund, seven miles south-east of Leominster. The place-name is derived from *Magen*, coming from an early form of the Welsh word Maen, stone, and which has an original meaning of plain. (46) The name Magonsætan is first recorded in 811, (47) older sources calling these people the Western Hecani. Merewalh, their first

recorded king, belongs to the second half of the seventh century, (48) and in the tenth century it was said that he was one of Penda's sons. (49) Goscelin's tenth or eleventh century *Life* of St. Mildburg, which includes fragments of undoubtedly authentic charters going back to Mildburg's day and is one of the best sources of information concerning the Magonsæte, supports this.

Their boundaries stretched from the Wye to the Wrekin and seem to have coincided with those of the medieval diocese of Hereford. They did not include Erging, though the inclusion of the Forest of Dean in the medieval diocese suggests that most of Gloucestershire west of the River Leadon and the River Severn below Minsterworth came within their territory. (50) Little Marcle and Much Marcle are both on the eastern extreme of Herefordshire, on the boundary with the Anglo-Saxon territory of the Hwicce. The Old English word *Mearc* means a march or boundary, whilst *leah* commemorates a clearing. The Forests of Clun and Radnor marked their western limits.

Their origins are obscure. Wade-Evans suggested they were originally part of the Cornovii who, he believed, "alone of all the Romano-British cantonals failed to carry their appellation into Anglo-Saxon times." (51) The land of the Cornovii became, as we have already seen, the kingdom of Powys, and it is not unlikely that the Saxon penetration into the eastern extremity of Powys was either preceded or accompanied by a process of disintegration. This produced several small units of people, like the Pecsætan, the Wreocensætan, and the Magonsætan.

With a Welsh element in their folkname, the Magonsæte must have become predominantly Welsh in blood and speech. Pensax in Worcestershire, with its Scots parallel at Pennerax in Dumfriesshire, commemorates the hill of the Saxons, which "clearly bespeaks a surrounding population of Welsh-speaking Britons." (52) In fact most of the land of the Magonsæte lies within an area whose dialect bears marked peculiarities which can only be explained by the descent of its speakers from speakers of Welsh. (53) The survival of these people is evidenced by the present-day existence of such Welsh place-names as Dinmore, (54) Treville, (55) Pengethly, (56) Caradoc Court, (57) and Mordiford. (58)

We hear of no king of the Magonsæte before Merewalh, and Stenton noted that the names current in Merewalh's family alliterated, not only with one another, but also with the name of the Magonsætan themselves. He thought this suggested very strongly that the princes of the Magonsæte had a claim to rule in their own right and that they were originally independent of the Mercian kings. Consequently, he rejected the tradition that Merewalh was Penda's son. (59)

There occurs in Shropshire, five miles east of Wem, the place-name Marchamley. Ekwall, like Bowcock before him, identified the first element here as Merchelm who, according to Goscelin's *Life* of St. Mildburg, was the eldest of Merewalh's two sons. On the other hand, Florence of Worcester and William of Malmesbury described Merchelm as being, like Merewalh, one of Penda's sons. (60) The editors of the *Handbook of British Chronology* reject this tradition because it is not mentioned in Bede. (61) Goscelin's description of Merchelm as Merewalh's son, irrespective of any relationship with Penda, reflects a more probable tradition than

those of Florence of Worcester and William of Malmesbury on account of the common Germanic practice of giving a child a name to alliterate with that of his father. (62)

The first element in Merchelm's name, *Mierce,* means Mercian. Thus the place-name Marchamley not only implies a connection between Merchelm and his family with Shropshire, but also a connection with the Mercians. If Merewalh and his sons are Mercians, it is not unlikely that they were members of Penda's family. Just as Penda set up his eldest son Peada as king of the Middle Angles, it is not improbable that he placed another son in charge of the Welsh border and its still predominantly Celtic population. (63)

The identification of Marchamley with a Magonsætan Merchelm raises the question of the relationship between the Magonsæte and the Wreocensaete. The latter took their name from the Wrekin, and the Tribal Hidage assigns seven thousand hides to them, making them a people of some consequence. Their territory seems to have comprised northern and central Shropshire which they probably settled in the age of Penda. (64) Like the Magonsætean, they included a strong Welsh element in their population, commemorated by the Celtic place-names of such hamlets and villages as Ercall, Hodnet, Lizard, and Prees. "While names of hills and rivers might have been picked up from a few survivors, the adoption of British settlement names implies the continued existence of British rural communities." (65)

Moreover, this connection between the Herefordshire princes of the Magonsæte and the people called Wreocensætan is not solely dependant upon the evidence of the place-name Marchamley. About the year 680 a convent of monks and nuns was established on a site at Much Wenlock, purchased from Merewalh. Wenlock is only seven miles from Viroconium, and in sight of the Wrekin.

The land of the Wreocensætan was of the utmost strategic importance to Penda. It represented the most exposed section of Mercia's western frontier. It was near Tamworth, the Mercian capital, and provided an easy route into the heart of Mercia, whose great weakness lay in being exposed to the danger of having to wage war on two fronts. Thus a reliable but subject buffer state would be an immense contribution towards the defence of western Mercia.

Merewalh, first prince of the Magonsætan, seems to have been succeeded by his sons Merchelm and Mildfrith, reigning jointly. (66) Merchelm's connection with Marchamley and Mildfrith's foundation of Hereford, about which we shall hear more later, as the ecclesiastical centre of the principality in place of Leominster (67) suggests the possibility that, though joint reigns were common in the Anglo-Saxon period, these princes each had their own sphere of influence: Merchelm in the North and Mildfrith in the south. Consequently, a possible explanation for the princes of the Magonsæte making grants of land and being commemorated in place names in the lands of the Wreocensætan is that Penda set up Merewalh over both the Wreocensætan and the Magonsætan but on Merewalh's death, the rule was divided between his sons. Merchelm governed the Wreocensætan and Mildfrith the Magonsætan. This was to have a considerable influence on the development of Christianity in early Anglo-Saxon Herefordshire.

These first Anglo-Saxon settlers in Herefordshire were pagans, worshippers of Thor and Woden. But they were not set upon the extermination of their new British subjects and there is no evidence that they attempted either to proselytize them or to persecute their Christianity. Aethelfrith of Bernicia, who in 616 slaughtered twelve hundred Celtic monks at the Battle of Chester, was the last Angle to attempt the subjugation of the British by military conquest. His sons expanded westwards into British territory by intermarriage and peaceful penetration, and it was Penda's intention to extend his territory at the expense of the Welsh in the same way. This underlies the Welsh tradition that Cadwallon of Gwynedd married one of Penda's daughters.

The more or less peaceful character of the Anglian settlement of the Marches, inspired by the need for more lands to cultivate, is illustrated by place-names. This hilly and well wooded region was sparsely populated, so English infiltration could continue for some time before there was any clash of arms. The east Radnorshire place-names of Burlingjobb and Evenjobb are evidence of very early Anglian settlement, whose intensity is reflected in the local appearance of the place-name Walton, suggesting that the Welsh thereabouts were actually in the minority. (68)

Local conflicts were, of course, inevitable. Llywarch Hen told his son:

> Mac Wyn, when I was of thy age
> No one trod on my mantle,
> No one without bloodshed ploughed my land. (69)

But the raids and ravages which followed on the heels of penetration were not deliberately mounted offensives to extend the sovereignty of Mercia. More often than not, they were small, sometimes retaliatory actions, giving rise to place-names like those of the two Herefords. The OE *here* was a raiding army which, according to Anglo-Saxon law, consisted of a band of robbers numbering not less than twenty-five men. The same element occurs in Harvington, near Evesham. (70) Perhaps it was at the head of such a warband bent on retaliation that Penda won the victory in 628 over Cwichelm and Cynegils at Cirencester which set him upon the path to the lordship of Mercia. The Cynddylan poems show that these raids were not one-sided, and a generally unsettled situation is suggested by such place-names as the two Cleoburys in Shropshire, commemorating places of shelter or asylum. (71)

When decisive, these local offensives resulted in political annexation. In the poems of Llywarch Hen, one of Llywarch's sons was killed on the banks of the Herefordshire Frome, the Ffraw of the poems. Llywarch himself bewails "a gift has been stolen from me, from the valley of Mafwrn", which may have been land in the Golden Valley, (72) and though Archenfield remained Welsh until the Norman Conquest, Saxon settlement took place there. St. Dyfrig's settlement at Madley, *Matle* in Old Welsh, meaning the good place, became anglicized by assonation with the Old English *leah.* Kynaston in Hentland is Cyneweard's *tun,* established in the thoroughly Welsh environment of Archenfield, where Dorstone seems to commemorate the *tun* of Deorsige's people. Despite these pagan newcomers Celtic

Christianity survived in these parts. The name Welcheston occurs in Woolhope parish which once possessed a dedication to St. Dyfrig which has since disappeared, though it has left its name to Devereux Park and Devereux Pool, a mile north-east of Woolhope Church. (73)

Once the Mercian claims had been established, Celt and Angle appear to have lived alongside each other in peaceful co-existence, the population remaining predominantly Welsh-speaking. The large number of Walcots, Walfords, and Waltons in Herefordshire, Shropshire, and Worcestershire, like the survival of Celtic names in these parts, represent the continued existence of Celtic communities in Anglian Mercia. The Celtic way of life continued unchanged, and "the similarity between social arrangements and settlement patterns of both sides of the border was equally pronounced." (74) This continuity is illustrated north of Herefordshire in the neighbourhood of Oswestry. It had been part of Powys until the Battle of Maserfelth in 641, but it retained its Welsh character and was long susceptible to Welsh influence. (75)

There is evidence that in this situation the Welsh and English not only grew to live peaceably alongside each other in the Marches, but also had actively friendly dealings with each other. By the eighth century *Uualchstod* had become an established Christian name, held, amongst others, by the Bishop of Hereford. (76) It means an interpreter, and such people must have been important members of their local communities for the name to be acceptable in baptism. (77) In the *Life* of St. Beuno we read of the Englishman inciting his dogs in hunting a hare by the River Severn whilst St. Beuno inspected his cornfield on the other bank, (78) and the place-name Huntington, on the very border between Herefordshire and Radnorshire, and adjoining the Welsh settlements of Hergest and Gladestry, commemorates the homestead or the village of the huntsmen. (79) Hunting and interpreting are essentially occupations followed by people living at peace with their neighbours.

The Britons of Devon and Cornwall maintained their national identity for some time after the Saxon settlement of those parts. They were like the inhabitants of Caerleon, described in Domesday as still living under Welsh law. (80) Similar situations are likely to have existed in west Mercia under the enlightened leadership of Penda. (81)

The Anglo-Saxon word for a Briton, *wealh*, meant a slave. Walcot is a common west Midlands place-name and has helped in giving rise to the view that every Briton not killed by the English was reduced to servitude. But it is unlikely that the entire British population was reduced to slavery to become hewers of wood and drawers of water. Their rulers either fled or found refuge with their free compatriots not killed in battle. Thus *wealh* refers to the British residue which for one reason or another remained when the English became masters of the locality. Their status was probably little different under the English from what it had been under their own kings. No Mercian law codes have survived, though the laws of Aethelberht, *c.* 602, make provisions for the *wergeld* of the Kentish *læt*, who may have been a member of the subject British population. (82) The laws of Ine, 688-684, show that in Wessex there were not only Welsh slaves, but also Welshmen who held as much as five hides of land and had *wergelds* of six hundred shillings. At least three classes of Welsh freemen are mentioned besides those whose protection is increased because they are in the personal service of the king, and the *wergelds* of these Welshmen living amongst the West Saxons were apparently reckoned on half the scale of their English counterparts. Perhaps a similar situation existed amongst the Mercians.

