THE MONMOUTHSHIRE ANTIQUARY

ESSAYS IN HONOUR OF JEREMY K. KNIGHT

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The cover illustration is of the steelyard weight amongst the finds of Jeremy Knight's excavations at Montgomery Castle (*Arch.Camb. CXLII (1993) p.192, fig 5*). Reproduced by permission of the Editor of *Archaeologia Cambrensis*.

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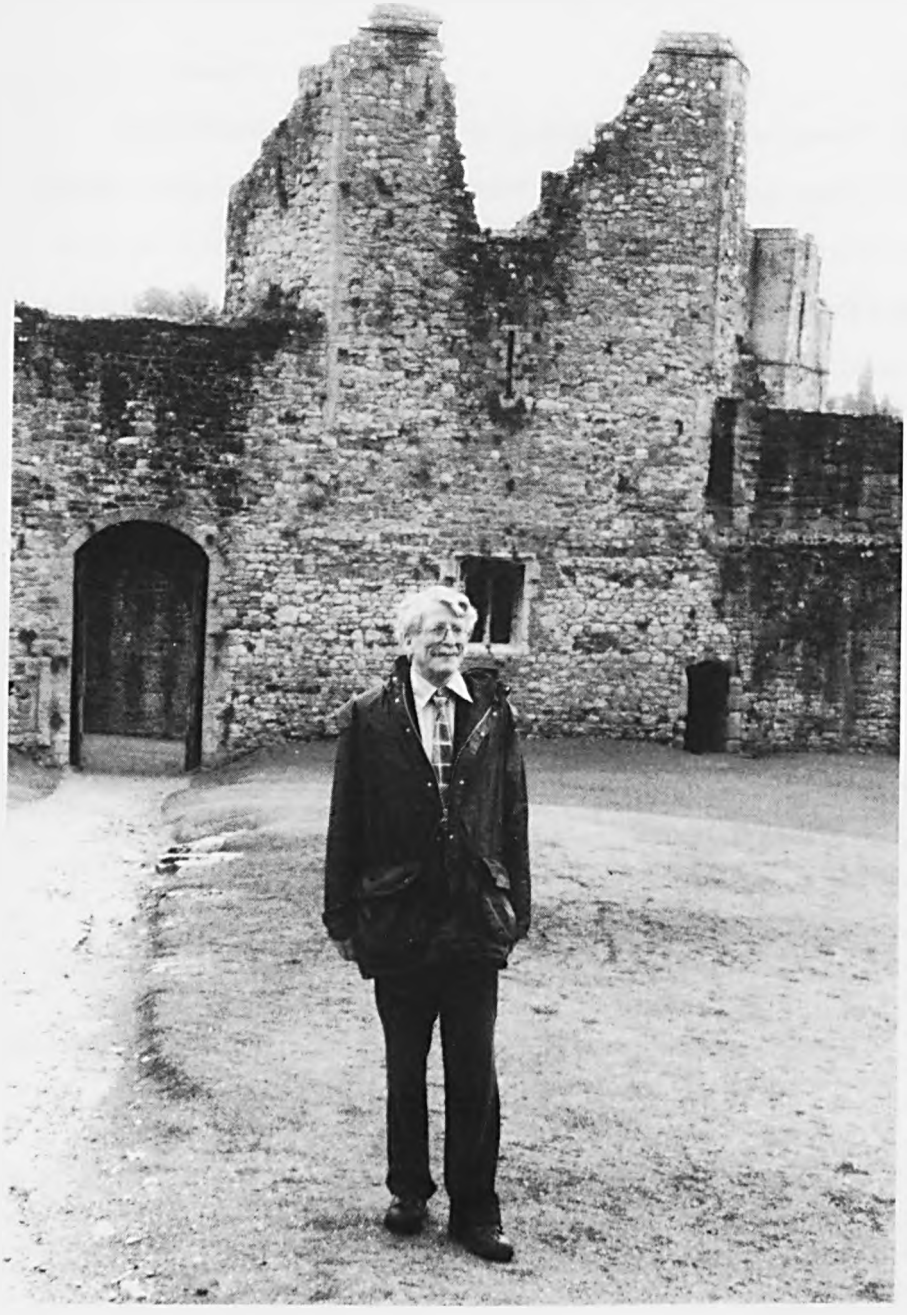

Mr Jeremy Knight at Chepstow Castle, September 1995.

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MEMOIR

By RICHARD AVENT

For the young archaeologist, directing his first excavation, it was an important day. Sections were straightened and new areas trowelled. An Inspector of Ancient Monuments was coming from Cardiff to visit Anglesey's newly discovered early Christian cemetery.

However, the visitor, who arrived on site that day in 1971, was not quite what the excavator had expected. This was no be-suited, grey haired, civil servant, expecting to be treated with respect and deference. Instead the excavator was faced with a duffle-coat clad, lean, friendly man, with an unmanageable shock of hair. The Inspector readily shared his wealth of knowledge of the early Christian period with the excavator. By the end of his visit, the date, form and purpose of the cemetery were much clearer. On the point of leaving, the Inspector paused by a partially buried recumbent stone and offered his last piece of advice: "When you turn that over, you may well find an inscription". Two days later, the excavator turned the stone over and, lo and behold, there was an inscription. The Inspector was not only wise, he could see through stone! Never had the Inspectorate of Ancient Monuments and its ambassador to the north, whom you will have recognized as our Association's Chairman, Jeremy Knight, been held in greater esteem!

But I have jumped ahead, for this memoir should start with Jeremy's early years in Caerleon. He was educated first at the Charles Williams Endowed School and later at Jones' West Monmouth Grammar School in Pontypool. It was whilst still a schoolboy that he was first introduced to the art of excavation by V.E. Nash-Williams when he took part in the National Museum of Wales' excavations in Caerleon. By now hooked on archaeology, it was a logical step for Jeremy to move on to Cardiff University where he came under the tutelage of both Nash-Williams and Leslie Alcock. Following the death of Nash-Williams, he was to witness the end of the joint teaching arrangements between the National Museum and the University and the beginnings of what was later to become the Department of Archaeology at University College, Cardiff. The thought of a year consisting of only three archaeology students would cause an apoplectic fit in certain quarters in this day and age, but in the mid-1950s, in a subject such as archaeology, this was par for the course.

In 1960 Jeremy was recruited to the Inspectorate of Ancient Monuments in, what was then, the Ministry of Works. He was one of the first non-Oxbridge graduates to join the illustrious ranks of the Inspectorate. Over the next five years he was to travel the length and breadth of England undertaking the wide range of duties that fell to the lot of an Assistant Inspector. One day he might be scheduling a Bronze Age barrow in Wiltshire and the next advising on the conservation of a medieval castle in the Midlands.

A turning point in Jeremy's career came about during the Royal Archaeological Institute's summer meeting at Cheltenham in 1965. Whilst guiding members around the very southernmost end of Offa's Dyke, Jeremy was asked by the then Inspector for Wales, Oswin Craster, whether he would like to transfer from England to Wales. Craster had spent several years in Wales, during which time he greatly expanded the Schedule of Ancient Monuments, but he wanted to return to England to be nearer his family home in Northumberland. Craster was to be replaced by Michael Apted, and his former assistant, John Lewis, was to take up a post at the National Museum of Wales. Jeremy was interviewed by Mike Apted as the RAI conference made its stately progress from site to site along the border. By the time they had reached Tewkesbury on the last day, all was settled; Jeremy was to return to Wales after an absence of five years.

In 1965 the well-being of over 100 monuments in State care, along with a further 2,000 scheduled ancient monuments, was managed from a small office in Cathedral Road in Cardiff by two inspectors, two architects, one superintendent of works, two draughtsmen and three administrators. It soon became clear to Mike Apted that his new colleague, excellent in every other respect, had a drawback. In the post-Beeching era of shrinking railways, when a car was increasingly necessary, particularly in Wales, Jeremy still did not drive. This had to be rectified. In true Civil Service tradition, Apted had a new buff-coloured file opened. On its cover it carried the legend, "Mr Knight - Driving Instructions". The file survives to this day, buried deep in Cadw's registry. On it, there are just two sheets of paper. After a brief exchange of minutes, the file was stamped, "Closed - no further action to be taken in this file".

Jeremy's reluctance to drive was to prove a blessing in disguise for, when the responsibilities of Inspectors were regionalized in 1969, he, inevitably, ended up with south-east Wales and his much-loved Monmouthshire. In addition to expanding his archaeological knowledge of the area, he was to become a master of its rail and bus timetables. Built up over so many years, his truly remarkable knowledge of the archaeology of Glamorgan, Monmouthshire and the southern end of what was later to be known as Powys, has never ceased to amaze friends and colleagues. Neither is this "closet" knowledge; it is knowledge which Jeremy is always prepared to share with others. His generosity over the years has established many a young aspirant on the first rung of an archaeological career.

No-one working on the archaeology of Roman Caerleon and Caerwent, in particular, would embark on a study of those areas without first going to see Jeremy. Indeed, his knowledge of Caerleon would put him in a particularly advantageous position were he to decide to supplement his income in retirement as an archaeological consultant to developers. I can well recall an incident a few years ago where a private owner, faced with the not insubstantial cost of an archaeological assessment on her property in Caerleon, appealed to Cadw for advice. Could Cadw do something, help with cost perhaps, whatever. Jeremy took one look at the case. "Oh, I know this site, it was dug by X in year Y and has 8 inches of topsoil above the archaeology....", etc. The turf never had to be broken by the spade and a happy property owner was left, like the young archaeologist on Anglesey, to marvel at her good fortune.

Not long after he joined the Inspectorate in Wales, Jeremy took over excavating at Montgomery Castle from his predecessor, John Lewis, excavations he was to continue until 1981. One has only to look at the "Acknowledgements" in Jeremy's recent report in *Archaeologia Cambrensis* to be reminded that these thoroughly professional excavations were very much a family affair, drawing in numerous friends from Ireland and the Continent. Each summer, the Knight family would decamp to the middle March. As the children grew older, an ability to wield a trowel became essential. The older they became, the more sophisticated the task with which they were entrusted until, by the closing years of the excavation, Delia, Jeremy's eldest daughter, was in charge of processing all the excavation finds. Behind this, as with all Jeremy's ventures, was his wife Marion, who died so suddenly and tragically in 1992. Her warmth and kindness was something that no-one who met her could ever forget. The door of 21 Warren Drive in Caerphilly was always open to friends and visitors from wherever and whenever they came. Her death left a terrible void not only for Jeremy and the girls, but also for all her friends.

Jeremy's excavations were not just restricted to Montgomery; in the late 1960s and early 1970s he was also to be found digging at St Baruch's Chapel on Barry Island, Tre Oda castle mound, Tintern Abbey and at the castles in Brecon and Skenfrith. All produced medieval pottery, further nurturing his long-standing interest in that subject. A founder member and long-serving chairman of the Welsh Medieval Pottery Research Group, Jeremy is never happier than when faced with a tableful of what to most of us would be an unsortable and unfathomable cocktail of shattered sherds. The glasses come off as he peers intently at a broken edge seeking out the diagnostic grit or fleck of mica which will allow him to home in on the origin of the sherd. Before you know what has happened, the fragment has become a jug full of oil or wine, once stowed in the hold of a vessel plying the seas between south-western France and Bristol.

Jeremy's work at Montgomery was rewarded by the discovery of the most important collection of armour to be found in an archaeological context in Britain. Six hundred fragments, dating back to the middle of the sixteenth century, were found in the seventeenth century fill of the castle's inner ditch. These and the rest of the finds from the excavation were written up by Jeremy and published in *Archaeologia Cambrensis*. Unlike most modern excavation reports, which rely heavily on an extensive range of specialists, the entire "Finds" section, with only one or two minor exceptions, was written by the author.

The "Ministry" guide is widely regarded as the authoritative account of the history and architectural development of monuments in State care. Traditionally, the majority of these have been written by Inspectors of Ancient Monuments. It is, however, unusual to find such a concentration as we have in Gwent being written by one person. From Jeremy's pen have come the guides to Blaenavon Ironworks, Caerleon Roman Fortress, Runston Chapel and Chepstow, Grosmont, Skenfrith and White castles. To these can be added the excellent accounts he has published elsewhere on Newport and Usk castles. As an aside, it is pleasant to record that the three other Cadw guides to monuments in Gwent (Tintern Abbey, Caerwent Roman Town and Raglan Castle) which have not been produced by Jeremy have, nevertheless, been written by members of this Association.

In modern jargon, Jeremy is a communicator. His guides are what the publishers' blurb would refer to as "a good read". The text flows effortlessly from the page, whether describing the disparate parts of Roman Caerleon or the lives of ironworkers living in Stack Square at Blaenavon in the middle of the last century. As members of this Association will know from their own experience, Jeremy's skill as a communicator is not restricted just to the written page. He is also a fine lecturer, totally engaging his audience, whether in the darkened room or on a rainswept hillside.

The range of subjects covered in his guidebooks is a pointer to the broad scope of Jeremy's interests. In the 1970s, the Welsh Inspectorate was at the forefront of state industrial archaeology. Bryntail leadmine, immediately beneath the Clywedog Dam was the first industrial site to be taken into State care in Britain. It was soon to be followed by the Slate Quarry Workshops at Llanberis, Blaenavon Ironworks, and Dyfi Furnace south of Machynlleth. Jeremy and a fellow Inspector, David Morgan Evans (now General Secretary of the Society of Antiquaries of London), spearheaded this work, and industrial sites were soon flowing onto the Schedule of Ancient Monuments. Jeremy has continued to take a particular interest in industrial sites, an area where one has to have vision, anticipating which of today's fading industries will be tommorow's monuments.

If one were to turn to one particular period, amongst all of those that have engaged Jeremy's interest, it would be to the post-Roman and early medieval era, the "Dark Ages". And if one were to turn to a particular class of monument, it would be to the early Christian inscribed stones, a monument type with which Wales is particularly well endowed. Jeremy has been working for many years on a book, now close to completion, which will look at various aspects of the archaeology of this period, not just in Britain but also on the Continent, particularly in France and Spain, areas he has come to know well. We must hope that retirement will allow Jeremy the time to put the finishing touches to what promises to be an important contribution to our understanding of the archaeology of this complex yet fascinating period.

In addition to all his academic accomplishments, Jeremy has been an active participant, over many years, on the committees of both national and local societies, including serving as a former Editor and now Chairman of this Association. Since 1976, he has been a Fellow of the Society of Antiquaries of London. But Jeremy's first love remains the history and archaeology of this county. There can hardly be a member of this Association who has not gained immeasurably from knowing Jeremy, not just for his boundless knowledge, so readily shared, but also for his warmth and friendship. We wish him well in his retirement where, freed from administrative burdens, he may continue to advance his scholarship and we to prosper from it.

COASTAL CHANGE AND WETLAND HERITAGE AT GOLDCLIFF, GWENT

By MARTIN BELL

The context of the Goldcliff Stone

The history of archaeological discoveries at Goldcliff reflects gradually increasing awareness of the archaeological potential of the intertidal zone, from a chance nineteenth century discovery to the recent finding of one of the densest concentrations of waterlogged intertidal archaeology in Britain.

In 1878 the Goldcliff stone eroded from a low cliff just east of Goldcliff Pill. The inscription it carries records the making of some linear work by the century of Statorius Maximus from the first cohort, presumably of the Second Augustan legion based 9km away at Caerleon (Boon 1980, 28). The discovery was reported by Morgan (1882) and has sometimes been held to represent evidence for the Romano-British origins of the seawall. The find was re-examined by Jeremy Knight (1962) who, in his first archaeological paper, showed that it did not come from the foundations of the seawall itself.

Significant coastal change in the nineteenth and twentieth centuries highlights the extent of the threat to coastal heritage and the episodic nature of opportunities for discoveries in the coastal zone. Morgan (1881) explains that the stone was found during the erosion of what had, within living memory, been an extensive area of wharf (or upper salt marsh). The 1887 Ordnance Survey map records the findspot and position of the erosion face at the time. It continued to erode back in the later nineteenth and early twentieth century. Subsequently there has been a change to a depositional régime, during which a triangular area of salt marsh formed, burying the site of the 1887 discovery. That salt marsh was deposited before the Second World when anti-glider posts were erected on its surface.

Fieldwork between 1990 and 1994 produced little evidence for activity in the Romano-British period. The exceptions were a pennanular brooch found in 1992, unstratified in an intertidal gully south of the stone findspot, and a sherd scatter to the east of Goldcliff near the Fishery It seems that today Romano-British contexts are buried in the intertidal area by a combination of twentieth century salt marsh and seawall.