The cumulative weight of this non-theological evidence makes it difficult to believe that the Celtic Christians of the Marches relapsed into paganism on the English settlement of the area. Christianity survived this settlement, and an important stage was reached in its consolidation in Herefordshire when Merewalh, prince of the Magonsæte, was himself converted to Christianity. Goscelin says Merewalh remained a pagan like his father until 660 when he was baptised by the Northumbrian missionary Eadfrith. (83) The remoteness of Herefordshire from Northumbria suggests that Eadfrith, like the four pioneer priests of the Mercian mission mentioned by Bede, was a Northumbrian who, before he moved to the Magonsæte, lived amongst the Hwicce as part of the clerical entourage which would have accompanied the arrival of their Northumbrian rulers in 628. (84)

Merewalh founded a church at Leominster where he was residing at the time, and placed Eadfrith in charge of it. (85) In the tenth century Leominster claimed some relics of a saint named Ethelred, whom Professor Finberg has identified with Merewalh's Kentish brother-in-law with the suggestion that these relics hallowed this first church to be built by the princes of the Magonsæte. It served as their ecclesiastical centre until Hereford Cathedral was founded half a century later. (86)

The Kentish origin of Merewalh's wife implies that she and her brothers were Christians who learned their faith from the Roman mission founded by St. Augustine in 597. But Merewalh's Celtic Christianity was no obstacle either to the marriage or to the growth of Ethelred's cult as a saint, despite the breakdown in relations between the Celtic Church and the Roman mission. In the eyes of Saxon princes the differences between Roman and Celtic Christianity were not as apparent as they were to the theologians.

Merewalh had three daughters, Mildburg, Mildthryth, and Mildgith. Goscelin calls their mother Domneva. A somewhat earlier document calls her Domine Eve, which Liebermann interpreted as a compound of the title *domina*, meaning an abbess, and the personal name Eafe. (87) It is suggested that Domneva separated from her husband returning to Kent with her children, where she founded Minister in Thanet. Later, she sent Mildthryth, and perhaps Mildburg, to study at the monastery of Chelles, near Paris, where an earlier student had been St. Botulf.

About the year 680 a convent of monks and nuns was established on a site purchased from Merewalh at Much Wenlock. (88) According to St. Mildburg's *Testament* it was a daughter house of the minster which St. Botulf began to build at Icancho in 654. (89) Liobsynde, an abbess with a Frankish name who may have come from Chelles, supervised the minster at Much Wenlock until Mildburg was ready to take charge. (90)

The endowment of the minster at this time consisted of ninety-seven hides of land around Wenlock, five hides at Magana (Maund), thirty hides in the region of Lydas (Lyde), and twelve hides by the Monnow. It seems that this latter estate was set up at a period of weakness in Morgannwg's affairs, when the names of both its reigning king and its bishop have been lost. About the year 630 Morgan ap Athruis succeeded his father to the throne of Gwent and Erging. By murdering his uncle Frioc and seizing his dominions, he united into one realm all the lands from Gower to Hereford. He called this united realm Morgannwg, after his own name. But Morgan ap Athruis disappeared from the scene about the year 660 when there is an unbridgeable gap to about the year 700, when another King Morgan emerges from the obscurity. ([91]) This second Morgan's son, Ithel, had to stabilize the boundaries of Erging, always the most vulnerable part of Morgannwg.

Even more interesting than these border endowments is Goscelin's statement that St. Mildburg had a property at *Lanchmylien*, which has been identified with Llanfillo in Breconshire. ([92]) Llanfillo was in Brycheiniog which was little affected by Mercian expansion westwards. Its kings maintained their independence well into the tenth century, and the great majority of ancient dedications in Brycheiniog are to saints connected with Brychan, the kingdom's eponymous founder. One of these was Bilo, founder of Llanfillo and one of Brychan's prodigious family of saintly children and grandchildren. Her displacement by the Mercian Mildburg could only have taken place with the approval of the princes of Brycheiniog. There is no record of Mercian pressure being brought to bear upon Brycheiniog at this time, so Mildburg's well authenticated connection with Llanfillo can only be accounted for by the assumption that the princes of Brycheiniog and the Magonsæte were on friendly terms. They, too, did not share the religious hostility of their ecclesiastical guides.

The original name of the place acquired by Merewalh for building his daughter's minster was Wininicas. Its first element is the Welsh word *gwyn*, and the same element appears in the wholly Welsh name Wenlock, the white monastery. But how, one might ask, was an alien Mercian monastery able to flourish in the Celtic environment of the Marches, holding lands not only on the Welsh border, but actually in Brycheiniog and Erging, not part of the land of the Magonsæte? The answer to this question holds the key to our understanding of Christianity during the early English settlement of Herefordshire.

Mention has been made already of two important contributing factors. The English settlement brought little disruption to the Celtic way of life of the native inhabitants, so that an English minster would not be looked upon with serious misgivings. Secondly, the princes of the Magonsæte seem to have enjoyed good relations with their Welsh neighbours in Brycheiniog. The theological controversies and religious *apartheid* so vividly described by St. Aldhelm was not part of the situation on the Marches:

> Beyond the mouth of the Severn, the priests of Cambria, proud of the purity of their morals, have such a horror of communicating with us, that they refuse to pray with us in the churches, or to seat themselves at the same table.

> The Britons give us neither the salutation nor the kiss of peace, and if one of us went to live in their country, the natives would hold no communication with him till after he had been made to endure a penance of forty days. ([93])

There is also a third factor, not yet mentioned. Earlier in the seventh century Sigebert had set about the conversion of his people in East Anglia. He himself had been converted whilst in exile in Gaul, and as soon as he became king he had schools established in East Anglia with the help of Bishop Felix of Burgundy. Felix had been educated at Luxeuil, founded thirty or forty years earlier by the Irishman Columbanus, and it was probably at Felix's instigation that Sigebert also asked the Irish missionary Fursey to help in the conversion of his kingdom. ([94]) Celtic saints were *personae gratae* with the Franks, and Liobsynde, first abbess of Wenlock, was probably of Frankish origin. Her appointment made a considerable contribution the successful early history of that minster, which, like the Celtic monasteries of Hentland and Mochros, represents a thread of Christian continuity on the Marches, stretching from the Age of the Saints in the sixth century into the Anglo-Saxon settlement of the seventh century.

[1] R. W. D. Fenn, 'The Character of Early Christianity in Radnorshire', *The Radnorshire Society Transactions*, Vol. XXXVII (1967), pp. 7, 8.
[2] I. A. Richmond, 'The Cornovii', *Culture and Environment*, ed. I. Ll. Foster and L. Alcock, London (1963), p. 261.
[3] Kenneth Jackson, 'The British language during the period of the English Settlements', *Studies in Early British History*, ed. N. K. Chadwick, Cambridge (1959), p. 65.
[4] R. W. D. Fenn, 'Who was St. Harmon?' *The Radnorshire Society Transactions*, Vol. XXVI (1966), pp. 50-55.
[5] Leslie Alcock, 'Wales in the fifth to seventh centuries', *Prehistoric and Early Wales*, ed. I. Ll. Foster and G. Daniel, London (1965), p. 198.
[6] J. W. James, 'The Book of Llan Dav and Bishop Oudoceus', *Journal of the Historical Society of the Church in Wales*, V, p. 29.
[7] A. H. Smith, ed., *The Place-names of Gloucestershire*, Cambridge, III, p. 192.
[8] G. Evans and J. Rhys, ed., *The Book of Llan Dav*, Oxford (1893), pp. 78-86.
[9] *Ibid.*, pp. 68-71.
[10] *Ibid.*, p. 69.
[11] *Ibid.*, p. 71.
[12] *Ibid.*, p. 72.
[13] A. W. Wade-Evans, *Welsh Christian Origins*, Oxford (1934), p. 57.
[14] G. H. Doble, *Saint Dubricius*, Guildford (1943), p. 26.
[15] *Book of Llandaff*, pp. 72. 73.
[16] *Ibid.*, p. 73.
[17] Doble, *op. cit.*, p. 27.
[18] *Book of Llandaff*, pp. 73, 74.
[19] *Ibid.*, p. 163.
[20] *Ibid.*, p. 74.
[21] *Ibid.*, pp. 171-173.
[22] *Ibid.*, p. 75.
[23] Wade-Evans, *op. cit.*, p. 57.
[24] *Book of Llandaff*, p. 76.
[25] *Ibid.*, pp. 76, 77.
[26] *Ibid.*, p. 90.
[27] *Ibid.*, p. 239.
[28] *Ibid.*, pp. 77, 78.
[29] *Ibid.*, pp. 12-19.
[30] *Ibid.*, p. 133.
[31] Doble, *op. cit.*, p. 6.
[32] V. E. Nash-Williams, *The Early Christian Monuments of Wales*, Cardiff (1950), 301, pp. 180, 182.
[33] Doble, *op. cit.*, p. 12.

[34] *Life of St. Illtud*, ch. 7.
[35] *Life of St. Woollos*, ch. 10.
[36] *Life of St. Cadoc*, ch. 28.
[37] *Life of St. David*, ch. 50.
[38] *Book of Llandaff*, p. 98.
[39] *Ibid.*, p. 115.
[40] *Life of St. Samson*, chs. 13, 15, 44.
[41] F. C. Burkitt, 'St. Samson of Dol', *Journal of Theological Studies*, XXVII (1926), pp. 56, 57.
[42] *Life of St. Samson*, chs. 13, 43, 44.
[43] J. Morris, 'The dates of the Celtic Saints', *Journal of Theological Studies*, XVII (1966), p. 372.
[44] The dedications at Gwenddwr, south of Builth, and Porlock in Somerset, like Ffynon Ddyfrig near Llancarfan, are either late or incorrect identifications.
[45] *Life of St. Samson*, ch. 43.
[46] E. Ekwall, *Oxford Dictionary of English Place-names*, 4th ed., Oxford (1960), p. 311. Wade-Evans made the less satisfactory suggestion that perhaps they took their name from *Magnae*, Kenchester. (A. W. Wade-Evans, 'Prolegomena to a Study of the Lowlands', *Transactions of the Dumfriesshire and Galloway Natural History and Antiquarian Society*, 3rd Series, XXVIII (1950)), p. 81, n. 116.
[47] W. de G. Birch, ed., *Cartularium Saxonicum*, 3 vols., London, 1885-93, p. 332.
[48] Dr. Finberg gives his dates as *c.* 625-685. H. P. R. Finberg, ed. *The Early Charters of the West Midlands*, Leicester (1961), p. 217.
[49] F. M. Stenton, *Anglo-Saxon England*, 2nd ed., Oxford (1947), p. 47, n. 1.
[50] Smith, *op. cit.*, IV, p. 31f, p. 42f.
[51] Wade-Evans, 'Prolegomena to a Study of the Lowlands', p. 80.
[52] H. P. R. Finberg, *Lucerna, London* (1964), p. 73.
[53] *Ibid.*, p. 74.
[54] Din mawr.
[55] Tref *and* meyn: *cf.* Tretire, Rhyd *and* hir; Tregate, Tref *and* goed, also in Herefordshire.
[56] Celli, Welsh for wood.
[57] *Old Welsh* caer, a fortified place. "This particular form *cair* occurs only on the Welsh border, in the Lake District, and in Cornwall, that is, in districts where British survived in the OE period." A. H. Smith, *English Place-name Elements*, Cambridge, I, p. 76.
[58] Welsh *mawr* and *ty;* Saxon *ford*.
[59] Stenton, *op. cit.*, p. 47, n. 1.
[60] Finberg, *The Early Charters of the West Midlands*, p. 217.
[61] F. M. Powicke and E. B. Fryde, ed., *Handbook of British Chronology*, 2nd ed., London, 1961, p. 15.
[62] F. M. Stenton, 'Herefordshire' *Royal Commission on Historical Monuments*, London (1934), III, p. lvi.
[63] Finberg, *The Early Charters of the West Midlands*, p. 219.
[64] Stenton, *Anglo-Saxon England*, p. 41.
[65] Finberg, *Lucerna*, p. 77.
[66] *Ibid.*, p. 75.
[67] *Ibid.*
[68] The proximity of Offa's Dyke to the Radnorshire Walton suggests the possibility that its proper interpretation should be the *tun* near the wall, *ie* the dyke. Charles, however, thinks these English settlements were the result of English colonization west of Offa's Dyke *after* it was set up. (B. G. Charles, *Non-Celtic Place-names of Wales*, London (1938), pp. xxvi, xxvii.)
[69] Sir Ifor Williams, *Lectures on Early Welsh Poetry, Dublin* (1944), p. 43.
[70] A. Mawer, *Chief Elements used in English Place-names, Cambridge* (1924), p. 30; Smith, *English Place-name Elements*, I, p. 244.
[71] E. W. Bocock, *Place-names of Shropshire*, Shrewsbury (1923), pp. 73, 74.
[72] *cf. The Book of Llandaff*, pp. 162, 163, 165, 171, and 173.
[73] S. Baring-Gould and J. Fisher, *Lives of the British Saints*, 4 vols., London (1907-13), II, p. 380.
[74] G. R. J. Jones, 'The Pattern of Settlement on the Welsh Border', *Agricultural History Review*, VIII (1960), p. 79.
[75] B. J. Charles, 'The Welsh, their language and place-names in Archenfield and Oswestry', *Angles and Britons*, Cardiff (1963), p. 96.
[76] Bede, *Ecclesiastical History of the English People*, 5:23.
[77] J. R. R. Tolkien, 'English and Welsh, *Angles and Britons*, p. 24.
[78] A. W. Wade-Evans, ed., 'Beuno Sant', *Archæologia Cambrensis*, LXXX (1930), p. 316.
[79] Ekwall, *op. cit.*, p. 258.

[80] Finberg, *Lucerna*, p. 123.
[81] According to the Welsh *Life* of St. Beuno, the saint left Berriew because the Saxon would overcome that part of Powys, keeping it 'under their authority'. *Historia O Uuched Beuno*, ch. 8.
[82] D. Whitelock, ed., *English Historical Documents*, Part I AD 500-1042, London (1955), p. 358.
[83] Finberg, *Lucerna*, p. 71.
[84] Finberg, *The Early Charters of the West Midlands*, p. 168.
[85] Finberg, *Lucerna*, p. 71.
[86] Finberg, *The Early Charters of the West Midlands*, p. 220.
[87] F. Liebermann, *Die Heiligan Englands*, Hanover, 1889, p. 3.
[88] Finberg, *Lucerna*, p. 70.
[89] *The Anglo-Saxon Chronicle. The Oxford Dictionary of the Christian Church*, p. 189, identifies Icancho with Boston. Finberg, *The Early Charters of the West Midlands*, p. 207, identifies it with Iken, Suffolk.
[90] Finberg, *The Early Charters of the West Midlands*, p. 209.
[91] J. W. James, *op. cit.*, pp. 32, 37.
[92] Finberg, *Lucerna*, p. 74.
[93] A. W. Hadden and W. Stubbs, ed., *Councils and Ecclesiastical Documents relating to Great Britain and Ireland*, Oxford (1869-78), III, p. 271.
[94] Françoise Henry, 'Irish Enamels of the Dark Ages and their Relation to the Cloisonné Techniques', *Dark Age Britain*, ed. D. B. Harden, London (1956), pp. 81, 82.

Hereford City Excavations
Kings Head Site 1968

By R. SHOESMITH

Demolition of an old inn on the presumed line of the Saxon or Early Norman north defences of Hereford enabled some archaeological recording to be undertaken.

Indications of an extensive conflagration and of early rampart(s) were observed, but no absolute dating could be obtained.

When the Kings Head Inn, on the corner of Broad Street and West Street, was demolished, the cellars were rapidly cleared and enlarged to include most of the site (fig. 1). The area was excavated by the contractors to a general depth of about 10 ft., at which level natural gravel was found over the whole site, except for one or two points where cess-pits or late walls continued deeper.

This clearance left several sections which had suffered little recent disturbance and these were drawn as they appeared. In no case was it possible to obtain plan features, and only in one or two areas could the section be cut back at all before the new walling was inserted. Finds were thus very few, and their position not always certain.

Local volunteers helped with the cleaning and recording of the sections and were greatly assisted by the help and interest shown by the contractors on the site. The work was carried out on behalf of the Hereford Excavations Committee, and the finds are lodged in Hereford Museum.

Description of the Sections (fig. 2)

South Face

This section, parallel to West Street, had little modern disturbance and a length of some sixty feet was drawn. The earliest occupation was indicated by two depressions, some 4 feet apart, filled with a fine grey silt (A). This part of the section was taken back some six inches giving an impression that the depressions continued and it has been suggested that they are wheel ruts. Covering the silt was a pebble band, which on examination, was found to consist of three well packed layers, the lower being chips of stone rather than pebbles. This metalled surface may correspond with that on top of the natural soil to the east of Pit 4.

Over the whole of the section a charcoal layer followed which appeared to have been the result of some extensive conflagration in this area of the city. The western half of the section showed several holes, up to 18 inches deep, which could originally have been for posts. They were found to contain charcoal with some burnt daub and iron slag.

There were no disturbances in the charcoal layer except for one small pit, full of grey soil, at the western end of the section (B). Most of the charcoal had a thin covering of grey soil and ash, probably the product of rainwash over the surface.

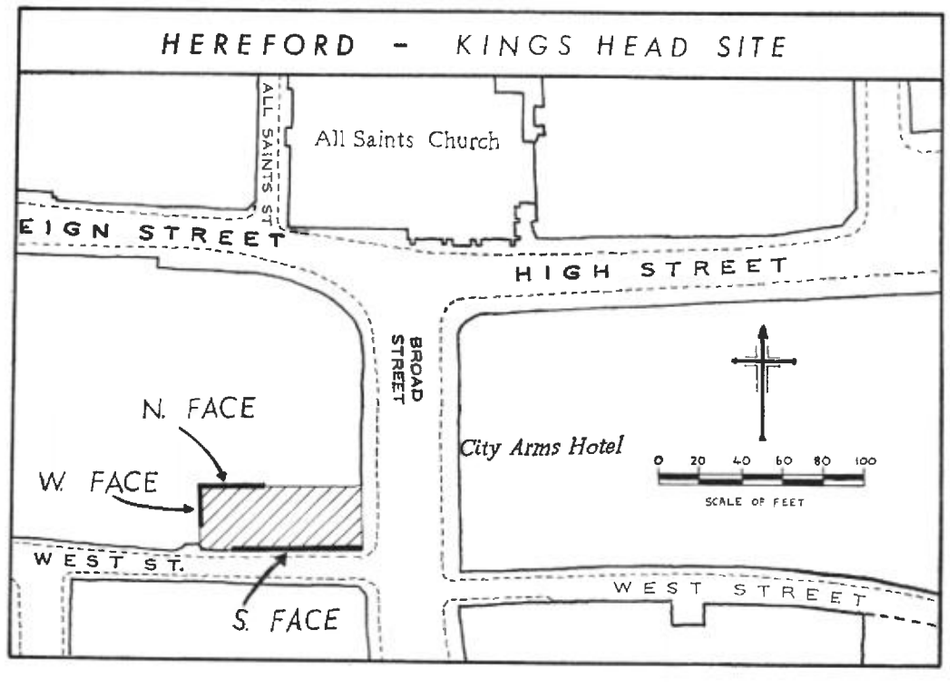


FIG. 1

Plan of Kings Head Site (*Based upon the Ordnance Survey Map with the sanction of the Controller of H.M. Stationery Office. Crown Copyright reserved.*)

This whole charcoal-covered layer must soon have been sealed with a thick layer of yellow clay, some of which appeared, from its shell content, to have come from a clean ditch or stream. Locally, the yellow clay had been capped with a heavy grey clay which together formed a more or less plane surface such as one would expect in a longitudinal section at the tail of a rampart.

The disturbances in the surface of post-holes and pits (nos. 4-8) duplicate the evidence in Victoria Street [1] of gradual encroachment on the tail of the rampart by buildings and domestic pits. A piece of Chester Ware was found at the bottom of Pit. 6.

Eventually, the whole area was roughly capped with a layer of pebble metalling, with some charcoal showing at the western end. A long sequence of mixed soils, pebble metalling and bands of gravel, showed the successive phases of the build-up of West Street.

West Face

It was not possible to join the south and west sections due to recent disturbances and only the northern part of the west face is shown. Some slight disturbances,

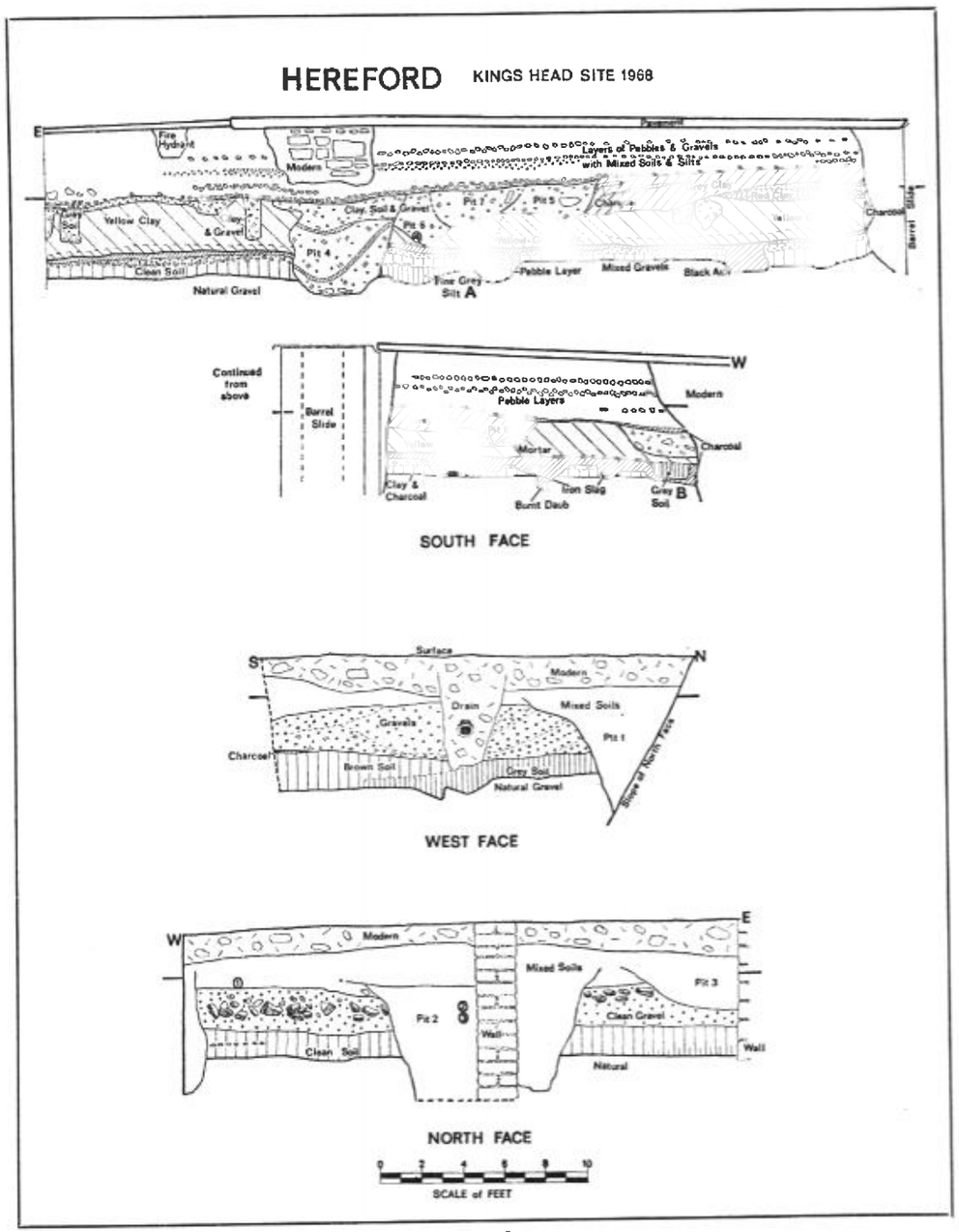


FIG. 2
Kings Head Site: Sections.

which only showed in the natural gravel, were covered with layers of clean grey and brown soil. This was sealed with a layer, up to 2 feet 9 inches in thickness, of re-deposited natural gravel, which appeared to have tip lines rising to the north. At the extreme south of the section traces of charcoal, between the soil and the overlying gravel, were approximately on the same level as the principal charcoal layer in the south section.