However, discoveries on and behind the seawall reveal Roman activity, providing a possible context for the Goldcliff stone. The top of the seawall west of Goldcliff, where it is disturbed by walkers and cattle, regularly produces small sherds of Roman pottery which probably derive from a now largely filled back ditch dug for spoil to heighten the wall. In September 1994 the digging of a substantial

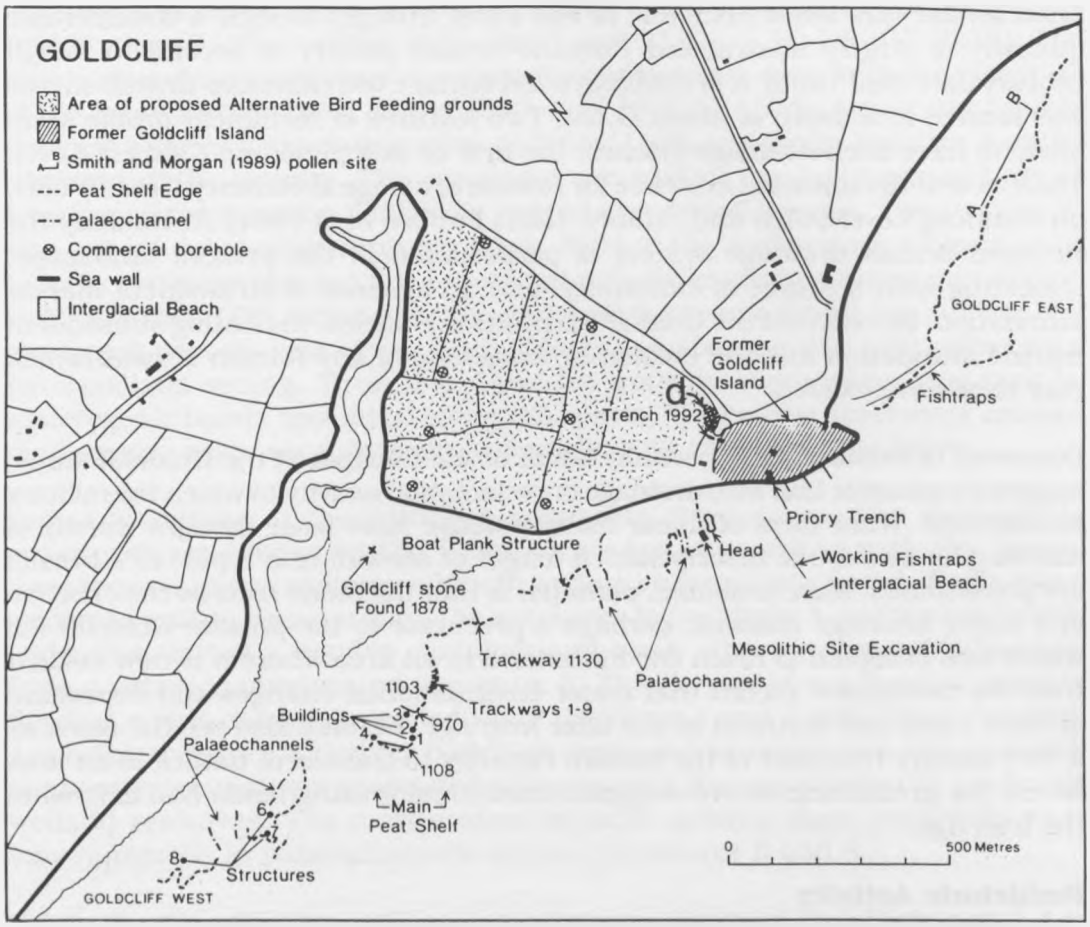

Fig. 1. Goldcliff: The intertidal area showing peat shelves and prehistoric structures and sites. New sites investigated in 1994: (a) Trackway 9051; (b) Trackway 9050; (c) Structures 9060-9062 and 9066; (d) Hill Farm Pond.

pond on the clay levels just west of Hill Farm brought to light a considerable quantity of largely unstratified Romano-British pottery of second to fourth century date (Bell 1995). A probable ground surface with Romano-British sherds was located at a depth of about O.8m. Two features of rectilinear profile seem likely to have been drainage ditches, the first of this period on Caldicot Level. There is well-documented evidence for Roman drainage at Rumney Great Wharf, on Wentloog Level (Allen and Fulford 1987; Fulford *et al* 1994). At Rumney the Romano-British drainage system is perpetuated in the present landscape, indicating both a degree of continuity, and an absence of subsequent marine inundation. By contrast the Goldcliff deposits are buried, indicating subsequent marine inundation and the erosion or breaching of any Roman seawall which may once have existed.

Discovery of Roman activity within 800m of the findspot of the Goldcliff stone, suggests a possible link with drainage or reclamation activity to which the military contributed. What form of linear feature would have been thought worthy of marking by this crude inscription? A length of seawall or a repair to a breach are possibilities. More probable, perhaps, is that the stone records the creation of a major drainage channel, perhaps a precursor to the present Goldcliff Pill which was designed to drain the hinterland in an area where it is now evident from the prehistoric record that major environmental changes and deposition of thick clays had occurred in the later Iron Age. We may also see the stone as a very literary reminder of the Roman capacity to transform nature in an area where the prehistoric record suggests traditional grazing lands had existed in the Iron Age.

Prehistoric Activity

The present surface of the clay levels is at about 6m OD with the previously described Romano-British surface at about 5.2m OD. This formed on estuarine clays in the Upper Wentloog Formation (Allen and Rae 1987). That overlies the latest peat in the intertidal area which forms a sloping surface between 0.8m and 2.6m OD:), on which Iron Age activity took place. The discovery of this intertidal site was made at the end of October 1990 by Derek Upton and Bob Trett when mud was swept away from the peatshelf by a storm. This revealed rectangular structures and trackways which, because of their OD height and stratigraphic position, the finders wisely realised were likely to be prehistoric.

Between 1990 ancl 1994 several buildings were discovered and investigated to varying extents (Parkhouse 1991; Bell 1992 a, b; 1993 a and b, 1995). The most fully preserved is Building 1, which measured 5.6 by 8.4m with walls of roundwood posts between which diagonal wattles appear to have been woven. Two large internal axial posts are likely to have supported a roof ridge. Flooring survived at one end and there was evidence in one corner for two internal cubicles

0.8m wide which were reminiscent of animal stalls. Radiocarbon dates for this Building are 2100+/- 60BP (CAR-1346) and 2120+/- 9O BP (GU-2g12). The other rectangular structures are of similar radiocarbon date, with the exception of Structure 8 which has a date of 1930+/-50 BP (CAR 1503). Also of comparable date are a series of trackways. One of these (1108) runs from Building 4 in the direction of the estuary. The remainder are east of the buildings and are of brushwood construction flanked by pegged roundwood laterals. Trackway 1130 was a more substantial corduroy track. Most of the archaeology appears to be broadly contemporary but it is associated with three contrasting environments: west of Goldcliff Pill rectangular Structures 6-8 are on a raised bog surface of a thick peat deposit; east of the Pill Buildings 1-4 are on a thin peat reflecting a fen woodland setting. These are separated from the main underlying peat by minerogenic bands and intervening thin peats. To the east trackways crossed reed-swamp peat over minerogenic deposits with the main peat below.

Iron Age activity at Goldcliff has enigmatic dimensions. The rectangular structures are unique in the British Iron Age contrasting with the typical roundhouses. None contains a hearth and no charcoal was found. There was a scatter of animal bones around the entrances to Buildings 1 and 2 while bones, withy ties, part of a wooden container and some other wooden artifacts came from a palaeochannel round Structure 6. Thin lenses of marine clay indicate flooding events during the period when Buildings 1 and 2 were being repaired. A possible inference is that the buildings were used for occasional, but repeated, temporary occupations associated perhaps with the exploitation of particular wetland resources. The most evident is cattle grazing since hoofprints were very numerous in palaeochannels around Structures 6 and 8.

Below the Iron Age fen and reed peat between Goldcliff and Buildings 1-4 is estuarine clay, within which a storm in August 1992 exposed a small area of horizontal wood 1.6m by 1.3m with some vertical pegs; this appears to be a crossing point for a small palaeochannel. Among cut roundwood and brushwood were two planks, each of which had a raised ridge through which mortise holes had been cut. Down the margins of the plank were regularly spaced small holes containing fibres. The two planks are almost certainly from a sewn boat of comparable construction to the finds from Caldicot (Parry and McGrail 1991), Ferriby (Wright 1990) and Dover (Parfitt 1993). The structure has a radiocarbon date of 2720+/-70BP (CAR-1434) and is therefore late Bronze Age.

The clay overlay peat up to 1.5m thick. Where this was investigated just west of Goldcliff peat formation occurred from 5920+/-80BP (CAR-1501) to 3640+/-60 BP (CAR-1499). During the Neolithic or Bronze Age, part of a human skull was deposited on the bog surface, and was excavated by chance in a pollen sampling pit (Bell 1993b, Figure 33). Smith and Morgan (1999) carried out a detailed

pollen-based study of the vegetation history of the same peat shelf 800m to the east of Goldcliff. This identified clearance at about the time of the elm decline *c.*5000BP and agricultural episodes in the Neolithic and Bronze Ages which, it was concluded, took place on the small bedrock outcrop at Goldcliff, becuse the next nearest area of solid geology was 5.5km north. A trench on the edge of the Goldcliff Island was cut in 1992 to obtain further information on the relationship between dryland and wetland sequences. Unfortunately many of the upper deposits had been cut away by a pond but one charcoal layer was dated 3670+/-60 BP (Car-1505) which matches very closely with a date of 3670+/-90BP (CAR-646) for one of the agricultural phases in the Smith and Morgan (1989, 154) study.

Below the peat on the west edge of the former Goldcliff island was another layer of marine clay, at the base of which yet another archaeological site was found in 1989 resting on sandy head. Here there is much charcoal, lithics and bone. A probable posthole and charcoal concentration indicate *in situ* activity on the edge of the former Goldcliff island. A radiocarbon date of 6430+/-80BP (GU 2759) confims that the occupation is Mesolithic. Other evidence of burning at about the same date is recorded 800m east. The extent of burning suggests the possibility of something more than domestic hearths and hints at Mesolithic environmental manipulation whlch is increasingly recognised in the British uplands.

Conclusions

Goldcliff is remarkable both in terms of the quality of preservation of Iron Age structures and the time depth of human activity from the mid-seventh millenium BP to the Romano-British period. Activity was not, however, continuous and there are significant temporal and spatial contrasts. Mesolithic activity was concentrated on the margins of the former island, a base perhaps for the knapping of stone from estuarine gravels and for fishing, hunting and fowling expeditions on to the mud flats and wetland.

Such trips from this or another site led, in a very literal sense, to the lines of human footprints in the clay below the basal peat at Uskmouth which are dated before 6250+/-80BP (OxA-2627) (Aldhouse-Green *et al* 1992).

During the Neolithic and Bronze Age farming episodes occurred on the bedrock island and some activity on the wetland is represented by the skull and boat plank structure. Conditions seem to have been particularly favourable for human activity and settlement during the Iron Age. Prehistoric activity gives the impression of being opportunistic, attuned to the natural rhythms and stochastic events of the estuary.

The Romano-British situation was different. People were altering nature on a large-scale by drainage and probably the construction of a now eroded seawall. Two factors may explain this change. During the late Iron Age a substantial thickness of Upper Wentloog clay was deposited which may have raised the saltmarsh surface above the level of frequent inundation and made concentrated human activity more feasible. The second, and probably more important factor, concerns the scale of social organisation necessary for the effective agricultural exploitation of this area. This is highlighted by the involvement of the Roman military as shown by the Goldcliff stone. The extent of Romano-British activity in the Severn Estuary Levels shows that by this period people were able to insulate themselves from the effects of periodic inundation and thus to create an agricultural landscape within which they could carry out a far wider range of activities than are attested at the time of more opportunistic prehistoric activity. It is a paradox that by insulating themselves against the effects of the more predictable short and medium term inundations people made themselves, and their way of life, much more vulnerable to the effects of infrequent stochastic events such as storm surges.The effects of such an event in AD 1606 are recorded on a brass plate in Goldcliff Church which marks the floor level and loss of property and life (Boon 1980, Figure 16).

Acknowledgements
The Goldcliff Project has been funded by Cadw, the National Museums and Galleries of Wales, Newport Museum and the University of Wales, Lampeter. Derek Upton found the site and has been a constant source of help. I am grateful to all the project staff and students for their dedication under often difficult conditions.

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CAERWENT: EXCAVATIONS OF 1855 - A PLANNING ERROR?

By RICHARD J. BREWER

Venta Silurum - the plan

The known ground plan of the Roman town of Venta Silurum (*fig. 1*) is largely the result of excavations which took place between 1899 and 1913. The work, instigated by the Clifton Antiquarian Club, Bristol, was conducted in admirable fashion by a small amateur committee known as the 'Caerwent Exploration Fund'.[1] At that time, the recovery of the plan, the structural features and the function of buildings were the chief attainable ends. In most cases only the uppermost Roman buildings were explored and any earlier structures were left untouched. The chronological detail is largely lacking therefore. Whatever deficiencies are now perceived, there was no contemporary criticism and the greatest worth of the whole operation lies in the generalised picture of a Romano-British town which emerged from it. By the time the exploration drew to a close in 1913 eleven of the twenty *insulae* had been trenched. The resulting plan is one of the later Roman town, and little insight was gained of the origin and early development of the settlement.

Subsequent investigations have added a few other buildings to the plan. V. E. Nash-Williams, as a young research student from Cardiff University College, was entrusted in 1923 with the exploration of the public baths (XIII), together with other buildings to the west (XIII.24s and 27s), under the supervision of Dr R. E. M. Wheeler, then Keeper of Archaeology at the National Museum of Wales.[2] Later still, Gerald Dunning, Inspector of Ancient Monuments, undertook the excavation in 1947-8 on a site in Pound Lane, the *insula* (VII) to the west of the *forum*.[3] Here, a sequence of shops (VII.26N) fronting the main Roman street and part of a large courtyard house to the rear (VII.27N) were uncovered. The results await publication, but the excavation was significant in that it gave for the first time a glimpse of a timber phase of construction associated with the very foundation of the settlement in the late first century.

In 1981, a new series of research excavations was initiated by the National Museum of Wales, a programme conducted jointly with Cadw: Welsh Historic Monuments since 1984.[4] The work has added immeasurably to our understanding of Venta, in particular its early development. Three sites have been investigated: a large courtyard house (I.28N) in the north-west corner of the town has been added to the plan, the *forum-basilica* (VIII) at the heart of the town and the adjacent Romano-Celtic temple (IX), both of which have been previously explored.

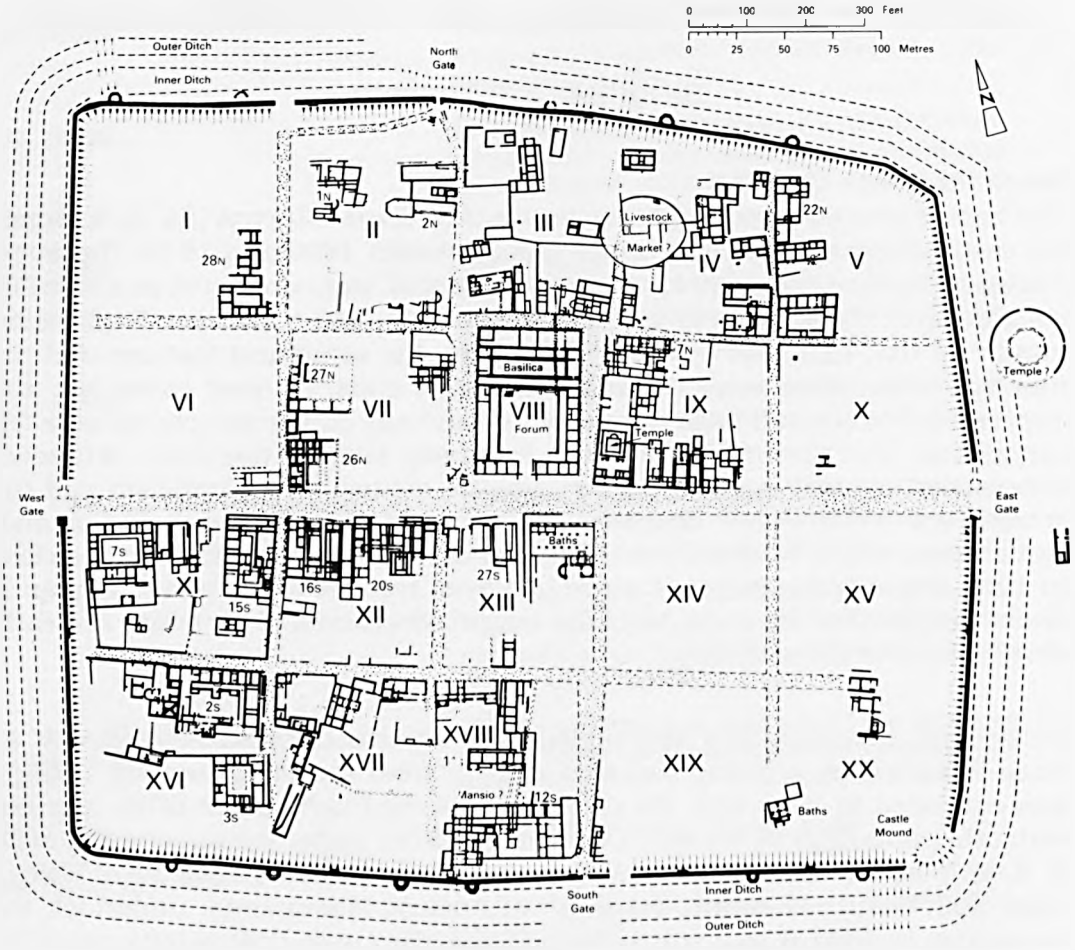

Fig 1. Caerwent Roman town: ground plan
(Crown copyright: *by courtesy of Cadw: Welsh Historic Monuments*)

These excavations have accounted for much of the plan of the Romano-British town, a plan that is so familiar to those who study Roman urbanisation. Closer inspection, however, reveals an anomaly, which is the main subject of this note. The buildings in the south-east corner of the town (*insula* XX) are shown overlying the street-grid to the north and west; a detail reproduced on all plans of the town. Is this actually the case or has an error been made, a mistake perpetuated in the archaeological record for decades? These buildings were uncovered in 1855, the first archaeological investigation to be carried out in the interest of research at Caerwent. Before then, little interest had been shown in the site; there were no crop-marks inviting exploration,and the few random discoveries, mainly mosaics and coins, led only to a pecuniary interest among the villagers.

Nor was there, in such a remote community, much likelihood that anyone of an antiquarian bent would be at hand to record chance discoveries, or suggest how they might be followed up.

Excavations prosecuted by the Caerleon Antiquarian Association within the walls of Caerwent in the summer of 1855

The upsurge of archaeological endeavour which began in early Victorian times is a phenomenon which in two ways is a result of the industrial revolution: at the simplest level, the growth of the towns and extension of the railways brought a manifold increase in the volume of discovery throughout Britain; and at the same time the new industrial basis of society vastly increased the numbers of the educated middle class. There were now more people who had the means, the inclination, the leisure, and the knowledge to rescue a good deal of information which otherwise might have disappeared. As factual knowledge grew, so did the desire to augment it further by research. It is at this time that many of the local and county societies were formed with the aim of recording, exploring and publishing the relics of their district. In 1847, our own was founded as the Caerleon (later Monmouthshire and Caerleon and now the Monmouthshire) Antiquarian Association, with the purpose of building a museum where the inscriptions and other materials from the legionary fortress of Isca might fittingly be housed - an ambition achieved in three years: the prime mover, in this case, was the Yorkshireman J.E. Lee, who was connected with one of the manufacturing iron-works in Newport.[5]

Prominent among the members of the Caerleon society was Octavius Morgan, Deputy Lieutenant of the county and its Member of Parliament for many years, a Vice-President of the Society of Antiquaries and a Fellow of the Royal Society.[6] The museum at Caerleon established, the Antiquarians were casting round for another object, and under Octavius Morgan's presidency fixed on Caerwent: a full exploration of the site had been in mind for some time.[7] In addressing a meeting of the Royal Archaeological Institute held on December 1, 1854, he observed:

> '... that he hoped to see the site of *Venta Silurum*, which might be termed the Monmouthshire Pompeii, fully explored; such an investigation could not fail amply to repay the labours of the archaeologist, and it had for some time past been contemplated by the Caerleon Antiquarian Association. He hoped that the commencement would be made during the ensuing spring.'[8]

In fact the investigation was undertaken in the summer of 1855.[9] The excavations were conducted in the south-east corner at the site of the mosaic found in 1777.[10] This rich mosaic comprises twelve octagonal medallions containing stylized flowers, separated by guilloche swastikas. Both G. W. Manby in 1802 and Edward Donovan in 1805 tell of the fate of the mosaic, which, in the latter's

words, had at first been preserved 'with vigilance' by the landowner, who had erected a building over it; 'but having at length occasion to build a brew-house, he unroofed the edifice... in order to save expense,' and thus exposed the floor to vandalism and weather. Manby had to drive a sow and her piglets from the spot, and Donovan tried to save the remaining piece of scrollwork by having a window-shutter laid over it.[11] Morgan was undoubtedly attracted to this spot because of the discovery of the mosaic, several rough mounds, marking the remains of ancient buildings, and the presence of 'an opening which had long before been broken into the chamber of a hypocaust'.

Morgan saw to it that the excavations were supervised by one of the best men of the day, J. Y. Akerman, the able Secretary of the Society of Antiquaries.[12] It is owing to the experienced Akerman that a scrupulous account of the work could be published in *Archaeologia* 1856.[13] The more comprehensible of the two sets of foundations opened on the north and west margins of *insula* XX was a bath-suite, professionally planned by Alexander Bassett, a Cardiff civil engineer.[14] This bath-suite, lying adjacent to the 1777 mosaic, presumably formed part of a residence of some considerable pretension. The baths are small compared with public facilities, but whether they are merely domestic or alternatively part of an inn or guest-house is unknown. To date, it is the only Caerwent house known to have had a private bath-suite, which is an indication as to the popularity of the public baths. A polished mahogany model of the set of baths was made to exhibit in Caerleon Museum; it was used also by Morgan to illustrate his lecture to the Society of Antiquaries on the results.[15] The remains of the building on the northern side of the *insula* are extensive, but the plan is far from being complete and largely unintelligible. As realised at the time of the investigation, the walls uncovered represent several building phases. Again the building is of some pretension, as indicated by a small hypocausted room and a corridor mosaic comprising four square panels.[16]

The report provides careful descriptions of the state and character of the remains, and of the objects found in each room;[17] but it was to be many years before archaeologists were confident enough to use even coins to give some idea of the chronology of remains such as these. Nothing was then known of the dating of any kind of pottery, including samian ware; the first hesitant enunciation of the cardinal principle of dating structures by means of included relics was that of the Revd J. G. Joyce, in describing excavations at Silchester to the Society of Antiquaries in 1867.[18] His remarks fell largely on deaf years, and it was to be many years before account was taken of the dating of structures by what are now regarded as the usual archaeological means.

Had the Caerleon society persevered, Caerwent would have been the first of the 'green-field' Romano-British town sites to be tackled systematically, anticipating Wroxeter, Silchester and St Albans.[19]

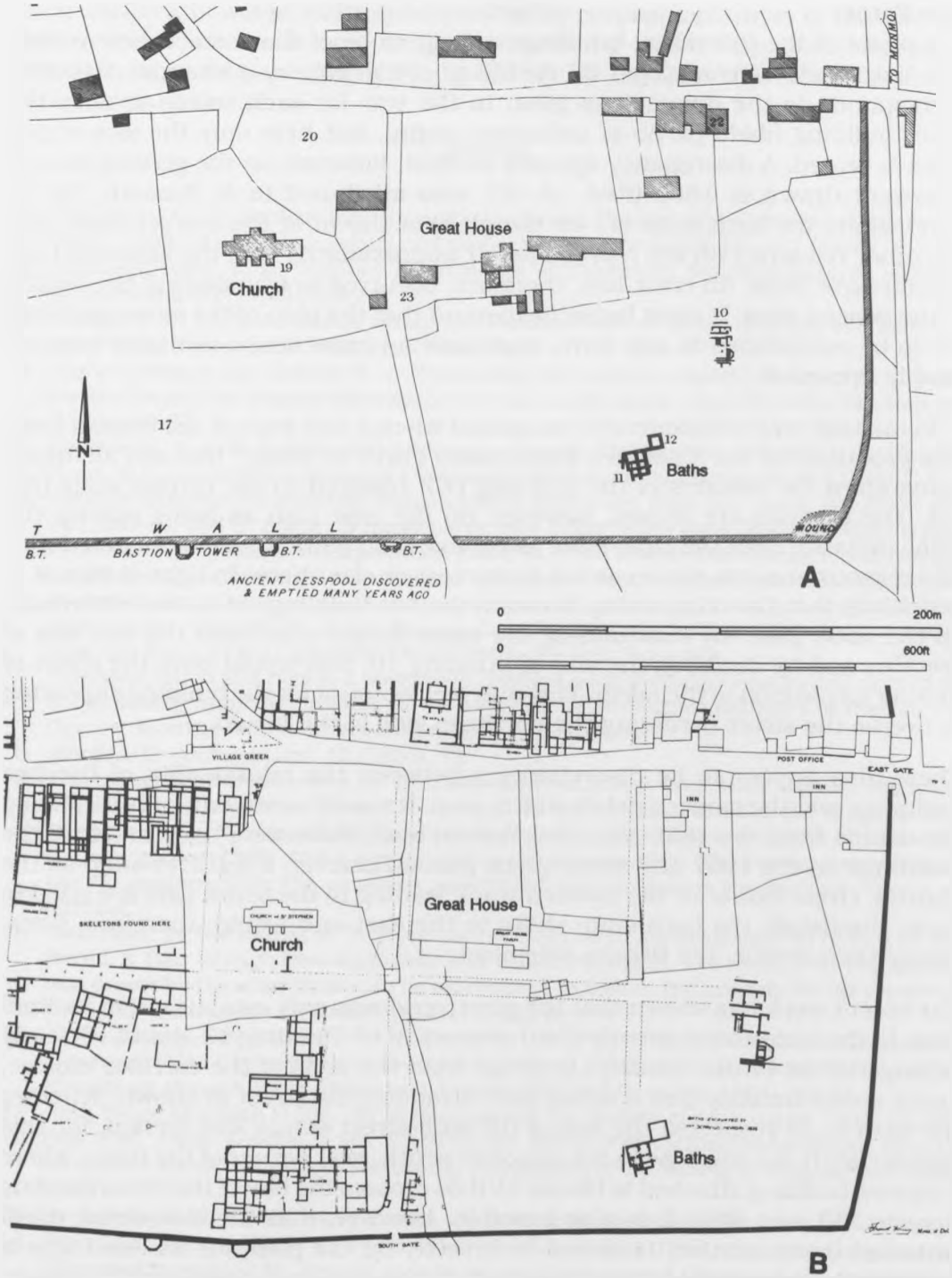

Fig 2. Caerwent: the south-east corner (a) from the 1855 plan; (b) from the 1910 plan. Both shown at the same scale.

The Error

The plans of the individual buildings appear to be of the correct dimensions. The bath-suite (*Archaeologia* 36 (1856) pl. 36 drawn by Alexander Bassett), corresponds to the dimensions given in the text for each room, as does the other building (*ibid.*, pl. 35 of unknown origin), but here only the size of one room is stated. A discrepancy appears to exist, however, on the general plan of Caerwent drawn in 1855 (*ibid.*, pl. 33, also attributed to A. Bassett; *fig. 2a* here). Here, the bath-suite (11 on the plan) is shown at the correct scale, but the other remains (10) are reproduced at approximately half the size that they should have been. An error has, therefore, occurred in transferring the details to the general plan. It must be borne in mind that the plan of the street-grid had yet to be established in any form, and such an error would not have been so readily apparent.

This mistake was subsequently recognized when a new plan of the Roman town was produced for the 'Caerwent Exploration Fund' in 1902;[20] this and all future plans show the remains of the building (10) restored to the correct scale (*fig. 2b*). The remains are shown, however, on the new plan as being exactly the same distance from the bath-suite as on the 1855 plan; it should be noted that this measurement is not recorded in the text or elsewhere. In light of this, it is very likely that the relationship between the two buildings is shown incorrectly on the 1855 plan. By maintaining the same distance between the two sets of remains and by doubling the size of building 10, this would have the effect of moving its position to the north. This may well account for the building appearing to overlie the street bordering the northern side of the *insula*.

There also appear to be discrepancies between the relationship of the two buildings and the modern detail on the plan. It would seem that, in transferring the details from the 1855 plan, the Roman town walls were used to locate the buildings on the 1902 and subsequent plans. However, if features such as the church, Great House or the modern track leading to the south gate are used to tie-in the detail, the bath-suite shifts to the east and would, therefore, front, rather than overlie, the Roman side-road.

The recent work has shown that the street-grid was only established in its final form in the late second or early third century AD.[21] Building 10 almost certainly belongs to the fourth century, to judge from the style of the corridor mosaic, and it seems unlikely that it would have straddled the street as shown. Whether the bath-suite respected the line of the side-street seems less certain, for this was certainly not the case in the opposite south-west corner of the town, where a narrow building attached to House XVII.5s crosses the line of the street dividing *insulae* XVI and XVII. It is also possible, however, that the side-street itself, untested by excavation, is shown incorrectly on the plan, for its exact line is certainly less predictable than the road on the northern margin of the *insula*.

These matters, however, will only be resolved by geophysical survey or excavation. This note is offered to Jeremy Knight in thanks for all his help, encouragement and friendship in providing the opportunity to conduct the recent series of excavations at Venta.

NOTES

1 See Boon, G. C. 'Archaeology through the Severn Tunnel: the Caerwent Exploration Fund, 1899-1917', *Trans Bristol and Gloucestershire Archaeol. Soc.*107 (1989), 5-26.
2 Nash-Williams, V. E. 'Further Excavations at Caerwent, Monmouthshire, 1923-5', *Archaeologia* 80 (1930), 229-88.
3 Dunning, G. C. 'Excavations within the Roman Town of Venta Silurum at Caerwent, Mon.' *Bull. Board Celtic Stud.* 13 (1948), 56-9.
4 For a summary see Brewer, R. J. *'Venta Silurum*: a civitas capital' in Greep S. J. (ed.), *Roman Towns: the Wheeler inheritance. A review of 50 years' research*, CBA Res. Rep. 93 (1993), 56-65.
5 Cf. Bowen, E. I. P. 'Presidential Address', *Archaeol. Cambrensis* 120 (1971), 1-10; also Boon, G.C. 'A Caerleon Museum Centenary', *Monmouthshire Antiquary* I:2 (1962), 40.
6 Charles Octavius Swinnerton Morgan (1803-1888), see *Proc. Soc. Antiq. London* 2 ser. 12 (1887-9), 384-6. A man of many parts, and uncle of the Lord Tredegar who became President of the 'Caerwent Exploration Fund' in 1899. His interests ranged from rescue-excavations to a first-class knowledge of clocks and watches, the British Museum being the beneficiary of his astute collecting experience. He was elected President of the Caerleon Antiquarian Association at the Annual General Meeting held on 18th August 1853, after the death of Sir Digby Mackworth Bart, the first President.
7 The Association was now in a position to conduct such investigations having cleared all debts arising from the building of the Museum of Antiquities (Minutes of the Annual General Meeting held at Caerwent on 16th August 1855).
8 Morgan, O. *Archaeol. Jnl.* 12 (1855), 79.
9 The excavations commenced on 18th July and continued until 16th August, 1855; the following week saw the lifting and removal of the corridor mosaic, see note 16. The Annual General Meeting of the Caerleon Antiquarian Association was held at Caerwent on 16th August 1855, and it is recorded in the minutes that 'Mr Akerman went round the excavations with the company assembled and explained the various objects of interest.'
10 Described by the tourist H. P. Wyndham of Salisbury, *Archaeologia* 7 (1785), 410-11; *(idem), A Tour through Monmouthshire and Wales...* (London, 1781 ed.), 7-9. The mosaic was drawn by the elder Basire, to be reproduced in colour, but crudely, in the report on the 1855 excavations (Archaeologia 36 (1856), pl. 34)
11 G. W. Manby, *An Historic and Picturesque Tour from Clifton through the Counties of Monmouthshire, Glamorgan and Brecknock* (Bristol, 1802), 24-7; Donovan, E. *Descriptive Excursions through South Wales and Monmouthshire* I (London, 1805), 85-91.
12 John Yonge Akerman (1806-1873); Secretary of the Society of Antiquaries 1848-60. See *Proc. Soc. Antiq. London* 2 ser. 6 (1873-76) 192-3. For various excavations that he conducted about this period, see Evans, J. *A History of the Society of Antiquaries* (1956), 306-7.
13 *Archaeologia* 36 (1856), 418-37, also a reprint with slight additions.
14 The Committee resolved at its meeting on 16th August 1855, 'that the President be requested to employ Mr Bassett to take an accurate ground plan of all the excavations

as well as such sections of the baths etc. as may be requested by Mr Akerman.' Originals of the plans and sections of the bath-suite in Newport Museum and Art Gallery, donated in 1912 by his son, Mr Alex Bassett (Viscount Tredegar's Mining Engineer).

15 This is preserved, with another model, in the National Museum & Gallery Cardiff. The paper was read on 6th December, 1855.

16 *Archaeologia* 36 (1856), pl. 35 top.

17 The finds from the excavation were transferred to the National Museum of Wales in 1930 when Caerleon Museum was turned into the Legionary Museum of Caerleon.

18 Boon, G. C. *Silchester: The Roman Town of Calleva* (Newton Abbot, 1974), 24-7.

19 The Association raised £51 11s 6d by subscription, of which £45 were expended on actual excavation. However, a further £34 3s 9d had to be found to pay for the removal of the mosaic and its relaying in the museum (Report to Annual General Meeting 1855). This was considerable expenditure for such a small society. 'No excavations were undertaken in 1856 chiefly on account of the absence till lately of our President in London' (Report to Annual General Meeting, 1856). The intention then, however, was clearly to resume work either at Caerwent or elsewhere. In 1857 the Committee still felt unable to undertake any active work in the field, because of a lack of funds.