No definite surface to the gravel could be discerned, but above it was a layer of mixed soils and gravels from which a pit (no. 1) had been cut. This was covered with a layer of modern debris relating to a recent construction of the Inn yard.

North Face

This section had to be drawn at an angle of some 30 degrees to the vertical because of rather unstable buildings directly above. Slight variations in colouring suggested two layers of soil on top of the natural gravel, but no further investigation was possible. The soil layers were covered with a similar layer of re-deposited natural gravel to that found on the west face, but which contained a layer of stones, one or two of which were roughly squared, with maximum dimensions of up to one foot. There was no evidence of these stones being laid, and as building operations progressed, it appeared that they did not go far back into the section. This could have been due to later pitting, as the gravel layer became rapidly thinner as the top sloped down to the north. This could only be observed as the new cellar wall was inserted. A mixed layer of dirty soils and gravels followed, covered with modern building debris. Pit 2 and modern walls obscured the section in places, but further east a similar sequence was observed.

Conclusions

Although some uncertainty must be accepted due to the lack of plan features, and the impossibility of joining the south and west sections, it is feasible to consider the occupation as three broad periods.

Pre-Defensive Period

Structurally, very little can be said about this period, except to note the evidence for roads and buildings in this area during what appears to be the Saxon Period.

If it is assumed that the conflagration is part of a large-scale burning of the town, this could possibly be tied to one of the documentary dates. (2) The town is recorded as being burnt in 1055 and again, the part 'over Wye' in 1138. It is also recorded that defences were built by Harold Godwin during the year following the 1055 sacking. The sequence of burning followed rapidly by a rampart type build, shown in these sections, suggests that this late Saxon date is likely.

Defensive Period

It has been shown recently (3) that some of the early defensive works turned east from Victoria Street to take a line between West Street and Eign Street. The clean gravel and yellow clay from the Kings Head site are similar to the build of

the main Victoria Street rampart (1967 excavation period III (1) and 1968 excavation periods 4 and 5 (3)) and it seems reasonable to postulate that it is the rampart or ramparts of these periods which encircles the smaller town. The stonework in the north face could well be tumble from the early defensive wall, which in Victoria Street was shown to be of the same period as the yellow clay rampart, and probably stood at the rear of a flat crest. (3) There were no finds from the rampart materials.

Post-Defensive Period

The south section shows an encroachment on the tail of the rampart by buildings and domestic pits, which one would expect as the rampart went gradually out of use. The Chester ware found in Pit 6 ties in well with similar sherds found in

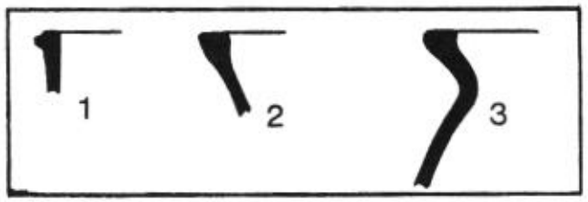


FIG. 3
(Kings Head Site: Medieval Pottery (¼)

levels accumulating on the back of the Victoria Street rampart. The rampart must have become disused when the town defences were extended, probably during the latter half of the twelfth century and sherds found in the north section must have been deposited after this date.

The successive layers of metalling of West Street (medievally—Behind the Wall Street (4)) covered the tail of the rampart shortly after it was disused, but these could have been a widening of an earlier street.

Pottery (fig. 3)

(Find spots shown on sections, fig. 2)

1 North Face—Small part of rim. Fine orange-red fabric, well fired with a greenish mottled glaze on the outside and spots of glaze internally.

2 North Face—Small part of rim. Light grey fabric with orange skin. Green mottled glaze on the outside.

3 North Face—Part of rim of cooking vessel of about 8 inches diameter. Grey gritty fabric with dark grey skin. Grits protrude on inside.

4 South Face—Body sherd of Chester Type ware. Reddish fabric, fired to grey on the outside. (1) Not Illustrated.

[1] R. Shoesmith & F. Noble, 'Hereford City Excavations 1967' *T. Woolhope N.F.C.* (1967), pp. 51-67.
[2] *ibid.*, pp. 47-50.
[3] P. A. Rahtz, report forthcoming, but see summary in these *Transactions*, pp. 363-364.
[4] J. W. Tonkin, 'Early Street Names of Hereford', *T. Woolhope N.F.C.* (1966), p. 238.

Orcop — Aspects of Manorial Life

By DELPHINE J. COLEMAN

THE village of Orcop, lying in a basin of hills and situated approximately 11 miles equidistant from Hereford, Ross-on-Wye and Monmouth, has often been considered as the most isolated parish within the Hundred of Wormelow. Indeed, to Herefordians it has become the butt of many a humorous jest; one hears of "Orcop, where the sun never sets," "Orcop, where the treacle mines are," and perhaps, the most well-known of all, "Orcop, God help us." Manuscript notes on the parishes of the Wormelow Hundred compiled towards the end of the 18th century state:—

> "The land is cold and bare, and was probably cultivated but in a small degree a few centuries ago, being almost secluded from the rest of the world by high hills surrounding it on all sides, and on which cultivation seems to have been making a slow and laboured progress since it first commenced in the vale. There is very little coppice or meadow, and the latter is very inferior. The soil is a stiff reddish clay, and wheat the best adapted grain. No family of consequence, nor any material or particular information are to be met with in this parish at any period.'

William Cobbett when visiting the shire in 1821 tells of the day he was taken hare hunting at Orcop, and describes the scene thus:—

> "A steep and naked ridge, lying between two flat valleys, having a mixture of pretty large fields and small woods, formed our ground. I never rode on such steep ground before, and really, in going up and down some of the craggy places, where the rains had washed the earth from the rocks, I did think once or twice of my neck."

The geographical position of the village, its distance from main transport routes, its inaccessibility, particularly in bad weather, are factors which have influenced its insularity which, in turn, coupled with the apparent lack of documentary information, have tended to give the impression that the village had nothing to warrant the local historian making any research into its past. Fortunately, this state of affairs no longer exists since the mansion on the Mynde Estate of Much Dewchurch housed for several centuries a unique collection of documents which are now in the custody of the National Library of Wales at Aberystwyth. This collection includes Leases and Deeds, Court Rolls, Marriage Settlements, Rent Rolls, Annuity Grants, Mortgage Deeds, Bonds, Wills, Estate Accounts, Court Briefs with affidavits in connection with Chancery Suits, and personal correspondence, all directly connected with the manorial history of Orcop since they were the property of past holders of the Lordship.

Orcop has the remains, now very overgrown, of a Norman castle of motte and bailey type, and the first known Lord of the Manor was possessed of the French name of Sir Rothes le Gros. His daughter married into the Baskerville family of Eardisley in the reign of Henry II, whose ancestors had accompanied the Duke of Normandy at the time of the Conquest, their name appearing on the roll of honour in Battle Abbey. From 1168 to 1614, apart from a short space of time when lands in "Erdesle" and Orcop were in the hands of Roger de Clyfford, the Lordship remained in the Baskerville family. In 1614 the Manor of Orcop was sold by Sir

Humphrey Baskerville, whose wife Elizabeth was the third daughter of Sir Thomas Coningsby of Hampton Court, Herefordshire, to Thomas Lello of the Inner Temple for the sum of £310. His son, Henry Lello, sold it in 1633 to Sir Walter Pye of the Mynde and his son, Sir Walter the younger, the consideration money being £560. The Pye family were prominent in land ownership in Orcop and Much Dewchurch by this time, having acquired the Mynde by the marriage of John Pye of Saddlebow with Agnes Andrew, the Mynde heiress, prior to 1448. The Lordship remained with the Pye family until 1723 when after constant mortgaging, James Brydges, Duke of Chandos, purchased it together with several other manors, including Kilpeck. In 1726, the whole estate passed to Richard Symons, variously described as citizen, fishmonger and merchant of London for £28,400. The Lordship of Orcop remained in possession of this family until 1928 when, on the death of Thomas Edward Raymond Symons, Captain Henry Ambrose Clive inherited it. Following his death in 1960, the Mynde, which now retains very little of the original estate, was bought by the present owner Mr. W. A. Twiston Davies.

Orcop was an inferior manor, which together with 36 others, owed Suit and Service to the over-lordship of Wormelow. This meant attendance at the Hundred Court, Jury service and payment of a Chief Rent. The boundaries of the Manor of Wormelow as traced in a perambulation of 1639 coincide with those of the Hundred of Wormelow, which is often referred to in Inquisitions as the Hundred of Wormelow and Archenfield. This area had formed prior to the coming of the Anglo-Saxons, part of the old Welsh kingdom of Ergyng, and since the Welsh were never wholly subdued in this area, many ancient customs applicable to Welsh holders of land were carried on through the centuries in Orcop. The manor was ancient demesne, namely land held by the Crown in 1066, and partition of land was in accordance with gavelkind which meant that it was divided among the brethren of a family as opposed to the more normal procedure of primogeniture. This could account for the number of small fields to be found in the parish. Any tenant of the Hundred had a right to be toll free in every market town or city throughout England, and was quit of murage and portage. He was thus exempted from subscribing towards the upkeep of city walls and paying tolls for carrying. All trees growing on waste land belonged to the Lord unless custom or presentation to the Court proved to the contrary. August, being the harvest month, was to be free from courts, and an Orcop man, Walter Gwatkin, was fined £5 for striking the book out of the bailiff's hand when he should have been sworn on the jury because a Court had been ordered in harvest. Tenants had free fishing within the rivers of Wye and Garron for themselves and their own household servants, but should they wish to sell any salmon taken from the Wye, they should first expose it for sale in small quantities for the benefit of the poor at the Fish Board of Hoarwithy for 2 hours. After that time they were at liberty to sell in any market town.

The first lease of lands in Orcop in the Mynde Collection is dated 1364, and from thereon leases show that a heriot of the best beast, and Suit of Court of Orcop was an acknowledged condition of tenure in addition to the money rental. By the 17th century, in addition, the tenants were bound to supply poultry, oats,

wheat, peas, mungcorn,* eggs and labour in times of harvest. The latter was the exception rather than the rule. There is no information, apart from leases of land, about activities in the manor during the Lordship of the Baskervilles, but with the families of Pye and Symons, there are fascinating glimpses of the pattern of village life.

Both Sir Walter Pye and his son were staunch Royalists, Sir Walter the younger being one of the leaders of the attack on Brampton Bryan in 1643. An account made in his own hand dated 1640 shows that after having raised £2,000 for his father's funeral in 1635, and finding dowries for his sisters, he was assessing his growing and harvested crops, together with his livestock. He lists eight draught oxen, breeding mares with colts and cart horses, terming them all as cattle. A rather sentimental note intrudes into his precise account with the entry, "1 stallion vocat Spratt." Wood to be felled on the Saddlebow, wains, carts and wheels to be sold, together with rent due and overdue from Orcop amounting to £4.13.9 for 1 quarter, are all accounted for, and since he lent £2,000 to the King at this time, it seems quite possible that he was in the process of realising all the assets he could to this end.

The Orcop Court Rolls, some original, many copies, date from 1622 to 1808, and one learns that in 1663 the tenants presented that a pound should be erected at the Green.

> "We present it convenient and advantageous for our said Lord and his tenants of the said Lordship or Manor that the common within the same be depastured with their own cattle, and that no tenants put a greater number of cattle thereupon than shall be proportionable and answerable to their estates respectively. To the end that as well foreigners' cattle as well as the supernumeraries of the tenants may be impounded for a restriction of surcharge, we desire that a pound be erected by the lord at the Green within the said Lorship for the use of himself and his tenants . . . "

The pound was built about 1670 by the then Lord of the Manor, Robert Pye. There are records of the impounding of animals, and the charge made by the keeper of the pound was four pence. Part of the pound remains today, and it was still in use in 1809 since a dispute had arisen between the cottagers and the freeholders which caused the Lord of the Manor to seek Counsel's Opinion. The freeholders had the right to pasture on the common, but not the cottagers, and apparently the free tenants had taken unfair advantage by demanding excessive dues for damage done by the cottagers' livestock, and had also detained the animals after the dues had been paid. Counsel directed that the animals should be returned forthwith as the freeholders having obtained their dues could be liable to court action. The Court Roll quoted above also contains several presentments for encroachments on the Lord's waste, ranging from ¼ to 1½ acres.

A Court Roll dated 20th January, 1651, tells of one, Thomas Price, who wanted to establish the existence of a pathway. It records:—

> "To this Court cometh Thomas Price and prayeth a view to find out the antient bridle way out of the King's Highway leading from Orcop's Green towards Bagalyard to the Cockshoot and so far to Saddlebow's Butts and to him it is granted."

* Mungcorn—a mixture of different seeds sown together to come up as one crop, wheat ground with rye or barley.

This was witnessed by five tenants, and underneath were the names of six villagers who were to be the Jury in the View. It was ordered:—

> "That the Jury do meet and view the place in question before the eve of Christmas and return the verdict to the steward before the 1st April under the penalty of each of twenty shillings."

The ancient bridle way can still be clearly identified today, and I was interested to find that the Upper Mill at Orcop of which no trace has existed for over a century, was situated at the southern end of the bridle way. The Price family were millers there for several generations, and the said Thomas Price may well have been trying to establish the existence of this bridle way for the convenience of his customers.

The quarries which were situated along the parish boundary with Much Dewchurch on Saddlebow Hill were a valuable asset to the manor. Stone was used for the building and repair of homes, roofing of outbuildings and paving of roads. The tenants were frequently given permission by the Pyes to haul stone for their own use. There is an instance of this privilege being abused when Henry Gorges who married Elizabeth Pye about 1695, noticed when riding over the common waste of Orcop that stone had been taken, and a house built with it. Upon enquiry and being told who had done this he stated that the offender should be made to "bring back the stones in his teeth." Turf was also cut from Orcop common and hauled by the tenants at this time to make a bowling green at the Mynde.

The villagers were very suspicious of intruders into the parish, and a widow who had been given leave by the Pyes to enclose a piece of ground to build a house, and who now wished to marry a man from another parish, was threatened by the villagers who wanted to take possession of the land for the use of the parish. She was supported by the Lady of the Manor, Meliora Pye, and remained in possession until her death when her son inherited it.

After the death of the said Elizabeth in 1708, a lengthy legal battle ensued between Henry Gorges and the Pye claimants for the estate, and eventually after the brief ownership by Lord Chandos, the Symons family became the owners as stated, in 1726. The administration of the estate had been neglected for many years, and the regular holding of the manor court had lapsed. During this time the encroachments on the common waste had proceeded apace, and by 1735 John Symons had re-instituted the court which was presided over by his agent. It was often held at "the house called the Green" known today as the Green Farm. As already mentioned, Orcop Manor as an inferior manor owed Suit to the large lordship of Wormelow, and in 1735 the Lord of Wormelow, one Stephen Ashby, decided in view of the fact that Orcop owed him this allegiance to claim the common of Orcop to be within the bounds of the Manor of Wormelow. This would have included the many buildings erected on the waste, and the valuable quarries which were situated on the common. The test case was a plea of trespass on Orcop Hill, otherwise called Orcop Common, on the boundary of the manor, where William Abrahall had dug stone and taken it away. The case was heard at the Herefordshire Assizes in the summer of 1736, and although Stephen Ashby had died, his heirs carried on with their efforts to eject Abrahall from two parcels of

land on the common. The case on this occasion went in favour of John Symons, but nine years later in 1745 the new Lord of Wormelow, who obviously doubted the verdict, decided to raise the question again. This time an erring tenant of Symons, who had taken over the tenancy of a cottage on the waste following the death of his father, was chosen to be the main witness. The rent of William Rudge, amounting to 6d. per annum was 5 years in arrear, when he died in 1743, and the son on being approached by the agent for the Mynde estate for 2/6d. rent refused payment stating that he had been advised by the steward of the Court of Wormelow not to pay any rent to the Lord of Orcop. Thomas Rudge's possessions were removed by the bailiffs acting for Mr. Symons, and a notice to quit served on him, but his goods were returned to him pending the case being tried at law. The Court Rolls show that the cottage in question had been erected and a garden enclosed in 1738 when Rudge and his son were presented for so doing. They were fined and told to throw down the building and open up the enclosure before the next Court was held. This was formal procedure, most offenders were fined 3/4d. but few buildings or enclosures ever reverted to common land. Having brought the encroachments formally under the jurisdiction of the manor court it entitled the Lord to establish his ownership of the buildings since they were built on common land, and he was Lord of the Soil.

Affidavits sworn by many Orcop folk in 1746 show that they never doubted that the common of Orcop belonged to the Lord of Orcop. The following affidavit was sworn by John Baker, aged 74 years.

> "To prove that he raised wallstone and paving on waste called Orcop Hill by Mr. Gorge's order about 40 years ago for his use at the Meend, that he was bred and born in the parish of Orcop, always understood that ye Conygar Hill and all the parish was in the Manor of Orcop, never knew or heard that anybody ever halled stone or tyle on the waste of Orcop without leave from ye family at the Meend, Lords of Orcop. . . . "

The following affidavit of Walter Gwatkin, aged 64 years, who was at one time Mr. Symons' bailiff, concerns the impounding of stray animals.

> "To prove ye payment of one year's rent by Thomas Powell, Bailiff of the Manor of Wormelow, for arrears of rent for a tenement and about an acre of land on ye waste of Orcop, and ye rent paid in consequence of that distress of two shillings and six pence for ye charges of it.
>
> To prove that no tenants of the Manor of Wormelow were ever thought to have any right to pasture on the waste of Orcop, or any others except ye freehold tenants of ye Manor of Orcop; that about 4 years ago he impounded the sheep of one, Giles Walter, of the Manor of Wormelow for trespass on ye waste of Orcop, and received a promissory note for 1/6d. on his delivering them, and that sometime ago, he impounded ye cattle of one, John Gilbert, of ye manor of Kilpeck, and received 1/- satisfaction.

Several bailiffs of Wormelow had asked permission of the Mynde to have houses built on the waste of Orcop where they lived although serving the Lord of Wormelow.

Official documentary evidence was produced by the Lord of Orcop to prove that although Orcop paid Chief Rent to Wormelow, it did not pay the whole sum collected as did other inferior manors, but only a part, and that the Manor was held immediately of the King. Ancient Inquisitions, Grants and Court Rolls were all

quoted in support of the case for Mr. Symons, while the Lord of Wormelow quoted Court Rolls to show that Orcop men had served and been served in Wormelow Manor Court, and that a heriot had been paid of £1.2.0 on the death of Sir Walter Pye to the Lord of Wormelow. This custom survived as late as 1905 when £1.2.0 was paid by Thomas Raymond Symons to the Lord of Wormelow on the death of his father. After the hearing of case, a jury was appointed to view the boundaries of Orcop Manor, and the affidavit sworn by the Steward of Wormelow gives an excellent description of the common at that time, together with ancient names which have since fallen into disuse. The Little Hill in Orcop today was known for several centuries as Conygar Hill, while Abrahall's Yat named after a well-known Orcop family of the 16th, 17th and 18th centuries and featuring in many old documents, was land bordering on the Orcop-Much Dewchurch parish boundaries. These names are quite unknown today, but leases and deeds which often gave acreage and locality in explicit terms, together with field names in the old Estate rent books and the Tithe Schedule enable one to trace their whereabouts. The case was discharged in favour of John Symons who was awarded costs of £52.5.6 on 5th December, 1746. Thereafter tenants of cottages built on the common once again attorned to John Symons as their landlord. A typical example is the following:—

> "I, William Philpotts, do hereby attorn tenant to John Symons for 1 barn and sheep's cot with a stable, wain house, work house and 2 parcels of land containing 1 acre by ye same, more or less, situated on Conygar Hill on the waste of the manor aforesaid, at ye yearly rent of 2/6d. and I have this day paid unto ye said John Symons 1d. for part of rent on account of my attorning tenant aforesaid. Dated 29th January 1747."

Manor Courts were held twice yearly from 1737 to 1747, then less regularly until 1808. The reasons for presentments were varied, and some examples are quoted below.

For not repairing bridle ways	Fines 3/4d. 5/- and 10/-
For not erecting stiles in a footway	3/4d.
For not repairing the bridge over Orcop Mill stream	5/-
John Watkins for not scouring and cleansing his ditch ...	5/-
For stopping up a footway leading from Conygar Hill to the Burnett being an ancient footway	20/-
Milbourne Pritchard for digging a ditch before a stile from the Pennants to Orcops Church. Ordered to fill same up or put a bridge over it	5/-
William Waters for keeping goats without keeping them under the direction of the Lord.	
We present 1 strayed sheep.	
We present William Rogers and James Trehearne for quarrying on team roads	39/-
Thomas Parry for felling and converting ash timber on Garway Hill	10/-
Thomas Evans for erecting a barn upon Garway Hill ...	10/-
For erecting a pig sty on the waste	10/-
We present the pound being out of repair.	

Since the names of those who had to carry out repairs to footpaths, bridle ways, team roads and husbandry ways were also given, this provided invaluable information as to occupiers of properties. The Homage or Jury at the Manor Court usually comprised 10 to 12 men, both freeholders and tenants, together with a further two men who were sworn in as assessors. All those who defaulted by their non-

attendance were fined 2d., but by 1786 this had risen to 6d. each for labourers, and 1/- each for team holders. The villagers were so jealous of their traditional rights that they were quite prepared to indict the Lord of the Manor himself. On the 15th November, 1780, they presented Sir Richard Symons for failing to repair two bridges on the Church path and fined him 20/-. A Court Roll of 24th November, 1779, gives some idea of the self-supporting nature of the community since many of the occupations of the 27 persons presented for encroachments and building on the waste were noted. These included sawyers, masons, labourers, publicans, carpenters, tylers, weavers and thatchers. The many presentments made for encroachments on the waste help to account for the fact that Orcop parish which covered 2,403 acres had only one Enclosure Act for 275 acres in 1814 since much of the common had already been possessed.

Cottage agreements and rent books show that allowance was often made to a tenant taking over a cottage in poor condition by way of reduced rent and materials to repair it. A tenant who paid £1 a year rent for a cottage on Orcop Hill was given notice to quit for having wire in his possession, presumably for the purpose of poaching. Farm agreements of the 18th and 19th centuries show that much of the coppice wood, now re-claimed, was reserved for the use of the Lord of the Manor, and that tenants were obliged to haul annually one load of coals from the Forest of Dean, or two loads from the Tram House (the present Tram Inn), for which they charged the estate the prime cost of the coal and turnpikes. They were also expected to keep one dog for the Lord of the Manor free of charge. One detailed agreement dated 1732 was made between Sir Richard Symons and William Abrahall and contains some interesting clauses.

> "Abrahall must carry 90 lbs. of clover seed from the market and sow same at the rate of 9 lbs. to each acre, 10 acres to be sown.
>
> Abrahall must from the New Year spread on the arable land 8 dozen barrels of lime in every year of the first 3 years.
>
> Ten acres are to be ploughed for barley.
>
> Sir Richard Symons retains the right to stone from the quarry on the land as and when required.
>
> Abrahall must manure the arable land, trench damp ground where needed, and keep it free from bushes, brambles and molehills.
>
> He must use hay and straw and fodder produced in a proper and husbandlike manner. Reserve all fruit trees and plant crabstocks and graft same with good sorts of cider fruit in place of all that shall die on the said premises."