20 Ashby, T., Hudd A. E., and Martin, A. T. 'Excavations at Caerwent, Monmouthshire on the site of the Romano-British City of Venta Silurum in 1901', *Archaeologia* 58 (1902) 152, fig. 8 credited to Messrs. Drake and Pizey, architects, of Bristol. The first detailed plan of the Roman town showing the street-grid was produced in 1910 by Frank King, Clerk of the Works for the Fund (*Archaeologia* 62 (1911), pl. 64).

21 Brewer, *op. cit.* note 4, 59.

THE LLANGWM PHALLIC STONE

By A. GEOFFREY MEIN

During the 1994 ploughing season Mr David Williams, the son of Gwent farmers Mr. and Mrs. Neil Williams of Ty Llwyd Farm, Llangwm, was working the fields on the north facing promontory on the 76m contour to the north west of Ty Llwyd Wood (at NGR: OS 4345 0145) when the implement struck a large sub-triangular block of fine grained sandstone, 135mm (5.25 ins.) thick. It proved to be carved on the top surface with a phallic emblem *(Plate I)*. What may originally have been an isosceles triangular block with a base 357mm (14.5 ins.) long, has been truncated by some two inches to give an overall length of 308mm (*c.* 12ins.). The rectangular vertical face thus created has carved on it a continuation of the glans end of the penis, but it seems unlikely that this well carved pendant is contemporary with the main portion as, if viewed from the base end (as in Plate 1), the original emblem appears complete. In addition to this secondary re-working of the emblem, the stone is unusual in that it has been altered a third time by being drilled from both top and bottom to produce a hole into which something might have been inserted or by which the whole stone might be affixed to a vertical surface, but care being taken not to deface the phallus.0ther significant features include a small, shallow circular hole drilled in the upper portion of the rectangular end of the stone and a notch carved into its lower edge. Both these post-date the truncation of the stone. Taken with linear shallow wear marks on the centre line of the glans and the shaft of the phallus it appears as if a line or thong could have been attached to a peg in the hole and then stretched via something like a smaller peg in the front surface and thence via the groove to the peg in the lower hole. It may thus have served for some ceremony akin to well-dressing.

As to a suggested date the basic phallic emblem certainly looks Roman, and it might be that the stone originates from the major site at Usk, 6 km. to the west. This source is preferred to either the small and probably temporary Roman camp found from the air by Mr. John Sorrell at Coed Cwnwr only 2 km. to the south-west (Mein 1991) or the 'hypocausted structure' currently being investigated by Mr. David Hancocks at Llanerthil 3 km. to the north (Hancocks). Again there is no reason to suppose that the stone was originally used near its find spot, for there is no evidence either on the ground or from the air of any demolished building or other archaeological activity on this part of Ty Llwyd Farm. Before truncation the stone's triangular shape would appear to suggest its original incorporation into a pavement or as a voussoir in an arch. The former is perhaps less likely as these good-luck charms when represented in the horizontal are normally carved on a rectangular block and enclosed by circular cabling, as in the headquarters building at Chesters on Hadrian 's Wall

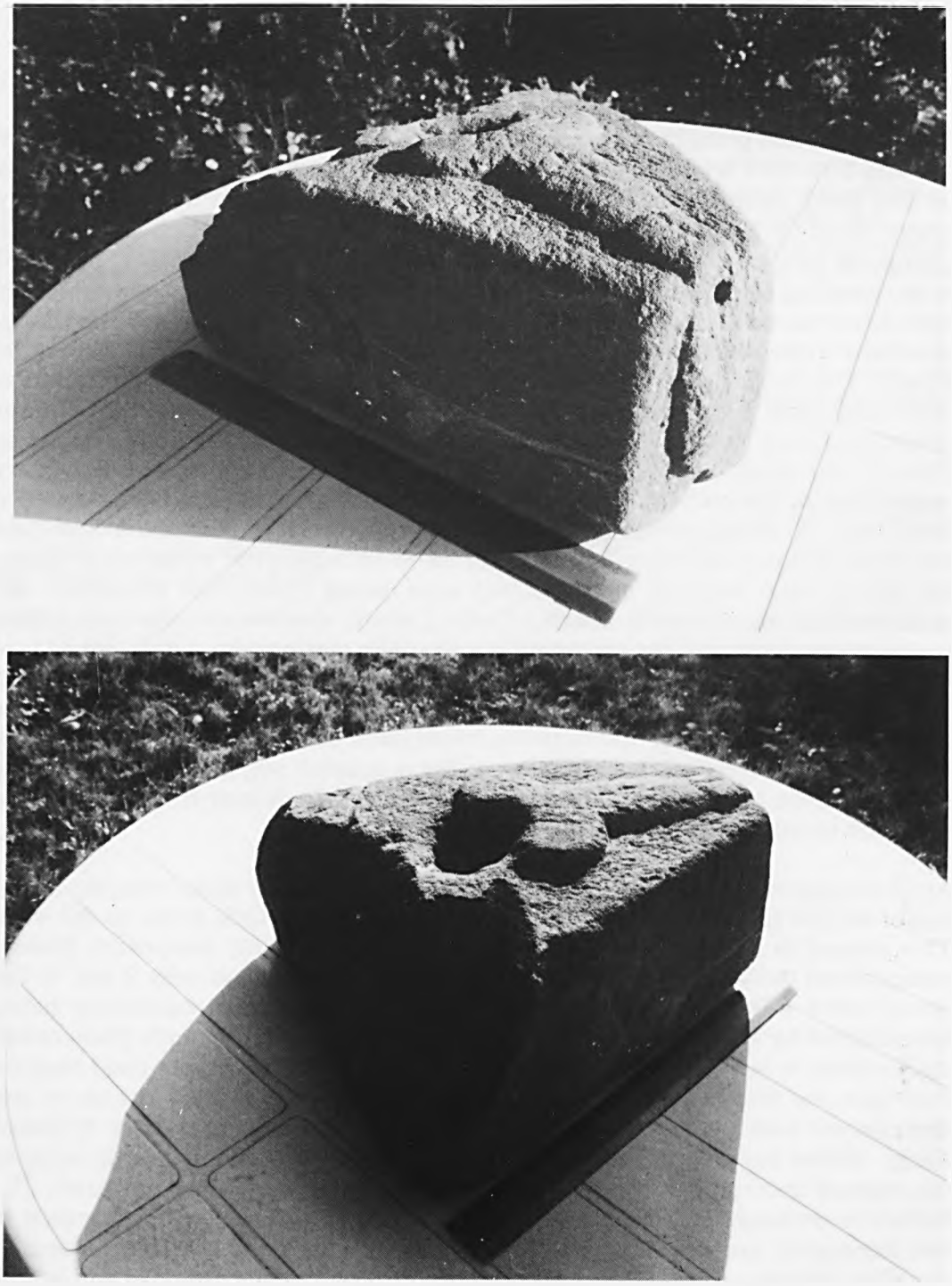

Plate 1.

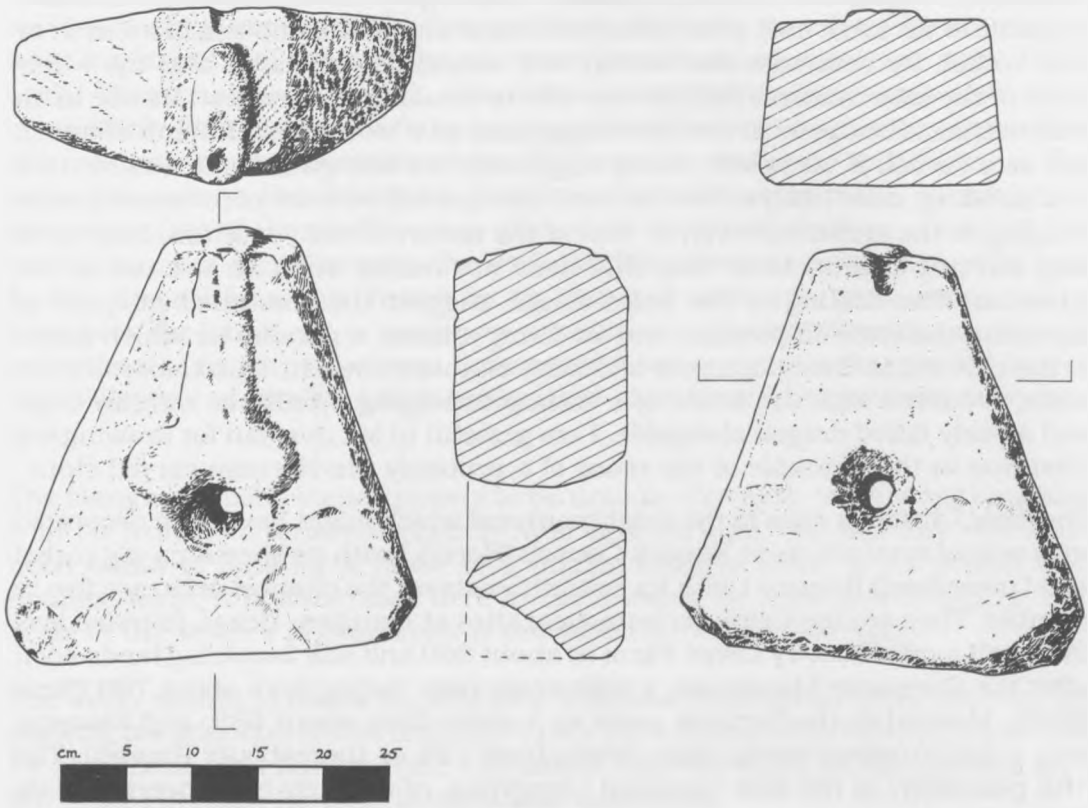

Fig. 1.

(Daniels, 113). Where they appear on vertical faces they lack the enclosing cabling but are carved on rectangular blocks built either into the Wall itself (Daniels, 198) or built into associated structures such as works-depots or bath-houses as at Holt or in Exeter (Henig 85, no. 8), or on other structures, as at Lincoln and Wroxeter (Weir and Jerman, 145-46). If an Usk provenance is possible the stone is most likely to have come from the bath-house for this would have been the only stone building in either the pre-Flavian fortress or the later fort. The suggestion has been made to the author that the stone had been drilled originally to form a decorated water source in the baths, perhaps for the wash basin or *labrum* in the hot room. Attractive though this idea may be the drilling resulted in a hole with a kink so considerable as to make the insertion of a pipe for a water tap virtually impossible, while the mouth of any tap would have obscured a large portion of the carving.

If, as seems certain, the truncation of the Llangwm stone and its recarving is secondary, any later re-use of the stone could again have involved its use as a voussoir in an arch, as a protruding portion of one of the imposts of an arch or as a corbel, for otherwise the 'droopy end' would not be visible and the whole point of the later mason's Rabelaisian efforts would have been lost. Its use in an arch seems to be the most credible suggestion as it would be a difficult shape to use as a corbel. If, as is here being suggested, the Llangwm stone was re-used in a building, most likely a church, such use has left no trace of remnant mortar clinging to the stone; however, in view of the nature of early mortars, lacking as they did any lime in their mix, this need not render such an use out of the question. The drilling of the holes might suggest the combined purpose of fastening the stone in position and for fixing a lamp, a parallel for which exists in the slot cut in the tympanum of Stoney Stanton church. This Leicestershire stone is carved with the scene of a bishop asperging a bullock, with an eagle and a curly tailed dragon alongside. I am grateful to Mr. Jerman for drawing my attention to this example of the reuse of a probably pre-Norman carved stone.

The early Christian sites in the neighbourhood which might have been decorated with sexual symbols, as at Kilpeck Church (Herefs.) with its sheela-na-gig corbel and Lower Swell (Gloucs.) with its exhibitionists on the chancel arch, are five in number. They are the Celtic ecclesiastical sites at Llangwm Uchaf, founded less than half a mile from Ty Llwyd Farm in about 860 and still acquiring lands soon after the Conquest; Llandenny, a mile or so away dating from about 760 (Mein 1986); Llanerthil, the furthest away at 2 miles from about 685; and Llansoy, only a few hundred yards away dating from 725 or thereabouts (Davies). The fifth possibility is the now vanished Llangynog, of an early but uncertain date (Williams).

The credit for providing the clue as to which of these Celtic sites is the most likely to have incorporated this Roman stone into its structure goes to Jeremy Knight, for it was his 1972 article in *Medieval Archaeology* recognising the significance of the stone lamp of monastic origin found in St. Jerome's, one of the two churches at Llangwm, which led the author to examine its fabric in detail. The lamp, dated by Knight to the period 1070-*c.*1150, had later been converted into a stoup and built into the medieval walls of the church whence it was recovered during the rebuilding of 1858-71. St. Jerome's is noted not only for Knight's stone lamp but also for its screen and for the three 'green men' forming imposts of the chancel arch, two on the north side and a single head of different stone and of an entirely different character on the southern. It is these carvings which, it is suggested, give the clue to the possible whereabouts of the phallic stone for some centuries, for the 'green man' on the southern side is almost certainly Victorian in date. It appears to be a replacement for an impost removed during the 19th century restoration, perhaps the phallic stone discarded as objectionable to contemporary sensibilities.

This suggestion would allow for the fxing of a lamp in the then outer of the two large holes and at the same time allow all portions of the carving to be visible. Its Victorian replacement lacks the small holes drilled in the carved leaves issuing from the mouths of the strange and primitive heads on the other side of the arch. These holes, 24 in all, are contemporary with the leaves and were presumably for dressing the faces at appropriate festivals by pushing the stems of fresh greenery into beeswax plugs. They are the same size and drilled in the same manner as the otherwise pointless hole drilled into the rectangular, secondary face of the phallic stone allowing it also to be dressed, as could the female figure at Seir Kieran in the Irish Republic (Weir and Jerman, pl.62 and fig.54). Ejected from the church by its Victorian restorers, as is suspected to have been the fate of one or more over-explicit carvings from Kilpeck, our stone's penultimate use may have been the practical and prosaic one suggested by Mr. Neil Williams - as a walking stick holder until some family member took exception to it.

The Llangwm phallic stone appears to be unique. Certainly there is nothing like it in its truncated form recorded by Weir and Jerman, nor has any reference been found to date for a reuse of a phallic emblem stone in its drilled and notched form. It is illustrated here in the drawing by Anne Leaver *(fig.1)*. The scale in the writer's photographs is provided by the one foot ruler.

The writer wishes to thank Mr. and Mrs. Williams, through Mr. Peter Rennie, for drawing his attention to this find which they have deposited in Newport Museum. He also thanks Mr. Robert Trett, Curator of that Museum, Dr. Ian Stewart and Mr. James Jerman for their interest and assistance.

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EVIDENCE FOR A PRE-NORMAN STRUCTURE AT MONMOUTH

By STEPHEN CLARKE

Introduction

Over most of Monmouth a layer of plough soil, similar to the 'dark earth' covering many Roman towns, separates the Roman period from the Medieval. In lower Monnow Street the Normans laid out their new town, probably in the late 11th century, immediately on top of this plough soil. Further up the street a large wooden structure was also built over the plough soil but this is believed to have been standing when the Normans arrived.

The Roman Background

The rising ground at the juction of the rivers Monnow and Wye, on an important overland trade route from England across Wales, has attracted settlement since prehistoric times. Monmouth was the site of one of the first Roman forts in Wales and there was a settlement here throughout the Roman occupation. Evidence for Roman Monmouth was first recognised in the 19th century and rapidly increased after 1950 following the arrival in the town of two teachers, Mr. K.E. Kissack and Mr. A.L. Sockett, who together inspired the forty years of historical and archaeological research that is still continuing.

Roman Monmouth, named "Blestium" in the Third Century Roman road book the "Antonine Itinerary," covered an extensive area, especially along the bank of the Wye, over much of the higher part of the later town, along the Monnow Street causeway and at Overmonnow. The settlement was, however, an industrial or 'working class' one and should not be thought of as a Roman town like Caerwent. It is believed that walled Roman towns were mainly centres of administration and may only have housed a limited number of aristocratic families with civic buildings. It is possible that the population of Blestium, engaged in the iron industry, the forestry that fuelled it and agriculture, was quite high, especially during the later Roman occupation. Unlike Caerwent, Blestium's buildings were of wood and their remains were mainly destroyed during Post-Roman ploughing. The tessellated pavements, hypocausts and painted walls are confined to Ariconium and rare local villas which may have been the homes of the local iron masters and administrators.[1]

Monmouth's best examples of Roman structures were "sleeper beam" slots at 22-24 Monnow Street and at Ebly Tyres, Glendower Street, both of which had been truncated by ploughing. This ploughing usually extends to natural and contains in particular 4th century pottery and coins. Near Dixton Gate the town wall was constructed over a spit of dark earth containing only Roman pottery and was recorded as like a Roman 'garden' overlain by a deposit of flood silt. Twelfth century buildings sealed a similar layer at The Gloucestershire

House while the Norman houses of Monnow Street are built over what the excavators termed the 'original plough.' At Overmonnow the same plough soil, with ample Roman pottery and coins, is widespread and lies under the medieval Clawdd Du rampart and the 13th Century iron forges unearthed at Abbeyfield Homes; Forge House and other nearby sites.