Allowances were given in lieu of rent by the estate for drainage using stone and turf at 1/- and 6d. per perch respectively, for whitewashing buildings, for grafting fruit trees and hauling bark to the Mynde. Old accounts for 1828 show that the quarries on the Saddlebow were still yielding vast quantities of stone for tiles, paving and wallstones, which were used to repair farms belonging to the estate in Orcop, Much Dewchurch and Kilpeck. John Scydemore who worked in the quarries rendered his account as follows:—

"December 10th 1828.

For raising 10,600 of tyles at 10.0 for thousand	5	7	6
"for 125 yards of paving at 4. for yard	2	1	8
"for 66 yards of wallstone that come of the tyles before they could come to the tyles at 6d.	1	13	0
"for rising 530 feet of paving at the Buts quarey at 7.0 for hundred" ...	1	16	11

The probate inventories which are also stored at Aberystwyth provide some indication of the wealth and poverty of some of the freeholders and tenants of the Manor. An inventory of 9th November, 1726, of a Churchwarden of Orcop, Thomas Lambert, shows his wearing apparel to be worth 5/-, his bed and bolster 10/-, three pairs of old ragged sheets and one old blanket 5/-, together with small amounts of oats, peas and hay. Another Orcop farmer, also a Churchwarden possessed, in addition to a considerable sum of money, "1 hanging cross, 4 pewter dishes, 1 dozen pewter plates, and several silver tankards in addition to implements of husbandry." The possession of hogsheads, a large barrel for storing cider, was considered to be a very valuable item. One of the Abrahall family who died in 1735 states in his will that he leaves to each of his 4 sons, "2 hogsheads, 1 good one and 1 indifferent one, share and share alike." He also gave to "30 poor housekeepers the sum of £3 to be distributed at my funeral by my executor. Also the £3.1.0 now in my box to be used for my funeral." His vaulted tomb can still be seen in Orcop churchyard today. Such items as pewter porringers, dishes, beds, bolsters, sheets, wains, tubs, cheese presses and malt mills were all considered of importance.

The Lordship of the Symons family spanned 202 years from 1726 to 1928, although most of the estate property in Orcop was sold in 1916, and during this time the village population had risen to 637 in 1871, and dropped to 406 by 1931. During the Lordship of Thomas Hampton Symons, 1818-1831, the Orcop Enclosure Award received Parliamentary Assent, and many more smallholdings sprang up on Garway and Orcop Hills. The Census of 1851 shows a close knit community with blacksmiths, carpenters, waggoners, laundresses, coopers, millers, sawyers, masons, basket and bonnet makers and shoemakers in addition to its farmers. In 1858 Thomas George Symons gave ½ acre of land adjacent to Orcop Church on which the school was built, and his grandson, Thomas Edward Raymond Symons in 1911 gave land for a vicarage to be erected. Today, with an ever decreasing population of approximately 350, the village has no resident squire, vicar, schoolmaster or policeman; the school closed its doors at Christmas 1964 after having provided education for 106 years to over 2,100 children; both it and the vicarage have now become private dwellings. The village is regarded, quite rightly, as being set in an area of great scenic beauty which unfortunately discourages development. Since this is the pattern of many Herefordshire villages today, it is indeed fortunate that records exist which enable the enthusiastic local researcher to record for the future history of Herefordshire the many different aspects of manorial life that survived, however tenuously, for some 800 years.

Sources.

Wormelow Manuscripts 1 and 2. Hereford City Library. The Mynde Collection. National Library of Wales. *History of the Wormelow Hundred*. J. H. Matthews. Hereford Probate Records. National Library of Wales. Rolls of Court Baron and Courts Leet 1806-1905 for the Manor and Hundred of Wormelow. Hereford Record Office. Census Returns for 1851. Public Record Office.

Mrs. Coleman's dissertation, on which the above is based, has been deposited in the City Library, Hereford.

Reports of Sectional Recorders

Archaeology, 1968

By R. SHOESMITH

Excavations

NEOLITHIC

Dorstone Hill (SO 326423). Excavations on the northern side of the field revealed a buried ditch and bank, and two possible hut floors. One floor was bordered by rows of stones in shallow foundation trenches and the other by a row of stake-holes. Among the finds were a maple-leaf arrowhead and an abraded sherd of black pottery. The excavation was made possible by the permission and co-operation of the Forestry Commission and Messrs. Lewis, Upper Bodcott Farm, Bredwardine, to whom we are most grateful. Also to be thanked are those who helped with the work:—C. J. Dunn (who also supplied some excellent photographs), Miss G. Davies, R. Backhouse, D. F. J. Lewis, F. Noble, and W. Stephens. R. Pye.

IRON AGE

Midsummer Hill Camp (SO 760375). The fourth season of survey and excavation on this Iron Age hill-fort has added to the previous evidence that the camp was permanently fortified and occupied over a long period of time. The completion of work in the southern entrance just north of Hollybush Quarry shows that there were 17 phases of permanent gateway following a temporary closure of the corridor, by a timber stockade during the construction of the defences.

The first permanent gates, perhaps *c.* 300 B.C., had timber guard-rooms within them. After two phases of repair the guard-rooms went out of use and a double portal entrance without guard-rooms was used for the life of two sets of posts. This in turn gave way to a slightly narrower corridor with single gateway at the inner end, a form that lasted for 9 gate-post lives and was succeeded by 4 phases of similar plan but with a bridge forward of the gate. There is no evidence that any construction took place after the Roman conquest and it seems likely that the hill-fort would have been abandoned as a village at the time of the Roman invasion. Within the defences on terraces cut on a steep hill-side further evidence of rectangular buildings of both sleeper-beam and free-post construction were obtained, and from these sites came a number of finds including a clay loom-weight and a re-used Neolithic stone axe.

The excavation was directed by Mr. S. C. Stanford, University of Birmingham, on behalf of the Malvern Hills Archaeological Committee on which the Club and the Worcestershire Archaeological Society are represented.

ROMAN

Ariconium (SO 645241). Field work has produced a map of the Ariconium area, indicating the limit of industrial activity and the positions of ploughed-out building materials.

A rescue dig was undertaken to record the possible remains of a mosaic floor, where quantities of tessarae had been observed in the plough soil. However, the main building was not found due to lack of time. The excavations revealed the robber trench of an external wall, forming a T-junction with the footings belonging to a cross wall. On the old turf line, partly damaged by the erection of the cross wall, were the remains of five bowl furnaces.

Garrod & Moss, Gloucester.

SAXON AND EARLY MEDIEVAL

Hereford City. 1968 has been an important year for investigations into the early history of Hereford. The main sites were as follows:

1 *Kings Head Site* (SO 508399). Described on pp. 348-353 in this volume.

2 *Easter* 1968. A trial machine trench was cut through the rampart in Victoria Street in preparation for the major excavation in June. Bastion Number 6, just north of Eign Gate, was located and the footings excavated. Enough stonework remained *in situ* to show the curve of the bastion. The site is now covered by the new ring road.

3 *Victoria Street* (SO 507399). A major excavation, directed by Philip Rahtz, was undertaken on the Western Defences in Victoria Street. The result was one of the best sequences which has been demonstrated for any Saxon Town in this country.

Seven periods can be postulated; the first two earlier than the town followed by five defensive phases.

Period 1. Prehistoric. A scatter of postholes, a gully and a possible ditch produced no finds except flint flakes and a barbed and tanged arrowhead.

Period 2. Possibly 5th to 7th Centuries A.D. Two large corn drying ovens with large lateral flues, built of re-used Roman stone, including two altars. The floor was of massive wattle and daub and there was much carbonised grain and two knives found.

Period 3. Probably Early Saxon (7th to 8th Centuries A.D.). A small bank and ditch possibly no more than a boundary, or may be the marking out feature for a small rampart.

Period 4. Probably middle Saxon (8th-9th Centuries A.D.). A gravel rampart of which the back only survives.

Period 5. Probably Late Saxon (Early 10th Century). A turf, clay and peat rampart, derived from surface clearance of a marshy area. A timber wall was set in a substantial slot at the front whilst upright timbers were placed at three foot intervals at the back. The rampart was laced with large branches, placed at

random at various levels, and there are traces of lateral timbers at the rear. The whole was capped with a stone wall, lightly mortared, of re-used Roman materials, including millstones. The wall probably stood at the rear of a flat crest. Pottery, found in levels accumulating on the back of the rampart included Chester Ware and a previously unrecorded ceramic, possibly a French import.

Period 6. A gravel rampart, overlying the much degraded remains of period 5, which was derived from a large ditch.

Period 7. Late 12th or 13th Century. The stone wall and bastions were inserted into 6.

During the period of this excavation, trenches dug for a subway revealed the turn to the east of the line of the Period 4 and 5 ramparts, with their associated ditch. The period 7 wall, and probably the period 6 rampart, continue north to enlarge the town.

4 *Wall Street. The Brewery Site* (SO 507402). A machine trench behind number 6 Bastion suggested a long occupation in this area, and an emergency excavation was mounted prior to roadworks. Five periods are suggested:

Period 1. Saxon or Dark Age. This comprised two gullies and a pit and included two ditches. No pottery was found.

Period 2. Features with only Chester Ware and Stamford Ware. These included several large postholes and a timber slot at the south end of the site. There was evidence of metal working, including a furnace cut into the fill of the period 1 ditch with two flues and a central 'fire box' with a complex baffle system. Pottery included a complete profile of a Chester Ware vessel.

Period 3. Features with Chester Ware and other Saxo-Norman Pottery. These were immediately pre-rampart and the pottery was in a black occupation dirt with further evidence of metal working. Part of a burnt timber building was found which extended under the rampart. A series of large cess and rubbish pits containing vast quantities of animal bones were also present.

Period 4. The Rampart. This was removed by machine and showed in section as alternate bands of clean gravel and re-deposited natural clay.

Period 5. Post-Rampart Features. This included several pits and gave evidence of continued metal working on the site, until at least the 14th century. Finds included a button mould and the mould for a dagger pommel, as well as a finely carved piece of bone representing a castellated tower which may be an unfinished chess piece. Three large unfired circular clay moulds some three feet in diameter but only two inches deep were also found.

The excavations show clearly that settlement at Hereford had extended into this area in the tenth century, but leave open the question of the dating of the north defences.

Hereford Excavations were carried out with Ministry of Works' grants, under the auspices of Hereford Excavations Committee and directed by Philip Rahtz, Margaret Gray and Frank Noble.

Archaeological Research Section Report For 1968

MEMBERSHIP of the group continues to increase, although this increase does not appear to be reflected in the attendance at field meetings. The Newsletter of the Group has maintained its position, and continues to keep members up-to-date with all Archaeological News in the county.

Although inspection of scheduled and unscheduled monuments had to be curtailed due to an outbreak of Foot and Mouth disease, the indoor meetings of the group were well attended.

Field meetings have been wide ranging, but the attendance has been rather disappointing. In March a number of earthworks in the Kentchurch area were investigated whilst in May a number of Deserted Medieval Villages in the Preston Wynne vicinity were visited. It is hoped that the interest shown by members in D.M.V.s will lead to more comprehensive field work.

Two working weekends held in the Woolhope Club Room during the winter were well attended and the Club series of 6 inch maps were marked with all the scheduled monuments.

The group A.G.M. was held in June when the following officers were elected:

Chairman: Miss R. E. Hickling

Secretary: Mr. R. Shoesmith

Dep. Sec.: Mr. A. Greenhill

Meetings Sec.: Miss M. Thomas

Treasurer: Mr. L. Skelton

Committee: Mr. P. Leach, Mrs. I. M. Slocombe.

It was followed by an interesting and informative lecture by Philip Rahtz on 'Greek Easter 1968'.

Hereford City Museum
Archaeological Report 1968

By P. J. LEACH

MUSEUM ACCESSIONS

8788 Silver Long Cross 1d. Canute (1016-35) Hereford Mint, moneyer ODRIC. Purchased.

8799 Medieval pottery and small finds 11th-14th century from Hampton Wafer deserted medieval village N.G.R. 577570. *T. Woolhope N.F.C.* 1957, pp. 337-344. Final report *T. Woolhope N.F.C.* 1967, pp. 71-92.

8803 Seven Roman coins from an orchard at Credenhill N.G.R. 449438.
1 silver denarius JULIA DOMNA 173-217 A.D.
1 bronze antoninianus PROBUS 276-282 A.D.
1 bronze antoninianus TETRICUS I 270-273 A.D.
2 bronze antoninianus CONSTANTIUS II 337-361 A.D. (London Mint).
2 indecipherable bronze coins 4th century.

8804 Medieval and post-medieval pottery from the city wall area Bath Street car park excavated 1967. Hereford City Excavation Committee.

8834 Medieval and post-medieval pottery and small finds from contractors' excavations 1965-66, Littlewoods, High Town, Hereford.

RECORDED FINDS FROM HEREFORDSHIRE

A Neolithic flint working site and probable occupation indicated by a concentration of implement and flake finds from Vowchurch Common. N.G.R. 372382. The enthusiasm and interest of pupils at the Fairfield County Secondary School, Peterchurch, has been responsible for the discovery of this new prehistoric site in the Golden Valley. 50 or 60 flakes and chips plus a dozen or so implements have so far been recovered and are at present kept at Fairfield School. Seven are illustrated, all actual size.

1 Large light and dark grey blade with patches of cortex. Flaked as a knife or chopping tool. Length 7.3 cms. x width 3.8 cms.

2 Well formed blade flake knife of blue-grey flint with a large cortex patch. Length 7.1 cms. x width 3.4 cms.

3 & 4 Two small flake knives of mottled grey flint. 3 snapped off, length 2.8 cms. x width 2.3 cms. 4 flaked as a point, length 2.9 cms. x width 1.8 cms.

5 Dark grey leaf-shaped arrowhead with tip broken. Length 2.1 cms. x width 1.4 cms.

6 White finely flaked leaf-shaped arrowhead. Length 3.1 cms. x width 1.4 cms.

7 Grey leaf-shaped arrowhead. Length 1.9 cms. x width 1.3 cms.

Three interesting discoveries of Pre-Roman Iron Age coins in the county have come to the attention of the museum this past year.

(i) The first was found in April near the line of the Roman Road at Stretford Bridge. N.G.R. 439558. The coin was identified as a Dobunnic gold stater in good condition.

OBV. Branched emblem resembling a degraded ear of corn.

REV. Disjointed triple-tailed horse to the right with a wheel below; CORIO inscribed above preceded by a crescent; pellets and small crosses in the field.

This is the third recorded discovery of a Dobunnic inscribed stater in Herefordshire. The two earlier examples are both from Leominster; one found in 1866 and recorded in Evans p. 494 is now in the British Museum, the other is in the Fitzwilliam Museum but its discovery date is unknown. Both are inscribed EISU.

The Corio stater is a recognised type occurring most frequently in the south and western parts of the Dobunnic tribal region. It is expected that the museum will shortly be in a position to purchase this coin.

(ii) The second coin is an uninscribed Dobunnic silver coin from Ariconium (Weston-under-Penyard). This was actually found in 1960 and is at present on loan to Hereford Museum.

OBV. Face to right with a pupil, raised crescents representing the hair and pellets marking the forehead.

REV. Three petaled flower and stem (originally a cock's head) beneath a horse prancing left.

(iii) The third coin is a damaged gold ¼ stater also from Ariconium, found in 1968 and at present in private hands. This piece is apparently an issue of the Regni, a Belgic tribe in and around Sussex. Dobunnic coinage is apparently connected to some extent by coin types to this area, and ¼ staters particularly are very similar in design. The likelihood of such a coin coming to light in this area is reinforced by an earlier discovery at Ariconium of an inscribed ¼ stater also from Sussex.

OBV. Blank or possibly with traces of an Apollo head.

REV. Triple-tailed horse to right, large sun emblem above and bird with head turned back below.

Note.

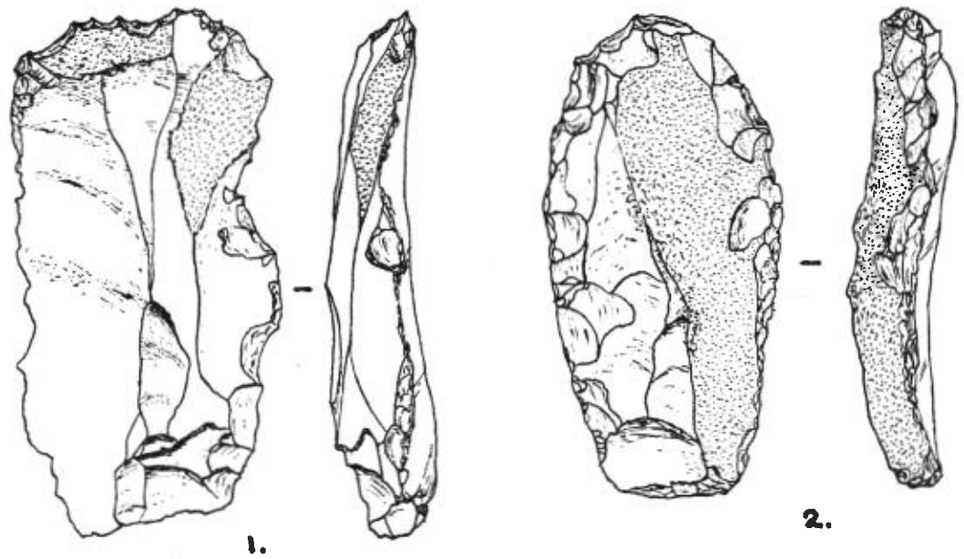
For further details and illustrations see *'The Coinage of Ancient Britain'* — R. P. Mack.

Also *'Bagendon, A Belgic Oppidum. Excavations* 1954-56'—Elsie M. Clifford.

The Bagendon report gives details of all recorded pre-Roman coinage from Herefordshire, Dobunnic or otherwise, excepting of course the two latest finds.

REFERENCES

(i) Mack 393. *Bagendon* p. 110 and p. 122.
(ii) *Bagendon* p. 104(5) and p. 122.
(iii) Mack 68 compare with 394. *Bagendon*, p. 104(2).



Botany, 1968

By F. M. KENDRICK

THIS is the first time for many years that I have not been able to report at least one new record for the county. The only two records of note are:

Lycopodium clavatum (Fir Club Moss). This was discovered on the north face of Coles Hill near Presteigne. It is an old record but is interesting because the plant is extremely rare in the county. I found it in the Olchon Valley some ten years ago but have not seen it since. Other recorded stations have failed to produce any specimens.

Impatiens parviflora (Small Yellow Balsam). Reported from Kingswood. Several records have been reported from sites further down the Arrow in former years so it would appear that the seeds are being transported by the river.

Dialect, 1968

By MRS. W. LEEDS

THIS report is concerned chiefly with the dialect and folklore of school children. The greatest number of contributions came from some Herefordshire primary schools in answer to a questionnaire.

For "Dipping" or Counting-out rhymes most children know the ancient "eeny, meeny, miney, mo" but the favourite at present seems to be "one potato, two potatoes" up to seven potatoes before the final words "Out goes he/she." On the Welsh and Monmouthshire border the following is said:

"Dip, dip, my little ship
Sails across the water
Like a cup and saucer
Dip, dip, This one's out".

For Skipping rhymes most children know "sleigh bells, cockle shells, eevy ivy, over" but the succeeding lines vary greatly in different districts. In the Ross area children skip to a rhyme beginning "Little fat doctor", which must be well over 100 years old.

Orleton primary school made a tape recording of many of their games and words including tongue-twisters such as:

"Sixty-six sticky thick thistle sticks"
"Three geese in Greece are hard to fleece"
"Thomas tied twine to three tree twigs"

Customs for special days such as April Fool's Day, Bonfire Night with its petition "Please to remember the fifth of November" and the singing of carols for money before Christmas still survive but those for Valentine's Day, Oak Apple Day and May Day seem to have disappeared.

Children are very superstitious. They consider it bad luck to carry a spade into the house or to open an umbrella there, to put new shoes on the table, to cross knives or forks, to break a mirror, to see the new moon through the window, to point at a rainbow, to walk under a ladder, to kill a money-spider.

Entomology, 1968

By H. G. LANGDALE-SMITH

It has been a very uneventful year for butterflies, very few migrants appearing.

A Comma was seen on March 22nd and a few Tortoiseshells appeared in April.

It was a cold May and June on the whole, but a few Pearl-bordered Fritillaries and Wood Whites were seen.

In July a few White-letter Hairstreaks were seen, but only in one of their usual several localities.

A Silver-washed Fritillary has been reported to me from near Builth Wells.

In August, the following were seen in Haugh Wood, Gatekeeper, Comma, Wood Argus, Green-veined White and Ringlets.

No Silver-washed Fritillaries were seen.

In September and October the following were seen, but in small numbers, Small Copper, Painted Lady, Tortoiseshell, Wall, Peacock, Red Admiral.

As to moths, very few appeared except the Gamma Moth.

No Burnet or Cinnabar were seen in their usual localities.

Mammals, 1968

By C. W. WALKER

I WOULD be failing in my duty as reporter on mammals if I did not draw the attention of the club to the serious drop in numbers of the otter in the Wye and its tributaries. The otter has become very rare in many parts of England. This trend has become obvious in our local river system over the last fifteen years or so, and has been accelerated within the last five or six years. At the present rate of diminution in numbers we shall have lost the otter entirely within the next ten years. At one time the otter was regarded as vermin, and it was thought necessary to control its numbers rigorously. This attitude has long been out of date. Riparian owners and occupiers and all others interested in our rivers, including anglers and fishery conservators, are now unanimous in regarding the otter as a harmless and attractive creature. No one now grudges it its diet of eels, chub or even the occasional salmon or trout.

Ornithology, 1968

By C. W. WALKER

THAT newcomer from the east, the Collared Dove, continues to spread over the county, and last summer nested in various places. Meanwhile the Turtle Dove, though still present, is dwindling in numbers. It seems unlikely that these two tendencies are in any way connected. There has been a marked improvement in the numbers of those riverside birds which suffered so badly in the severe winter of 1962-63. I refer to such species as kingfishers, wagtails, herons and moorhens, all of which have steadily gained in numbers through the last five seasons. Another species which has gained ground is the kestrel, while the sparrow-hawk continues to be very scarce. Three or four pairs of sparrow-hawks did, however, succeed in nesting in the county in 1968. Our rarest hawk, the Hobby, also nested successfully, this time in a totally new area in east Herefordshire.

A flock of Bewick's swans again wintered on the Wye between Whitney and Llyswen: this has now occurred for eight successive years.

A nature reserve for waterfowl has been established through the purchase last June of Titley Pool by the Herefordshire and Radnorshire Nature Trust. Here it is hoped to promote the breeding of the Great Crested Grebe, wild duck species and other waterfowl.

Another effort in conservation appears to be achieving its object. The Blackcock, whose loss as a Radnorshire bird appeared to be imminent, appears to be gaining in numbers on the reserve area granted to our Nature Trust in the north of that county by the Forestry Commission (North Wales Conservancy).

Vernacular Buildings, 1968

By J. W. TONKIN

THIS year has been made notable by the visit of the Vernacular Architecture Group which held its annual conference in Hereford from 2nd to 6th April and visited a number of houses and villages in Herefordshire. There is further reference to this later in the report.

Recording has gone on steadily throughout the year and the Recording Group has met regularly. As in previous years we feel we owe a great debt to the University of Birmingham and the W.E.A. for encouraging this work.