This Post-Roman ploughing removed the timber building foundations and therefore most evidence of what seems to have been a substantial Roman settlement. Whatever happened in the immediate Post-Roman period is unclear but there is documentary evidence for a Celtic occupation with the Church of St. Cadoc in existence by the 8th Century and still standing when the Normans arrived shortly after Hastings. The current interpretation of the archaeological record at 22-24 Monnow Street is based on impressive features and clear stratification.

At 22-24 Monnow Street the Pre-Flavian Roman levels are covered with thick layers of natural clay and shale which was probably upcast from ditch digging. Wooden buildings were erected on 'sleeper beams' set into the raised ground level and the slots for these were later truncated and, away from the frontage, eradicated by ploughing. The plough soil contained only worn sherds of Roman pottery and formed a hiatus separating the Roman occupation from that of the Medieval.

Before The Normans

A post and wattle construction of indeterminate form stood on the plough soil before the erection of a large timber structure based on posts set in two trenches (*Fig. 1*). The posts were so large that they required no packing, presumably the

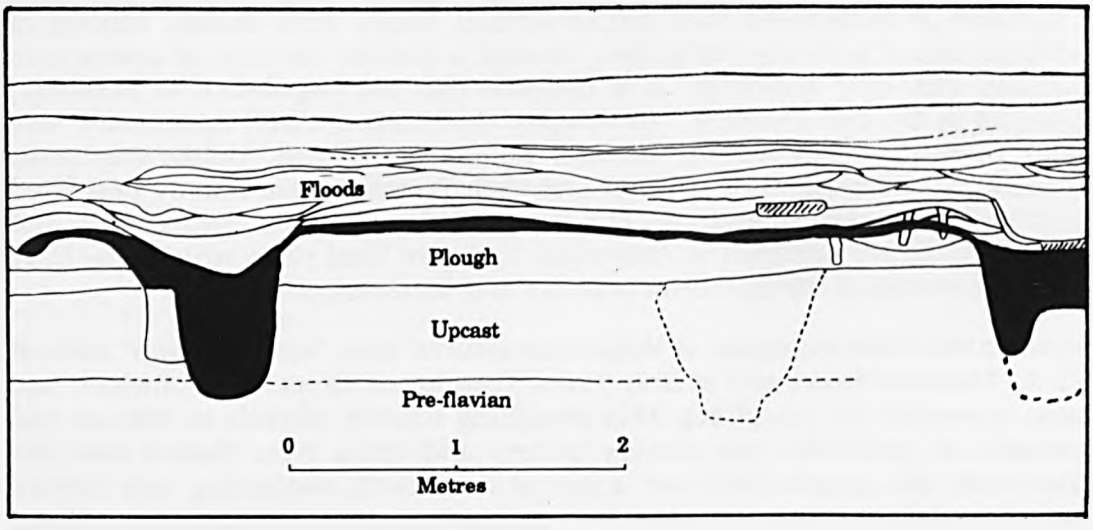

Fig. 1. Simplified West Section of excavation at 22-24 Monnow Street, showing wooden structure.

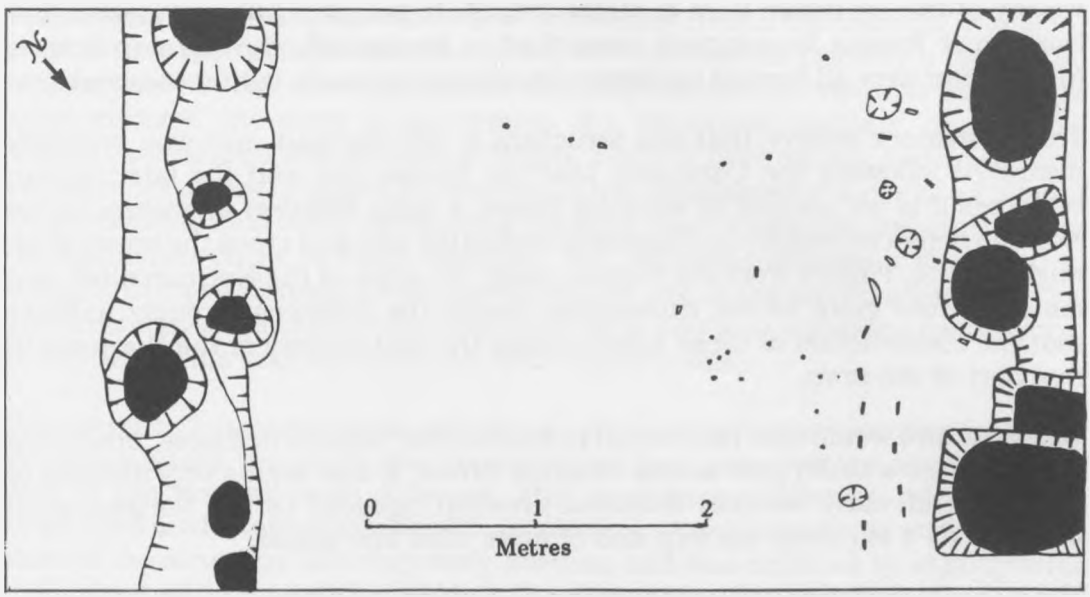

Fig. 2. Plan of wooden structure at 22-24 Monnow Street, Monmouth.

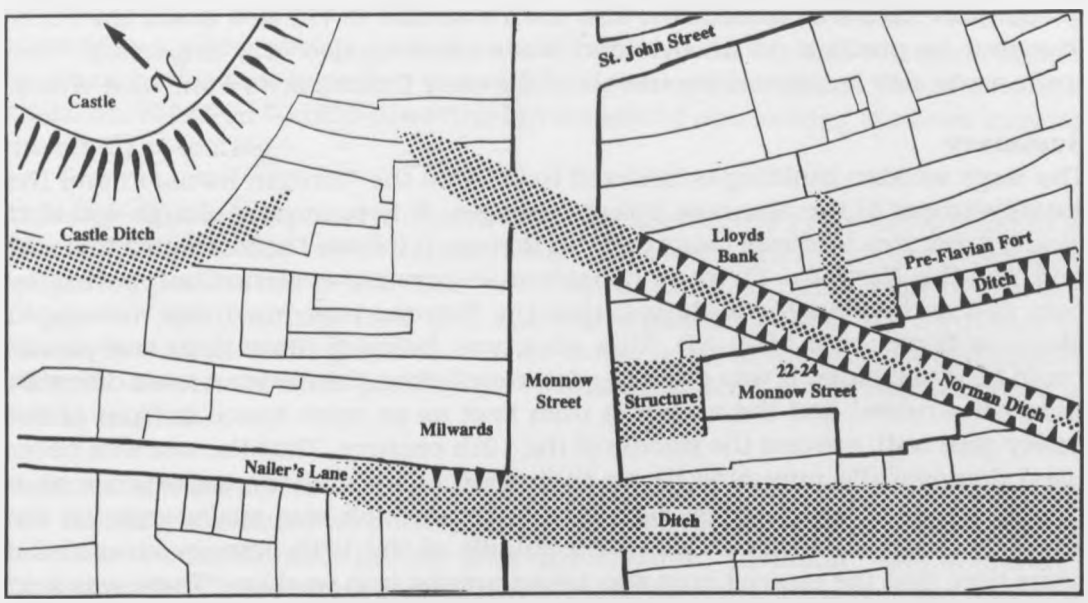

Fig. 3. Upper Monnow Street, Monmouth, showing position of No's 22-24.

weight of the structure kept it stable (*Fig 2*). It is quite different to all other Norman or Roman foundations unearthed in Monmouth, the Norman houses in the street were all erected on sleeper beams and were of a lighter construction.

The excavators believe that the structure is pre-Norman and was probably destroyed following the Conquest. Like the Roman fort and the later Roman buildings it is set parallel to Monnow Street, a quite different alignment to the Norman defences which cut diagonally across the site and cross the street at an angle (*Fig. 3*). Pottery from the humus along the sides of the Norman ditch and material from more recent excavations inside the defences strongly indicate that the construction of these defences was the first activity of the Normans in this part of the town.

The structure would also have stood in front of the Norman defences, obscuring the view from a bailey gate across Monnow Street. It also seems very unlikely to have been an early Norman defensive creation replaced by the Norman town defences as it is clearly ancient and of more than one phase.

The case for a pre-Norman occupation at Monmouth is strong. The thriving late Roman settlement seems likely to have continued into the 5th century and continuity is suggested by the dedication to St. Cadoc whose churches are noted as associated with Roman sites.[2] Monmouth's strategic position between two rivers, at the junction of Saxon Dean, Celtic Gwent and Celtic Erging (Archenfield), together with its good agricultural potential, all increases the likelihood that occupation here was unbroken. The town's access to the sea down the River Wye and its position on an overland trade route is also very important.[3] The trade route also facilitated the travels of the early Celtic saints from West Wales.

Summary
The large wooden building is believed to predate the Norman Invasion and the establishment of the Monnow Street burgages. It is built over plough soil that clearly separates Medieval contexts from Roman. It follows the Roman alignments and not the Norman. There is considerable ceramic evidence, supported by coin and archaeomagnetic dating, that the Norman new town was thriving in Monnow Street by *c.*1100 AD. This structure, being of more than one phase, could be much older. It was probably destroyed when the Norman town defences were constructed and the area was then kept as an open space in front of the bailey gate until around the middle of the 12th century. That the site was never used domestically may also be an indication of its military importance as a cleared area outside a bailey gate. The Norman ditch was sealed over on the street frontage at Lloyds Bank by the middle of the 12th century around the same time that the cleared area was taken over by iron workers. There was said to be a public access to Chippenham meadow through the site until recently which may be further evidence of an ancient open space.

Perhaps the remaining questions are : Who constructed the building and what is it? The author believes that the structure is defensive, possibly a tower. The building is of a scale and form unlike anything else seen in Monnow Street, it is quite massive, the posts in the opinion of a structural engineer, could easily support a structure 20ft or more in height. There is little animal and no ceramic refuse in the floors as might be expected if the remains were those of a hall or a large house. It is on a site overlooking the flood plain where the Romans and the Normans also chose to build defences. The building overlooks a ditch that is thought to cross Monnow Street just below the site. If the building was a hall (or an incorrectly aligned church) it has extra large posts on one side—the Monnow Street side. This may be consistent with a gate tower.

Who built it ? Because of its unique nature and defensive position on rising ground towards the castle the excavators at first assumed the structure was part of the Norman town defences. This was disproved when defences were unearthed further along the site with ample ceramic evidence for an early Norman date. If the structure was very early Norman and was replaced by slightly later defences it would be most unlikely to be of more than one phase and aceramic.

If it is accepted that the building was constructed sometime in the Early Medieval period and was still standing when the Normans arrived then it should have been built by the Celts (of either Gwent or Erging) or the Saxons. There is no documentary evidence for a Saxon Burgh at Monmouth as suggested following the discovery of a sherd of Chester Ware at 81-83 Monnow Street.[4] The sherd came from a 13th century context on a Norman house site and seems certain to be an early Norman import, it is further discussed elsewhere.[3] The Monmouth hoard of Æthelred II coins unearthed in woodland overlooking the town may be the result of looting.[5]

Although there is no pottery, coin or other archaeological evidence to support a Saxon origin for the construction under discussion, Dr. Paul Courtney has suggested that Saxon penetration could have extended into Gwent before the Conquest.[6] Dr. Courtney feels that there is a possibility that the structure is Saxon. Some Saxon Burghs are more like empty forts[7] so the absence of dateable material associated with pre-Norman structures need not totally preclude a Saxon origin.

However, the author considers that a Celtic origin for the remains is possible. The building contained no pottery and it is widely accepted that Welsh society, even for a considerable period after the Norman Invasion, was aceramic. Excluding the Chester ware sherd already mentioned there has been no evidence of Saxon activity in Monmouth. The large Early Medieval pottery assemblages from the town are all of post-Conquest date. It may be that the Welsh of Gwent

were the builders, they were strong enough to retain both banks of the Wye in Offa's day. If structures such as this were built by the Welsh it seems that Monmouth would be the obvious place for them.

There is also the possibility that the builders were the Welsh of Archenfield in whose territory Monmouth lies. They had considerable contact with the Saxons whose defences, for instance at Stamford, are of a similar nature. Although being Celtic the men of Archenfield may have seen all sides as enemies, they certainly cooperated with the Saxons and the Normans against their fellow Celts further west.[8]

The author is especially grateful to Lynn Harper for the illustrations, to Mr. A.L. Sockett, Mr. K. E. Kissack and to Mr. Reg Jackson and members of Monmouth Archaeological Society.

NOTES

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THE TWELFTH-CENTURY CHURCH AT TINTERN ABBEY

By DAVID M. ROBINSON

He will of course see a comical side to the statement, but it is true to say that Jeremy Knight and Tintern Abbey go back a long way together. Tintern has ever been a place to attract the 'Romantic', and it is no small coincidence that Jeremy has chosen to write on just this theme[1]. In his distinguished professional career, Jeremy has been responsible for the care of the great abbey for some three decades. He knows it well: not only as a familiar and endearing landmark on his beloved Monmouthshire patch, but also as a monument of national and international significance. For me, it was a stroke of great good fortune that he considered me up to the task of writing the first Cadw guidebook to Tintern. Such generosity of spirit is so very characteristic of Jeremy.

In preparing a new edition of the guide[2], I have looked closely at how much we actually know of the first stone buildings occupied by Tintern's pioneering Cistercian community. In particular, despite endless appearances in the literature, the twelfth-century church — Tintern I — remains an enigma. It has to be said, too much has been read into far too little evidence. Even the nature and extent of Tintern I's 'discovery' has become confused and oft-times misquoted. For almost a century, scholars have clung to a few obscure details. Until the 1980s, Tintern I and its sister, Waverley I[3], were regarded as the only two so-called pre-Bernardine Cistercian church plans known from the British Isles. Excavations at Fountains in 1979-80 led Gilyard-Beer and Coppack to add a third example to the list[4]. However, all three plans remain far from perfectly understood[5]. Clarifying some of the misinterpretation of Tintern I is central to any future progress.

It was Thomas Blashill (1850-1905), a London architect and member of the Herefordshire Woolhope Club, who first proposed the scale and position of Tintern I. In 1877, the club visited Tintern under Blashill's guidance[6], their journey facilitated by the completion of the Wye Valley Railway in the previous year. Blashill published two more important articles on the abbey in the 1880s[7]. Using Buildwas (*c.* 1150-90) as a model, he superimposed what he saw as a 'typical' twelfth-century Cistercian church outline on a more detailed plan of the upstanding Tintern fabric. Without excavation, he proposed a church with an overall length of some 52.8m. Blashill's plan shows a short, square-ended presbytery, with transepts accommodating paired chapels, and with a nave theoretically wide enough to have included aisles (17.4m). For Blashill, the northern wall of the north transept in the Gothic church (Tintern II) had to mirror Tintern I. It was a fixed point, confirmed by the alignment of the adjacent thirteenth-century east range.

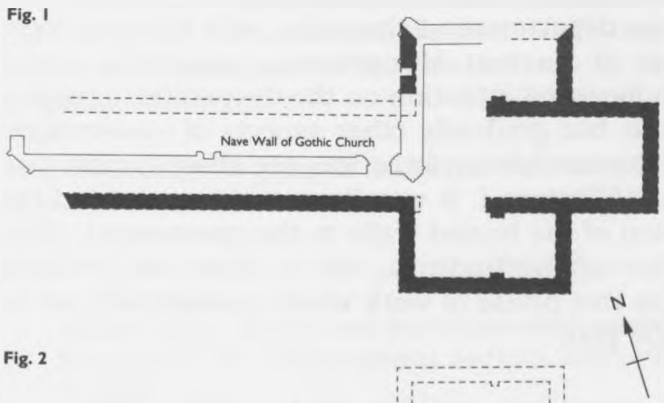
In 1901, Tintern was purchased by the Crown on behalf of the nation and the programme of modern conservation began. Under the auspices of the Office of Woods, F. W. Waller (1846-1933), architect to the dean and chapter of Gloucester, was engaged 'to make [at once] a close inspection of the walls' and to report what was 'immediately necessary to prevent any mischief'[8]. In the event, Waller was to supervise the Crown works at the site for the next twelve years.