Of six cruck buildings recorded during the year five were previously unrecognised as being of cruck construction. The most important of these was the five-bay barn at Kingsland. Three base-crucks were discovered during the year, all previously recorded but not recognised as being base-crucks. Farmhouses form the bulk of the year's work and vary in date from medieval times to the 19th century. Only one building has been noted in Hereford and that only briefly, but a number have been recorded in Ledbury. Some new light has been thrown on mouldings and on the four-room plan which seems to occur in some 17th-century houses.

In the notes below information already published in the R.C.H.M. Inventory has not been repeated, but in some cases the two need to be read together.

HEREFORD

9 EIGN STREET. SO 508400 (R.C.H.M. 64)

Now demolished. It was interesting to see two distinct ages of building. That back from the street appeared to be the earlier and perhaps marked the early line of Eign Street. It was of three storeys with a through-purlin roof and V-struts and probably of 16th-century date. The front and later part was mid-17th century with ovolo-moulded beams in each of two rooms on two floors.

DILWYN

SWANSTONE COURT. SO 442531 (R.C.H.M. 5)

This fine farmhouse has a pair of base-crucks still *in situ* where they stood as the base of the central truss of the hall. The moulding is apparently of late 14th-century date. The end truss in the hall with quatrefoil panelling is of an aisled type. In the 18th-century hall roof there are re-used timbers with quarter-round mouldings. These appear to have been posts and could perhaps have been from a spere truss.

In the wing some 16th-century murals have been uncovered.

The present kitchen appears to be an earlier external kitchen facing the screens-passage and now joined to the house by a passage.

EWYAS HAROLD

HOUSE NEXT TO LOWER HOUSE FARM. SO 389284.

In the course of modernisation this apparently 18th-century stone house turned out to be a much earlier cruck building, perhaps of the 16th-century. The lower part of one cruck remained, but the purlins of the original roof are still *in situ* in the stone south wall. This is a previously unrecorded cruck house.

KINGSLAND

OLD HALL BARN. SO 439617

A previously unrecorded cruck barn of five bays. Most of the construction is of elm. There are curved wind-braces and short-curved braces to the collar-beams.

LEDBURY

16, 17, 18 & 19 CHURCH STREET. SO. 713377

This and the next two items were recorded before demolition.

These four houses appear to have been one timber-framed three-part early 17th-century house of two storeys with a cellar under the parlour. In the 18th century a brick front was added and the roof was raised to give an attic storey.

20 & 21 CHURCH STREET. SO 713377

Originally one timber-framed two-room plan house of two storeys. A passage ran from the street through to the back with the first-floor room built over it, a typical town feature. In the late 18th century the roof was raised to give an attic storey and a brick front added. The roof of this new storey has one truss of the upper jointed-cruck type. At the same time or a little later the house was divided into two and a scullery and bedroom added at the back of each of the cottages so formed.

22 & 23 CHURCH STREET. SO 713377 (R.C.H.M. 62)

Originally a very similar house to 20 and 21 with an alleyway. A lean-to was added at the back early in the 18th century and a corner fireplace inserted in the unheated room at the same time. No. 23 seemed to have had a store on the upper floor at some time, the floor being of heavy, rough, load-bearing timber and a blocked opening in the wall indicating where goods had been hoisted from the street.

LEDBURY RURAL

WILD HOUSE FARM OUTBUILDINGS. SO 713370

A 19th-century range of stone and brick, stone to seven feet high and brick above. The roof, all of the same age shows three different types of construction

depending on use. In the granary over the main house and the loft over the byre are the usual king-post roofs of the period, the barn has queen-post trusses with collar and tie-beams, and in the loft over the stable are upper-jointed crucks.

LEINTWARDINE

MARLOWE. SO 400765 (R.C.H.M. 5)

The stripping of the roof enabled an examination of its timber to be made. Basically this is a timber-framed house of the late 16th or early 17th century, possibly built in two stages and partially encased in rubble. The roof is certainly of two periods, one part with long-scratched carpenters' assembly marks and the other with short, deep marks. There are 18th and 19th-century additions to the original L-shape.

MARDEN

WISTESTON. SO 518488 (R.H.C.M. 5). See *T. Woolhope N.F.C.*, Vol. XXXVIII (1966), p. 266.

Further examination of this building shows that what appeared to have been a base-cruck is probably a full cruck cut down and re-used.

ORCOP

OLD HALL BARN. SO 463257

A previously unrecorded cruck barn of three bays. The crucks are very heavy, 2 feet 2 inches "at the elbow" and appear to be of elm. The building was originally hipped, presumably for thatch.

STONEY FARM. SO 451253

Another previously unrecorded cruck barn. In this the timber used is oak.

STRADWAY FARM. SO 465276

A very interesting, previously unrecorded, four-room plan house of parlour with gable chimney, hall with lateral chimney, dairy and cider-room with external kitchen facing the doorway which opens into a lobby formed between hall and cider-room, and one wall of the dairy.

It appears to be a 17th-century house encased in stone in the 19th.

PEMBRIDGE

HOUSE at top of BRIDGE STREET. SO 391582 (R.C.H.M. 48)

This house was being restored and the opportunity was taken of examining it thoroughly. It consisted of parlour, hall, screens-passage and lean-to service-room down the hill at a lower level from the other rooms. The room over the hall was

originally an open chamber with an arch-braced collar-beam roof which was later ceiled and divided. The service-end is weather-boarded instead of having wattle-and-daub panels.

PENCOMBE

MAIDENHYDE. SO 568548 (R.C.H.M. 13)

A house, now empty, which needs a detailed study. It looks as though there may have been a small stone house here to which was added a timber-framed wing, with more stone extensions in the 17th century, and finally 18th-century additions. A three-light window with diamond-shaped mullions is still *in situ* in the attic gable.

PRESTON WYNNE

COURT FARM. SO 557470 (R.C.H.M. 2)

An opportunity to examine both sides of the central truss recorded previously as being of cruck type revealed that it is a base-cruck truss, a much more unusual form of building.

TYBERTON

EYNONS FARM. SO 381397 (R.C.H.M. 2)

Three previously unrecorded cruck-trusses remain in this house. It appears to have been originally a two-bay open hall with cross-wing and has a fireplace which was apparently inserted quite early.

WEOBLEY

TUDOR HOUSE. SO 401517 (R.C.H.M. 21)

Here as at Court Farm, Preston Wynne, the central truss of the hall proves on examination to be of base-cruck type. Another interesting feature is that the screens-passage is actually in a cross-wing not in the hall, an unusual feature borrowed from town buildings.

WIGMORE

YEW TREE COTTAGE. SO 411690 (R.C.H.M. 19)

A much more interesting house than it at first appeared to be. A stripping of the plaster enabled a thorough examination to be made. The parlour had close-set timber-framing in the gable and was unheated.

The original entry appears to have been in the gable by the chimney and from the fact that the truss above shows no sign of weathering it seems as though there was some sort of room beyond this. In either case the house continues the ideas of the long-house tradition. This is now the third of this type found in the village of Wigmore.

YATTON

DEAN'S PLACE BARN. SO 637314 (R.C.H.M. 3)

This barn incorporates a house at one end built on a two-room plan with well-chamfered and stopped beams and two windows with diamond mullions. The ground-floor room next to the barn now incorporates a cider-mill.

Of the above houses those at Linton and Whitbourne were recorded by the group, those at Ledbury by Mr. Inett Homes and at Yatton by Miss R. Hickling. Swanstone Court and the house at Pembridge were recorded by the writer, his wife and Mr. Perry, the houses at Orcop by the same pair and Mr. and Mrs. E. J. Coleman, and those at Ewyas Harold and Wigmore by them and Mr. and Mrs. Keely and at Preston Wynne by them and Mr. Homes. Anything else was recorded by the writer and his wife.

It will be many years before the Vernacular Architecture Group meets again in Herefordshire for it only visits one county, or part of a county, each year. In the group are members of the R.C.H.M. and R.C.A.M. (Wales), and the Ministry of Works, some of the leading university personnel in this field, well-known writers on the subject and architects and historians who have specialised in vernacular building. It is nearly forty years since the R.C.H.M. inventory for Herefordshire was made and in that time much has been learnt about smaller buildings. Below is a list of houses visited and where the comments of the group differed from or added to those in the R.C.H.M. volumes they are given briefly here. Volume and page numbers given below refer to *Transactions Woolhope Nat. Field Club.*

HEREFORD

BOOTH HALL. SO 511399 (R.C.H.M. 21) (1918), pp. 165-170

BULMER'S VAULTS. SO 509401 (R.C.H.M. 70) (1939), pp. v-x

OLD HOUSE. SO 511400 (R.C.H.M. 17)

POOL FARM. SO 506392 (R.C.H.M. 116) XXXVII (1965), pp. 162-3

CRASWALL

WHITE HAYWOOD. SO 293341 (R.C.H.M. 12) XXXIX (1967), p. 165

Probably all of one build. Parlour really performed function of hall and room in hall position a kitchen. Room below the passage a dairy. In the long-house tradition.

EYTON

THE MARSH. SO 476613 (R.C.H.M. 3) XXXVIII (1966), p. 265

The hall is probably early 16th-century.

Marsh Granary. Brick building, probably 19th century with two big upper-cruck trusses on second floor.

KINGSLAND

OLD HALL BARN. SO 439617 (See above)

LEINTHALL STARKES

OLD FARM. SO 434695 (R.C.H.M. 7) XXXVIII (1965), p. 165

From the pattern of the framing it seems likely that there may have been an earlier hall on the east. The present house seems to have been built against an already existing building.

LLANVEYNOE

BLACK DAREN. SO 296303 (R.C.H.M. II) XXXIX (1967), p. 166

Probably 15th century.

BLAEN. SO 278333 XXXIX (1967), p. 167

Probably late 18th century.

OLCHON COURT. SO 279326 (R.C.H.M. 25)

A big type of long-house and used as such within the memory of the present owners. From the time of its 17th-century additions it comprised a long range with living-room, service-room, kitchen, cross-passage and byre.

LONGTOWN

OLD COURT. SO 338302 (R.C.H.M. 5)

The manor house is probably early 15th-century, and the other house on the site probably mid-17th century. It appears to have been a two-room plan house with attics. At some time there has been a stairway in the house by the partition between the rooms as well as the external one.

MARDEN

AMBERLEY COURT. SO 546478 (R.C.H.M. 4)

Probably early 15th-century. Very interesting as being of base-cruck construction, cf. Court Farm, Preston Wynne and Tudor House, Weobley above.

PEMBRIDGE

GLAN ARROW COTTAGES. SO 390583 (R.C.H.M. 46)

An early 16th-century house (now two cottages) with an open great chamber on the first floor with a stub-tie-beam central truss. In some respects this house is similar to the one at the top of the street mentioned earlier in this report. The upper storey has been almost completely rebuilt at some time but apparently using the original timbers and in its original form.

BRIDGE COTTAGE. SO 390584 (R.C.H.M. 47) XXXIX (1967), p. 168

WEOBLEY

AROHA. SO 400518 (R.C.H.M. 16) XXXIX (1967), p. 169

Interesting as having its screens-passage in the service-bay (cf. Tudor House, Weobley, mentioned above). This and houses in High Street and Portland Street are of typical town-house plan.

DAIRY FARM. SO 400518 (R.C.H.M. 14)

Probably 15th-century.

PARKFIELDS. SO 402519

Not mentioned by the R.C.H.M. A typical two-room plan house of about 1625 with a gable chimney and a stairway by the central partition. A timber-framed and slightly smaller version of the second house at Old Court, Longtown.

WIGMORE

COURT BARN COTTAGE. SO 413690 (R.C.H.M. 10)

A one-up and one-down cottage of the late 17th-century. A very early surviving example of a true cottage.

FORD COTTAGE. SO 416690 (R.C.H.M. 8) XXXVIII (1966), p. 166

A blocked doorway west of the chimney showed the site of the original screens-passage. Typologically this house should be classed with the long-house. It consisted of a longe range comprising parlour, hall, cross-passage, service-rooms.

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