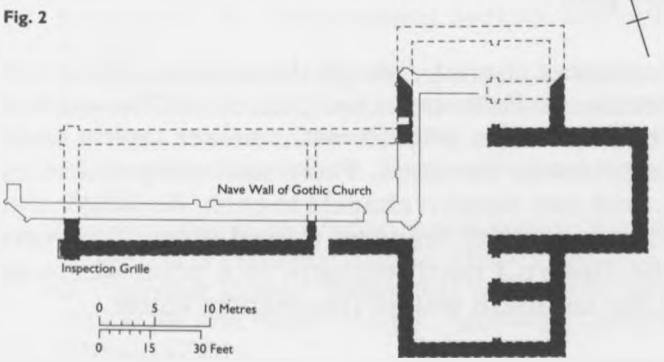
Meanwhile, Harold Brakspear (1870-1934), an architect with a practice at Corsham in Wiltshire, had begun several seasons of excavations at Tintern's sister abbey of Waverley in Surrey. At the primary English Cistercian foundation, he uncovered evidence for a twelfth-century church whose scale and plan rendered it 'without parallel' in this country. In his report, published in 1905, Brakspear asserted that since the discovery he had established that the 'church of Tintern was in the first place of similar character and scale'[9]. This is misleading since, at the time, Brakspear had certainly not undertaken any formal excavations[10].

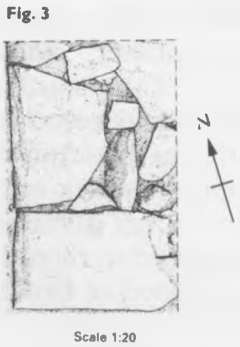
He had, however, made contact with Philip Baylis, deputy surveyor of the Crown estate at Tintern. By 1907, Baylis was urging the Office of Woods to engage Brakspear to prepare a thorough ground plan of the abbey. He stressed that it would assist both in Waller's work, and in the general management of the monument[11]. Brakspear's credentials were by then impeccable. Following William St John Hope, he was emerging as one of the fathers of modern monastic archaeology. His excavations at the Hampshire Cistercian house of Beaulieu had led to an endorsement of his references by Lord Montagu[12].

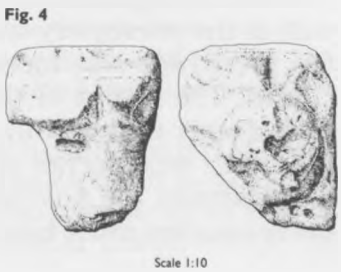
In June 1907, Brakspear was formally invited to make a full plan of Tintern by the Office of Woods. His reply, offering to undertake the agreeable task for a fee of 'fifty guineas exclusive of out of pocket expenses', reveals that he was longing for the opportunity. He cited the need 'for a little more excavating', especially in the infirmary and guest house areas. With half a dozen men put at his disposal, Brakspear felt 'it would not take more than a fortnight to uncover everything'. He arrived on site in late September and worked at rapid pace. His diggers concentrated on the infirmary hall, though there is little evidence to suggest any formal excavation.

The plan — drawn at a scale of '8 feet to the inch' — was completed in March 1908. In his covering letter to the Office of Woods, Brakspear stated that there 'yet remains a very considerable amount of excavation to be done'. He hoped that he would be given the opportunity to superintend the future work. The plan was published later that year, and subsequently it appeared in an edition of the official guidebook, of which Brakspear was co-author[13]. Although Blashill had posed some rudimentary phasing of the buildings, Brakspear was the first









The Twelfth-Century Church at Tintern Abbey: *Fig. 1* - After Brakspear's 1908 plan; *Fig. 2* - After the Ministry of Works 1929; *Fig. 3* - The plinth of the assumed south-west corner buttress; *Fig. 4* - Surviving twelfth-century plain, trumpet-scalloped capital.
(Figs. 1 and 2 by Peter Lawrence, Figs. 3 and 4 by Tony Daly).

to attempt a full constructional history of the site. Six broad phases were depicted in his plan. There is, however, no record of him ever returning to Tintern to undertake further 'excavations'. Moreover, it must be said, there is precious little to support the assumption that he had uncovered much of the twelfth-century church in the 1907 campaign[14].

As with Blashill's plan, the north transept of Tintern II determined the overall alignment for Brakspear. He suggested that the north-west corner of the Tintern I transept survived in the core of the later masonry at this point. His plan shows a short square-ended presbytery, approximately 7.3m wide; the same dimension he had discovered at Waverley. Moreover, surprising though it may seem for those who believe they are familiar with Brakspear's interpretation of twelfth-century Tintern, his 1908 plan includes shallow transepts with a single eastern chapel to each (*Fig. 1*), again similar to the pattern found at Waverley. The width of the nave was not clearly defined, nor was the position of the west end of the church.

In April 1914, the Office of Woods relinquished responsibility for Tintern. The Office of Works became the new department at the helm, with Charles Peers (1868-1952), Chief Inspector of Ancient Monuments, assuming direct responsibility[15]. Initially, Peers focussed attention on the desperately pressing matter of the south nave arcade, but gradually other aspects of conservation were considered. In 1919-20, the site labour force was set about 'probing' to locate the position of the walls of Tintern I. It was Peers who was behind the scheme to mark out the position of the buried walls in the greensward. Alas, there is no documented report of the findings, nor is there any reliable photographic record. But it was this phase of work which undoubtedly led to the revision of Brakspear's 1908 plan[16].

The whole alignment of the church was altered, though the position of the east wall of the presbytery was to remain as Brakspear had plotted it. The width of the presbytery was increased to some 7.9m (*Fig. 2*), with thicker lateral walls (1.6m). The layout of the transepts was modified, Peers assessing that they were deeper than at Waverley I, with two eastern chapels to each. No longer was the north-west corner of the Tintern II north transept a fixed point. The Peers plan extends the position of the Tintern I north transept to a point where its lower courses must bond with the southern wall of the chapter house.

The probing also led to the discovery of what appears to be the plinth of a buttress, interpreted as the south-west corner of the nave. This was to set the position of the west end of the church, giving an overall length of some 52.7m. Peers appreciated the importance of the find, and had a stone-lined pit constructed with an inspection grille installed over the plinth (*Fig. 3*)[17]. Without documented record, the significance of the plinth, approximately 0.38m below the level of the present turf line, appears to have been lost to scholarship.

It is the Peers plan which has come down to us, all too readily accepted as 'definitive'. In 1934, in an influential work by Clapham[18], the plan found its way into the established literature. It was Clapham who appears to have added the responds to the east end of the nave walls, and these have tended to appear in several subsequent redrawings.

In the most recent account of Tintern I, Halsey continues to rely on same few shreds of evidence[19]. Given the constraints, he does particularly well, though his comments on stylistic detail must be treated with caution. It is very difficult to say anything of substance, with a single trumpet-scalloped capital as the only reliable twelfth-century detail so far located at the site (*Fig. 4*). Despite its plainness, it seems marginally too late for the assumed *c.* 1131-40 construction of the church. The capital could relate to any of the principal cloister ranges.

In sum, the date and style of Tintern I remain open for future investigation. Its plan is by no means as well defined as we might think. Not least, the layout begs many questions of its relationship to Tintern's other twelfth-century monastic buildings.

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5 The sequence of foundation is well known: Waverley (1128) and Tintern (1131) were daughters of l'Aumône (Loir-et-Cher); Fountains (1132) was adopted as a daughter of Clairvaux (Aube). Theoretical early plans have also been proposed for Cwmhir (1143/76) and Neath (1130): *Archaeol. Cambrensis*, CXXXI (1982), 58-72; 133 (1984),147-51.
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8 PRO, Works, 14/75.
9 Brakspear, op. cit., 18.
10 The notes in the *Archaeol. Jnl*, **61** (1904), 213, are also misleading.
11 PRO, Works, 14/76. This file is the source for all surviving information on Brakspear's ground plan.
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14 In 1989, Mr Oswald Brakspear informed me that there was nothing further on Tintern surviving in his father's papers.
15 The Office of Works first became involved in 1913. PRO, Works, 14/78.
16 The 1919 and 1921 editions of Brakspear's guide carried the 1908 plan. The revised plan first appeared in a second edition of 1929.
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SOME TINTERN ABBEY FLOOR TILES AT ST GEORGE'S CHAPEL, WINDSOR

By J. M. LEWIS

This paper is offered to Jeremy Knight, who has always delighted in archaeological by-ways, with my sincere regards.

The Beaufort Chantry at St George's Chapel occupies the octagonal chamber that projects from the south aisle of the nave at its west end. It was founded in 1506 by Charles Somerset, 1st Earl of Worcester and ancestor of the Dukes of Beaufort, and his wife Lady Elizabeth Herbert, whose enormous table tomb of Purbeck marble and alabaster dominates the space from behind its massive bronze screen (Bond & Venables 1952).

In 1843 the 7th Duke defrayed the cost of an extensive restoration of this chapel, which involved the cleaning of the stone-work, the repair of the tomb and the insertion into the windows of stained glass to a scheme devised and designed by the heraldic scholar Thomas Willement. The refurbishment also included 'the insertion into the floor of some ancient tiles of various patterns from the abbey church of St Mary at Tintern' (Willement 1844).

However much this transfer might today be deplored on archaeological and conservational grounds, it cannot be denied that as a gesture of family piety it was particularly appropriate. Not only had the Somersets owned the site of the Abbey since the Dissolution. More telling were its associations with the Herberts, whose Welsh estates and title Lady Elizabeth had brought with her in her marriage, and whose bond with the Abbey had been close. Her grandfather, Sir William Herbert of Raglan, 1st Earl of Pembroke, executed in 1469 after the battle of Edgecote, had been a patron of the Abbey and was buried there (in a tomb that her own was to rival in elaboration), as were her parents (Bradney 1913). Little wonder then that the 7th Duke should consider an offering from this remoter ancestral shrine an appropriate feature to deck another.

The tiles, however, were to remain in the chapel a mere thirty years, for in 1874 further changes were carried out under the Duke's architect Thomas Henry Wyatt, who had collaborated in the 1843 refurbishment. The chief alteration was the removal to Badminton Church, where it was to extend a series of Beaufort memorials, of the wall monument to the 1st Duke, which was too dominant for the limited space of the chapel, and was replaced by a less obtrusive inscription (Hope 1913; Bond 1958). The opportunity was taken to make alterations to the floor, which involved the removal of the Tintern tiles to the 'Lower Chapter Room', where they were set on either side of the fireplace (Chapter Clerk's Memoranda Book, XVII.9.3).

This room is at present used as a vestry, and the tiles are still in place. They comprise sixty-four tiles, arranged in three columns of eight tiles on the angled flanks of the fire-back, with adjoining columns of eight tiles down each vertical edge of the back panel. The centre of the back panel is occupied by fifty complete and ten fragmentary tiles from the kilns at Penn, Bucks., similar to others that have paved The Aerary above since its building in the 1350s.

The fabric and design of the tiles make them immediately recognisable as belonging to Tintern. They comprise five designs (*fig.1, nos.1-5*) from a group of late-thirteenth century tiles belonging to the Wessex tradition, closely related to a series found at Cleeve Abbey and other sites in Somerset (Ward Perkins 1941). Ward Perkins suggested on heraldic grounds that the group post-dates the marriage in 1272 of Edmund, Earl of Cornwall, and Margaret de Clare; at Tintern the completion of the new church in 1301 gives a probable *terminus ante quem* for their use there.

This seems to have been the group principally used to pave the eastern arm of the abbey church, but it was also used in the south nave-aisle. The remains of a pavement composed of tiles belonging to it were uncovered 'near the East Window' in 1816 (Heath 1828), a discovery that seems eventually to have led to a large area of pavement being uncovered. A plan of 1845 shows an area of tiling some 32ft by 7ft (9.75m by 2.13m) in extent in the south aisle, along the south wall between the second and fourth piers from the west; it is described in the accompanying schedule as 'Tesselated Pavement, now enclosed with railing, probably remains of Chantry' (Potter 1847). By 1869 only a few of them seem to have survived, still behind their iron railing (Taylor 1869). In all probability then, tiles would have been readily at hand in 1843 to satisfy the Duke's needs at Windsor. And if the current belief was that those in the south aisle had been associated with a chantry, how much more appropriate that would have made the removal of a sample to their more exalted setting in St George's Chapel. Or was this perhaps a garbled story arising from the recent removal of some of them to a chantry elsewhere?

These were, however, not the only Tintern tiles brought to Windsor at the time. Among the papers of Lord Alwyne Compton, Bishop of Ely, in the Society of Antiquaries of London (Album, ff.116-118) are four tracings of tiles from the Beaufort Chantry (*fig.1, nos.6-9*). They are initialled 'AWF' and marked 'Beaufort Chantry, St George's Chapel, Windsor, from Tintern Abbey'. 'AWF' must stand for the Bishop's distinguished contemporary the antiquary Augustus Wollaston Franks, the tracings perhaps belonging to *c.*1850, when he was occupying himself with a wide range of antiquarian interests between leaving Cambridge and being claimed by the British Museum. (It is the recording work of Franks that also enables the tiles in the south aisle to be identified as belonging to the 'Cleeve

Fig.1. Tintern tiles at St George's Chapel, Windsor. Scale 1:4.

Abbey group', for some of his Tintern tracings are annotated 'SA', presumably denoting 'south aisle'.)

Of the Franks Windsor tracings, fragments from the abbey site of nos.6-8 are represented in museum collections, so that there is independent evidence for their presence there. Examples of no.6 are to be found in the British Museum (Eames 1980, Design 1650), the National Museum of Wales (Acc.no.32.376/43) and Chepstow Museum, and of nos.7 and 8 in the National Museum of Wales (Acc.nos.32.376/67-8 and 32.376/69-72 repectively).

No.7, together with several others from Tintern, is a design that occurs at the fourteenth century kilns at Nash Hill near Lacock, Wilts (Eames 1974, no.13), and must be related in some way to that industry, either being made at Nash Hill, or representing a move by Nash Hill tilers into Gwent, or the aquisition of Nash Hill stamps by tilers working there. Nos.6 and 8 have no obvious affinities and are consequently more difficult to place.

Franks may have realised that no.9 presented a problem, for his tracing is annotated 'none there now', and it is still true that no such design is known from Tintern otherwise than from his tracing. Nor does it fit easily into any of the known Tintern groups. Yet it is difficult to believe that a rogue tile could have been mistakenly introduced into what was a carefully selected group.

Search at Windsor has so far failed to locate any examples of the four designs traced by Franks. They may not have survived their removal from the floor. Even if they did it is easy to see why they would not have been selected for setting in the vestry fireplace, for they were of different sizes, all larger, and would not have combined easily with those chosen, which fill perfectly the spaces they occupy.

How were the Tintern tiles arranged in the chapel floor? Willement's recommendation was that the whole chapel should be repaved with encaustic tiles, and 'the Duke of Beaufort talks of sending old ones from Tintern Abbey for that purpose' (Willement to the Hon.& Rev.H.C.Cust, a Canon of Windsor, 10 June 1843). Such a plan might not at first have seemed impracticable. The area of the chapel is not large, much of its floor space being taken up by the founders' tomb. By calculation from published plans its vacant floor space amounts to some 210 sq.ft (19.5 sq.m.): if such a number were available, a thousand tiles - no more than a few small packing cases - would have sufficed to floor it completely. In the event, however, not enough tiles were sent, presumably because not enough re-usable ones were found to be available, and by December the project seems to have become something of a problem, with the Duke anxious that the job should be finished, and Wyatt and Willement having to visit Windsor to decide how best to utilize what was available.

Wyatt's solution was that the tiles should be inserted as a panel in the space between the entrance screen and the railing round the founders' tomb, the rest of the paving to be left unaltered. A rough sketch in a letter of Willement to the same correspondent (14 December 1843) outlining this intention shows a panel appearing to measure about 10ft by 2.5ft (3m by 0.75m)in this position. This scheme was presumably carried out, though confirmation has proved difficult to find.[1]

Clearly in the long term the project did not prove a success, though what necessitated the changes of 1874 is not entirely clear. Perhaps by then the rest of the floor (whose repaving had been recommended thirty years earlier) needed attention, and an entirely new scheme - the chapel is at present uniformly paved with 12-inch (30.48cm) squares of polished grey marble - was thought to be fitting. On the other hand it is difficult to believe that the state of the Tintern tiles had no bearing on what was then decided. The remaining tiles are very worn, their glaze gone and their surfaces in many cases eroded, so that the harder-wearing inlay stands proud of the surface. This may partly be due to subsequent application of the hearth brush, but it was hardly to be expected that after their long burial in the soil they would stand up to even occasional wear from modern sole-leather.

Acknowledgements
I must thank the Dean and Chapter of St George's Chapel and Dr Eileen Scarf, their Archivist, for the opportunity to examine the remaining tiles and for much valuable information and advice; Margaret Richards, archivist at Badminton; M.J.Pearson, archivist at the National Library of Wales; Angela Mace, Curator of Manuscripts and Archives at the Royal Institute of British Architects; Kathryn Johnson of the British Library, Moira Birks of the National Monuments Record and Dr S.G.Roberts of the Royal Commission on Historical Manuscripts, who have answered enquiries; and also Dr David Robinson of Cadw for helpful discussion and advice.

NOTE

1. Plate XII in John Harrington, *St George's Chapel* (1872) apparently contains an illustration of the Beaufort Chantry at the relevant period, but it has not proved possible to consult this in time.

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GRANGEFIELD MOATED SITE, REDWICK

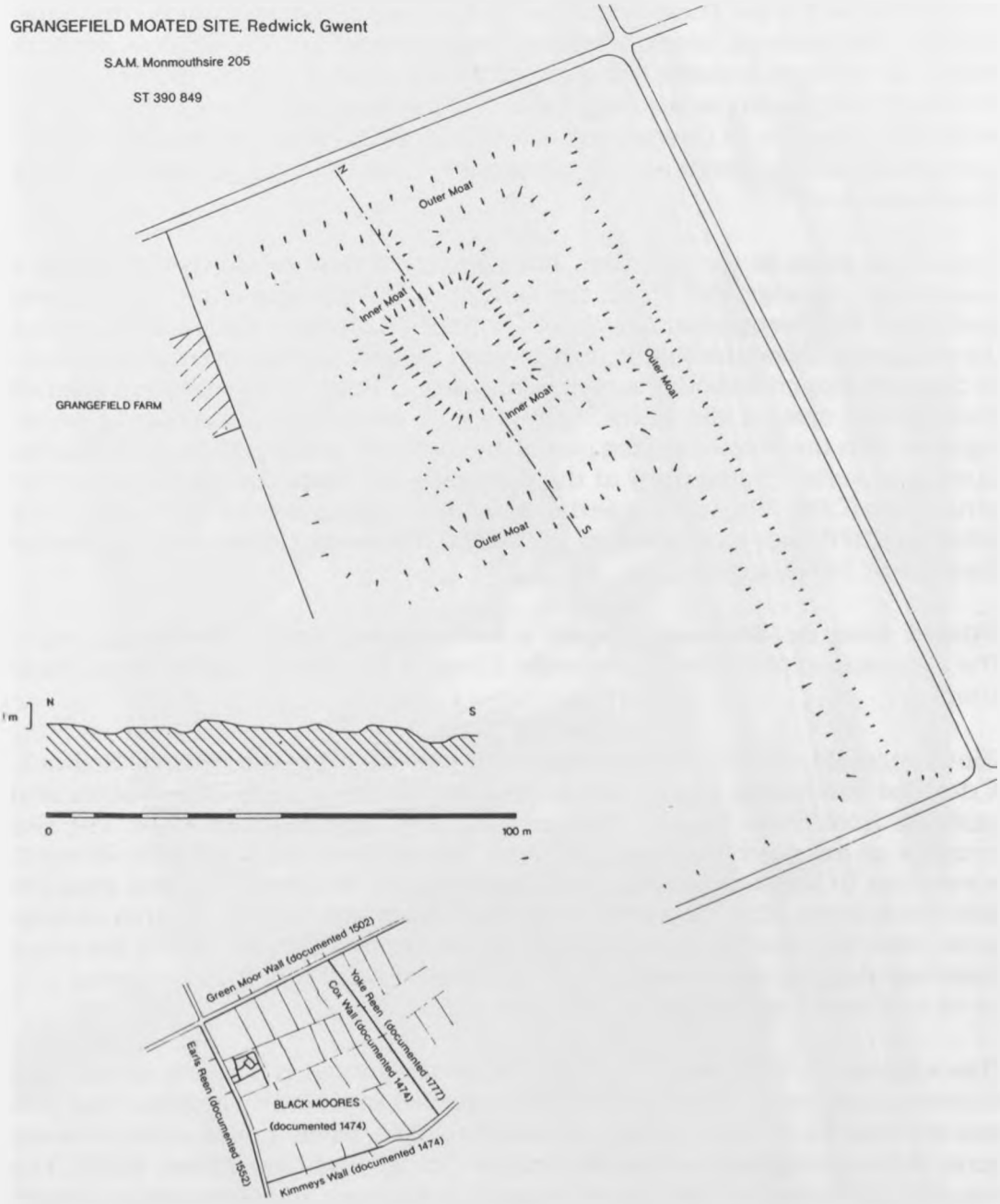
By DAVID H. WILLIAMS

With an *Appendix* by Stephen Rippon.

Much has been made over the years in writings concerning the Cistercian Order of the part its monks played in the drainage of marshland. Very often, this was work initiated by, and/or shared with others. Abbeys concerned on quite a large scale included the Dunes in Belgian Flanders[1], Sawtry in the English Fens[2], Walkenried in the Golden Meadows of Thuringia[3], and Franquevaux in the French Camargue[4]. A monastery might gain its name from such enterprise - as Fossanova ('the new ditch ') in the Pontine Marshes close to Rome[5]. Religious skilled in such work might have their services sought by others. A count of Flanders *(in 1183)* gave the abbey of the Dunes oversight of the sluices in a wide area[6]. King Diniz of Portugal *(1279-1325)* took Brother Martinho of the abbey at Alcobaça to work and cultivate royal swampland at Ulmar[7].

What was true on the Continent held good also in Wales. The reclamation of marshland was a need which confronted coastal abbeys as Margam and Tintern; at the very least, a slowly rising sea-level made protective measures necessay. Tintern owned much property in the sometimes inundated Caldicot Levels. Some of this property lay in Greenmoor adjacent to the Spencer Steel Works, for the construction of which piles had to be pressed forty feet down into the still obvious marsh. Cistercian granges (model farms) sited in such areas frequently bore names indicative of their environment: Furness in Cumbria near the Duddon coastline had its 'Marsh Grange'[8], Kirkstal lits 'New Grange'[9], Meaux in Holderness-[10], and Margam in Grangetown, Cardiff[11], their 'Moor Granges'; soo, to, did Tintern. At its Moor Grange (in the parish of Magor) its monks were given licence (about 1245) "to make a ditch about the boundary of their grange in the moor of Magor, and in the ditch they may do what they will, and the water-courses within and without they may order as they see fit"[12]. Moor Grange was essentially a large moated site.

Before the twelfth century was out the monks of Holm Cultram, close to the Solway Firth, had dug a dyke around 32 acres in West Seaton[13]. Burton Lazars Grange (a property of Fenland Vaudey) was a moated site some 150 x 120 ft[14]. Meaux's Moor Grange was moated, whilst a moated site on its North Grange enclosed its tile kiln[15]. A moat surrounded the buildings of Cuffesgrange, a property of the abbey of Duiske in Ireland[16]. Closer to the Welsh Border moated sites have been recorded on a grange of Bordesley[17] and at least two granges of Abbey Dore[18]. Within five years of its foundation *(1247)* the immediate precincts of Newenham Abbey in Devon were surrounded by a moat[19]. Water-filled ditches


GRANGEFIELD MOATED SITE, Redwick, Gwent
S.A.M. Monmouthsire 205
ST 390 849
N
Outer Moat
Inner Moat
GRANGEFIELD FARM
Inner Moat
Outer Moat
Outer Moat
S
1 m
N
S
0
100 m
Green Moor Wall (documented 1502)
Yoke Reen (documented 1777)
Cox Wall (documented 1474)
Earls Reen (documented 1502)
BLACK MOORES
(documented 1474)
Kimmeys Wall (documented 1474)

also played a part in delineating the precincts of Bordesley in Worcestershire[20] and of Stratford in the Thames Marshes[21]. A variety of considerations - drainage, defence, wild animals, stock breeding - may account for similar sites noted in Wales; the most impressive being the 12ft wide moat enclosing the homestead of Cwmhir's Mynachty in the Lugg Valley[22]. Other such sites have been recorded on lands of Margam (at Caerwigau), of Neath (at Gelli-garn - a partial example)[23], Llantarnam (at Bryngwyn - lately questioned)[24], and Tintern (at Aluredeston in Gloucestershire)[25].

This all leads up to the fact that, having spotted (and never visited before) a place-name, 'Grangefield' [26], on the Ordnance Survey maps, and after a field meeting of our Association one Saturday in 1975, Jeremy Knight and I visited the site and realised the significance of what we saw. Almost twenty years later, Dr Stephen Rippon and others, of the University of Reading, have made a detailed study of this moated site which, with his kind permission, I reproduce below, together with the accompanying plan. I am also very grateful to Mr D. R.Wilson, Curator of Aerial Photography at the University of Cambridge for supplying the aerial plate (CBW 39). Another aerial view (taken from a nearby major electricity pylon in 1976) was published in my *White Monks in Gwent and the Border* (Pontypool, 1976; page 123)

Extract from Dr. Stephen Rippon 's forthcoming book, *The Gwent Levels: The Evolution of a Wetland Landscape* (Council for British Archaeology; early 1996)

The Grangefield moated site lies in the north-west corner of the parish of Redwick. A detailed earthwork survey was carried out by the author, Pete Bewers and students from Saint David's University College, Lampeter, in 1994. The site consists of an inner enclosure, *c.* 20m. by *c.* 25m., on a slightly different orientation to the surrounding outer enclosure (*c.* 40 by *c.* 55m) and adjacent field boundaries. This suggests the original moat was built in an area of open moor, with no pre-existing boundaries to constrain its shape. When the outer moat was dug the surrounding area had been divided into fields, causing it to be on a different orientation to the inner.

This appears to have been the site of a minor grange of Tintern Abbey. The modern place-name, Grangefield (first recorded in 1687)[27] suggests that this was the location of 'New Grange' recorded in 1572, when a deed refers to seven acres of meadow/pasture adjacent to New Grange and Green Moor Wall[28]. The site probably administered Tintern 's lands in Redwick and Green Moor, though it is not known when the abbey acquired the site. A barn in the present farm complex could be 16th century or earlier, and could relate to the monastic phase[29].

(Cambridge University Collection of Air Photographs: copyright reserved).

In 1831 New Grange was owned by the Duke of Beaufort. Though the extent of Beaufort 's holdings in 1831 cannot be taken as exactly those of the medieval grange, it is interesting that the estate included all the land in north-west Redwick beyond Broadmead and Mere Reen, including the area documented from the 15th century as 'Black Moores '[30]. It seems as if Tintern was granted the waste ground beyond the common fields, constructed the grange, and then enclosed the surrounding land.

Green Moor was a large extra-parochial common moor betwen Redwick and Bishton first recorded in 1327[31]. In *c.*1596 it was estimated to be around 300 acres[32], much the same size as mapped for the first time in 1831. It was part of the medieval lordships of Redwick and Magor, though the tenants of Bishton, Goldcliff, Llandevenny, Porton, Whitson, and Wilcrick, all had rights of pasture there[33].

NOTES

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18 Williams, D. H. *White Monks in Gwent and the Border* (Pontypool, 1976) 36.
19 Davidson, J., *Newenham Abbey* (London, 1843) 28.
20 Rahtz and Hirst, op. cit. 33-4, 120-32; Astill, 'Monastic Research Designs', in: Gilchrist, R. and Mytum, H., *The Archaeology of Rural Monasteries*, (Brit. Arch. Report, 203, 1989) 280.

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RAGLAN CASTLE: A RECONSIDERATION OF AN ASPECT OF THE HERBERT PERIOD c. 1460-69

By JOHN R. KENYON

One of the notable aspects of the work of Cadw: Welsh Historic Monuments since it was set up in 1984 has been the programme of new guidebooks under the editorship of David Robinson. A combination of authoritative texts and numerous illustrations, including conjectural reconstructions, have made the Cadw series to monuments in State care one to be envied. The commissioning of the various guidebooks in this series has enabled the authors, some of whom were responsible for the guides in the 'blue covers' (and green), to rethink certain aspects of some of Wales's great medieval buildings; they are not just the rewrites as has been implied in one review of the series.[1] Indeed, Jeremy Knight has argued in his work on Chepstow that what had been interpreted as the lesser hall was in fact the kitchen, although I know some would dispute this interpretation; John Hilling has proposed that the two massive towers at Cilgerran (Pembrokeshire) were not built simultaneously,[2] and David Robinson will soon be presenting new thoughts on the development of Tretower Court (Breconshire).

Whilst work was underway preparing for the revised edition of the Raglan guide,[3] first published in 1988, and which made much use of the original booklet by Dr Arnold Taylor (as does the revised edition), it was brought to the attention of this writer that Taylor's interpretation (followed by Kenyon in 1988) of the bridge which linked the Fountain Court to the great tower or keep was incorrect. The revision was duly implemented in the 1994 guidebook, and the purpose of this short paper is just to emphasise the reinterpretation, accompanied as it is by Chris Jones-Jenkins's excellent reconstructions of how the donjon at Raglan, and the approach to it, may have looked in the 15th century under both William ap Thomas and his son William Herbert, earl of Pembroke.

When William ap Thomas built the great tower about 1435-45, it was reached by two adjacent bascule drawbridges (*Fig. 1a*). These bridges were removed by his son when he built a forebuilding through which entrance to the great tower was gained, the setting for the smaller bridge being used as a fireplace. A solid bridge was built to connect the tower to the Fountain Court and the private apartments, with steps leading up from the court to a doorway which opened on to the bridge itself. Immediately above this doorway are the remains of another opening which was thought to have been a second doorway, which would have connected the first floor private apartments with the great tower via the upper storey of a two-decker bridge, as seen in the reconstruction drawing by Alan Sorrell.[4] Further examination of this upper door has shown that it was in fact a

window, and so it is likely that the bridge itself was a conventional structure, as depicted in *Fig. 1b*.

Although a vast amount has been written about castles in general and on specific sites in the past, recent publications, such as Heslop on Orford, Suffolk,[5] and Dixon and Marshall on Norham in Northumberland,[6] have shown that the study of castles is far from static, with original ideas being reconsidered and new evidence presented. The Cadw series of guidebooks forms an important part of this process.

NOTES

1 See review by David Walker of several titles in the Cadw series in *Welsh History Review* 16.4 (1993), 551-553.
2 Knight, J.K., *Chepstow Castle and Port Wall* (Cadw, 1991); J.B. Hilling, *Cilgerran Castle* (Cadw, 1992).
3 Kenyon, J.R., *Raglan Castle*, revised edition (Cadw, 1994).
4 Ibid. *Raglan Castle* (Cadw, 1988), 14-15.
5 Heslop, T.A., 'Orford Castle, nostalgia and sophisticated living', *Architectural History* 34 (1991), 36-58.
6 Dixon P. and Marshall, P., 'The great tower in the twelfth century: the case of Norham Castle', *Archaeological Journal* CL (1993), 410-432.

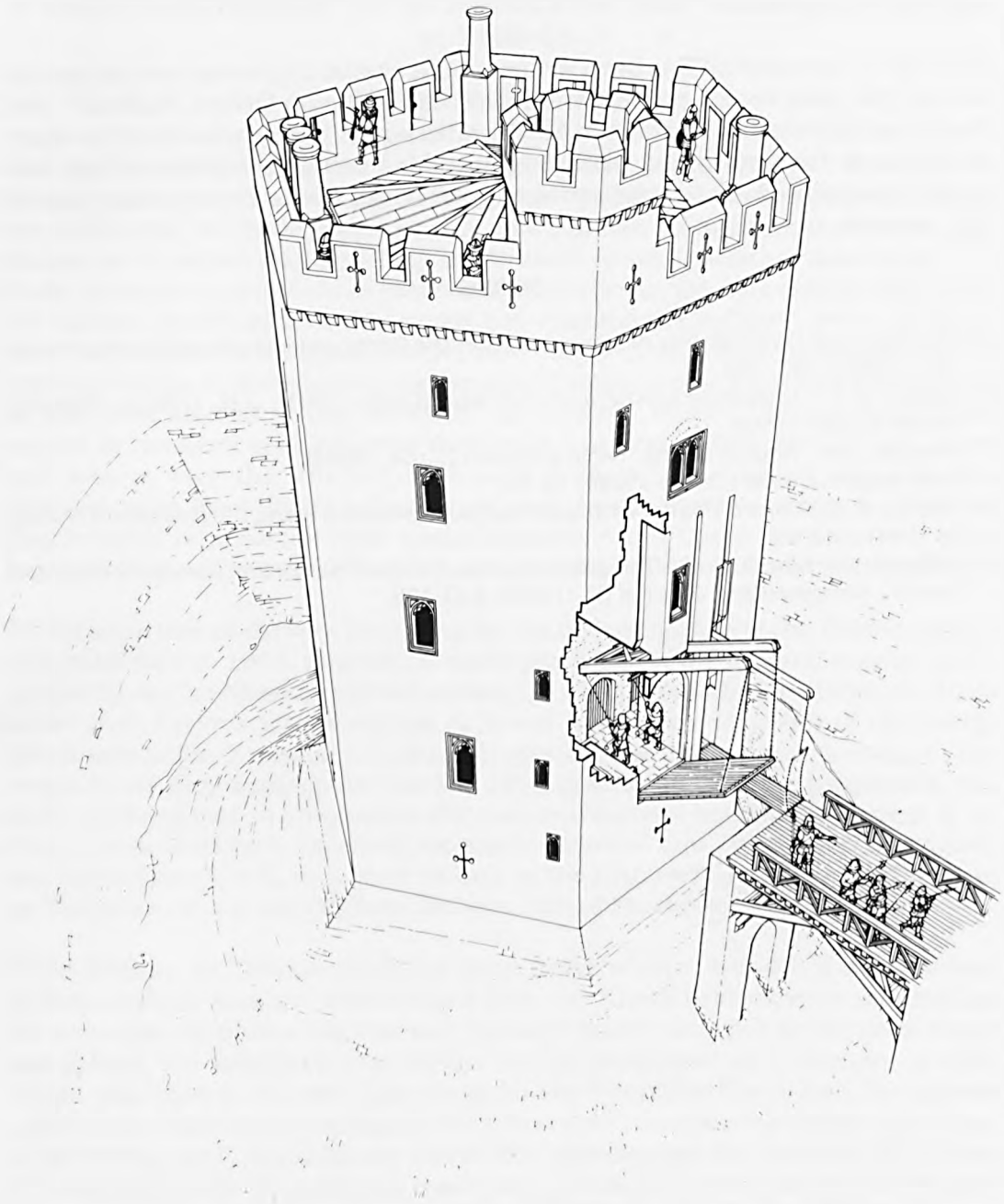
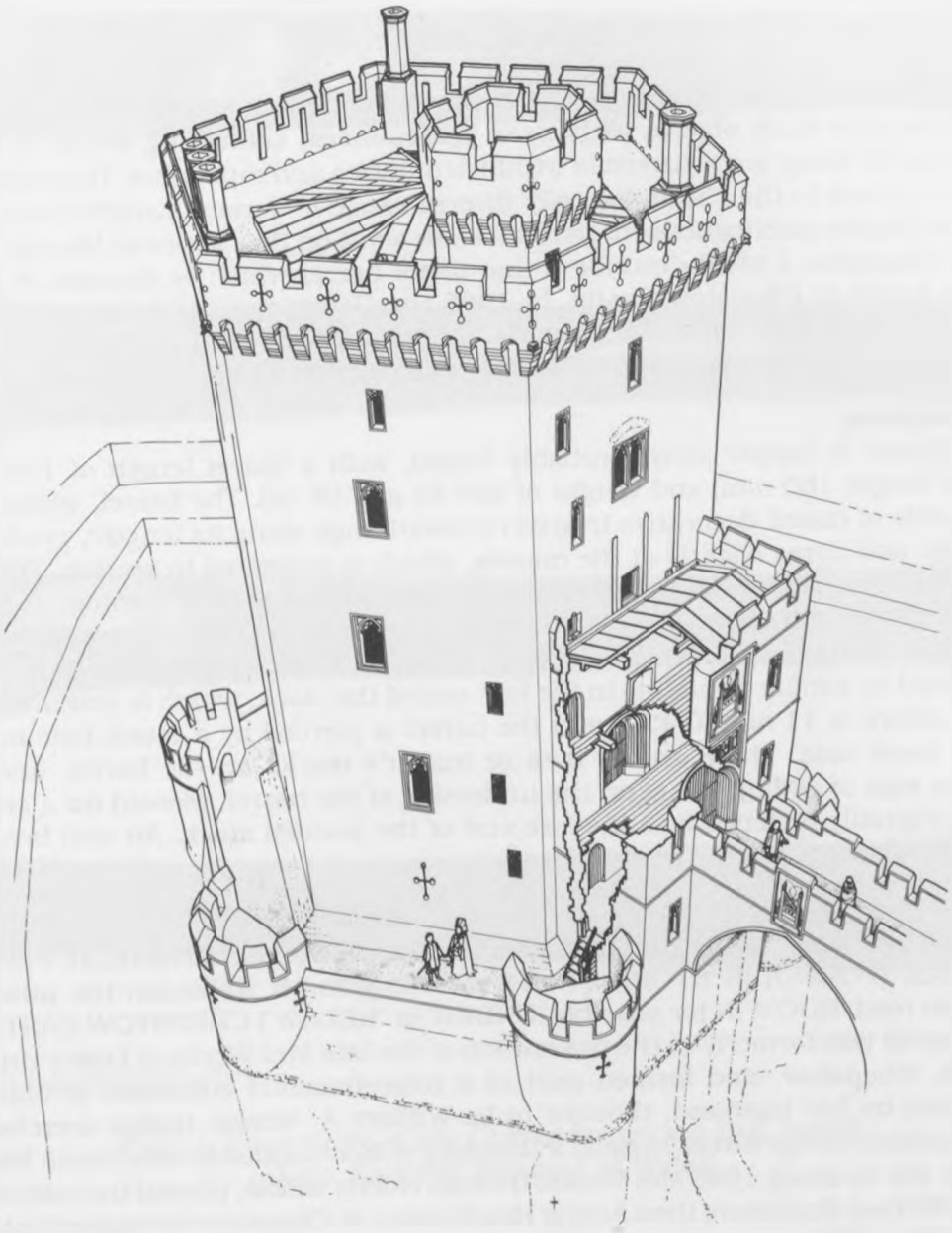


Fig. 1. An artist's reconstruction of the great tower at Raglan. (*a, left*) shows the drawbridges. (*b, right*) depicts William Herbert's forebuilding and the new bridge. the drawings present two reconstructions of the possible original form. Copyright).



original entrance arrangement at the time of William ap Thomas, with two bascule As the battlements and the upper storey of the tower were destroyed in the Civil War (illustration by Chris Jones-Jenkins, 1993, (*a*) and 1995 (*b*, redrawn), Crown

A 'POCKET DAG' FROM CHEPSTOW

By MARK REDKNAP

Discoveries of early small arms on archaeological sites are important, in that they provide such objects with clear provenances, something which is often lacking for many such survivals within armouries and museums. This note is a short tribute to the chronologically diverse range of Jeremy Knight's interests and scholarly publications, in particular his work on the castles at Montgomery and Chepstow. I shall describe a fine pistol barrel which is thought to have been found at Chepstow Castle. In 1995 the Department of Archaeology and Numismatics, National Museums and Galleries of Wales, was fortunate to acquire this object,[1] and it is indebted to Mr W. R. B. Robinson for his generous donation.

Description

The barrel is copper alloy (probably brass), with a barrel length of 155 mm (total length 160 mm) and weight of 226.64 g (7.98 oz). The barrel, which has four sets of raised decorative transverse mouldings along its length[2], gradually tapers, and flares slightly at the muzzle, which is octagonal in section. The top of the barrel behind the first reinforce is facetted in a similar fashion, and the remaining length of the underside is rounded. The large transverse moulding at the base of the barrel, which is not notched for a back-sight, may have been matched by similar moulding in the fore-end of the stock, which is now missing. The calibre is 11 mm (0.43"), and the barrel is pierced by a touch hole in the right hand side. There are no date or maker's marks on the barrel, and no visible sign of gilding. A lug on the underside of the barrel, pierced for a cross-pin, originally fastened it to the fore-end of the wooden stock. An iron breech-plug is screwed into the rear end.

History of the barrel

A small oval label, now incomplete, stuck to the base of the barrel reads 'PISTOL MUZZLE [FOUND] IN STORE...', and according to Mr Robinson the missing portion read 'ROOM IN [or possibly 'UNDER' or 'BELOW'] CHEPSTOW CASTLE'. The barrel was formerly in the possession of the late Mrs Weeks of Lower Bridge Street, Chepstow, and formed part of a miscellaneous collection of objects collected by her husband, thought to be William A. Weeks, timber merchant, listed under Bridge Street in *Kelly's Directory of Monmouthshire and South Wales* (1926, 46). In about 1946 Mrs Weeks, then an elderly widow, passed the collection to Mr William Robinson, then Acting Headmaster of Chepstow Secondary School at Larkfield, Chepstow, and the barrel eventually passed to his son[3]. It seems likely that the pistol barrel was found in the castle in the early years of this century, possibly during clearance work in the grounds by Mr W. R. Lysaght following his purchase of the castle from the Duke of Beaufort in 1914[4]. It was then acquired by Mr Weeks for his collection.

Plate 1. Four views of the Chepstow 'pocket dag' barrel (*photo*: National Museum of Wales).

Discussion

The small size of the barrel and its style indicates that it is from a type of firearm known in the late 16th and 17th century as a 'pocket dag'. In England the term 'dag' (or 'tack') was used first for a pistol, and continued to be applied to some form of pistol until the 17th century[5]. The barrel length compares with

Plate 2. The Chepstow 'pocket dag' barrel
(*photo*: National Museum of Wales).

that of an English snaphance pistol dated *c.*1600 (159 mm), in the collections of the Royal Armouries[6], which has similar moulding and barrel facetting. Similarities in the barrel form can also be seen on early Scottish Pistols (Boothroyd's phase I)[7], as well as the brass barrels of a small English snaphance pistol dated *c.*1610-15 in the Palazzo Ducale, Venice[8], and of two larger near-identical snaphance pistols from the same collection dated *c.*1610-15[9]. The barrel mouldings on the Chepstow dag are also reminiscent of those on an English-lock pistol which once belonged to the early American pioneer John Thomson, and probably dates to before 1622[10]. The long octagonal flare at the muzzle and full muzzle moulding of the Chepstow barrel also occur on English snaphance pistols with brass barrels in the Historical Arms Museum, Tula, Russia, which are thought to date *c.*1605[11]. The Chepstow pocket dag may therefore date from *c.* 1600[12].

The invention of the wheellock, the first purely mechanical system of ignition, resulted in a number of official prohibitions of 'self-striking hand-guns', since

they could be easily concealed, and were frequently used by thieves and assassins. Many of these bans attempted to limit their minimum size, thereby making them harder to conceal[13]. Such legal bans, however, appear to have been ineffective, for most travellers carried such guns for self-protection.

Turning to its discovery, many rooms in Chepstow Castle could be described as store-rooms, but the best candidate, clearly built for storage, is the large rib-vaulted 3-bay cellar under Roger Bigod III's domestic block. This was the main storage area for castle provisions, and supplies could be hauled up to the cellar directly from boats on the river below[14].

Discussion of the circumstances under which such a gun could have been lost are hampered by the lack of details concerning its discovery and context - for example, it is not known whether any other artefacts were found associated with the barrel. However a number of possibilities may be proposed in the light of the documented history of the castle in the 17th century. During the Civil War Chepstow was a royalist base controlling an important route into South Wales. In October 1645 Parliamentary forces finally forced the surrender of the royalist garrison of 64 men and 17 cannon. During the second Civil War, in 1648, the castle was seized by local Royalist, Sir Nicholas Kemeys, and subsequently retaken by Colonel Ewer's regiment after the walls had been breached[15]. After the war the castle operated as a military barracks and place of detention, and the garrison played a role in the maintenance of law and order in the district; in 1690 troops were finally withdrawn.

The pocket dag undoubtedly formed a personal firearm, and it may have been in service during the Civil War. The shortage of weapons at the outbreak resulted in the use of sporting guns and older weapons (alongside obsolete armour). The gun may even have belonged to one of the gentry involved in the second siege[16], and lost during these events, or discarded as obsolete at some point in the 17th century. It should be stressed, however, that the possible circumstances of the loss of such a weapon are numerous, and in this instance none can now be proven. As details of the complete gun, such as form and decoration of the stock and trigger, and firing mechanism, are unknown, the place of manufacture is uncertain. However, the use of brass for the barrel, a frequent characteristic of early English and Scottish pistols, and the flared barrel (an English feature) indicate English (or Scottish) manufacture[17].

Several other 17th-century guns have been found in Wales. A cache of Civil War armour found in 1983 at Ewenni Priory (Mid Glamorgan) comprising a corselet of back and breast plate, tassets and a helmet with a face-defence of the kind called a 'falling buffe', also contained fragments of a powder flask, and two pistol barrels[18]. The cache also contained three shillings of Charles I, the latest

struck in 1644-5[19]. These iron pistol barrels are in poor condition, and no traces of proof makers' marks have been found. It is clear from recent conservation[20] that they were octagonal for their whole length (barrel lengths 425 mm (16.73") and 432 mm (17"), overall lengths 442 mm (17.4")). These are slightly shorter than some English snaphance pistols dated *c.*1620 (462 mm - 499 mm; calibre 129-138 mm[21]). An order of the Council of War in 1630 specified that pistols should have 18" barrels, but by the time of the Civil War, the average barrel length appears to have been reduced to 14 -15"[22]. The Ewenni pistols are of small calibre (10 mm). It has been suggested that they may have belonged to a pikeman officer, though they were primarily cavalry weapons, carried in pairs. The site at Ewenni was, in the mid-17th century, part of royalist supporter Sir Edward Caine's estate, and it has been suggested that the cache may have belonged to a Caine supporter[23].

At the Abergavenny meeting of the Cambrian Archaeological Association in 1876 a 'flint pistol' from 'the time of the Commonwealth' was reported to have been displayed: reputedly found in cleaning the pond at Llanfair Rectory[24]. By the time of the Civil War, the 'dog lock', a variant of the English-lock (a modified snaphance) had been developed, which resembled the true flintlock (also used in the war, but less commonly). Sadly, the present whereabouts of the 19th-century discovery is unknown, and its age unverified.

Recent publication of the metalwork from Montgomery Castle includes an illustration of the lockplate from a wheel-lock musket[25], and an unprovenanced ornate copper alloy sideplate in the form of a sea-serpent, formerly from Caerleon Museum, is probably dated *c.* 1700[26].

The date of the Chepstow pocket dag barrel makes it one of the earliest pistols to be found in Wales, from a period which saw the final ousting of the long-bow by firearms, and it is fortunate for their study that this barrel should have survived in such good condition.

Acknowledgements
I would like to thank Mr W.R.B.Robinson for the generous donation, and information on the history of the pistol; the Photography Department, National Museums and Galleries of Wales, for plates; Mr R. Smith and Mr B. Gilmour (H.M. Royal Armouries), Mr E.Besly (National Museums and Galleries of Wales) for information, Mr R.Brewer for reading an earlier draft of this note, and finally Mr Claude Blair for his valuable comments on the final text.

NOTES

1 NMW 95.23H.
2 At distances of 23 mm, 93 mm, 107 mm and 147 mm from the muzzle.
3 Archive report in the Department of Archaeology and Numismatics by Mr W.R.B.Robinson.
4 For the recent history of the castle, see Knight, J.K. *Chepstow Castle and the Port Wall.* Cadw: Welsh Historic Monuments (Cardiff, 1991).
5 The form 'tack' is particularly associated with Scotland, where it is found as late as the 18th century applied to the all-metal Highland pistol (Claude Blair, in litt; also Blair, C. (ed.), *Pollard's History of Firearms* (Feltham, Middlesex, 1983), 59.
6 XII.1823; see Blackett-Barber, P. Catalogue entries in *Armada 1588-1988. The Official Catalogue* (London, 1988) no.7.18; Norman, A.V.B. and Wilson, G.M. *Treasures from the Tower of London, An Exhibition of Arms and Armour* (Bradford, 1982) 75-6, no.62.
7 Boothroyd, G. 'The Birth of the Scottish Pistol', in D. H. Caldwell (ed.), *Scottish Weapons and Fortifications 1100-1800* (Edinburgh, 1981) 315-338, figs.169,170.
8 Eaves, I. 'Some Notes on the Pistol in Early 17th Century England', *Journal of the Arms and Armour Society* VI (1968-70) 277-344, in particular 279 and plate LX.
9 Ibid. plate LVIII and LIX. These small pistols rarely had trigger guards.
10 Ibid. 280. Barrel length 7 $^{3}/_{8}$"; fragments of firearms excavated at the site of colonial Jamestown (Virginia) include wheel-locks and illustrate their use in the early English colonies (ibid. 285).
11 Ibid. 290-1.
12 I am most grateful to Mr Claude Blair for his initial comments on the barrel.
13 Claude Blair, in litt.
14 During one of the Civil War sieges, a roundhead severed a rope tying up a small boat kept there for escape, and towed it away with the rope in his teeth. See Knight (1991), op.cit.
15 Ibid. 14-5.
16 The pistol which belonged to John Hudson is described by Eaves (1968-70), op.cit.280 as 'a lower class civilian arm'.
17 Ibid. 334.
18 NMW 83.120H; Sell, S. 'A Cache of Civil War Armour from Ewenny', GGAT Annual Report 1982-3 (1982-3) 66-9.
19 Besly, E. *English Civil War Coin Hoards*, B.M.Occasional Paper No.51 (London,1987) 93. It is possible that some coins were lost at the time of discovery.
20 By Jaine Chandler
21 Eaves, I. 'Further Notes on the Pistol in Early 17th Century England', *Journal of the Arms and Armour Society* 8 (1976) 269-329 and plate CI.
22 Blackmore, D. *Arms and Armour of the English Civil Wars* (London,1990) 47.
23 Sell (1982-3) op.cit.
24 *Archaeologia Cambrensis* 1876, 349.
25 Knight, J.K. 'Excavations at Montgomery Castle. The Metalwork', *Archaeologia Cambrensis* 142 (1993) 182-242, in particular 239 and fig.39.
26 Overall length 104 mm; NMW Acc.No.31.78; Blackmore, H.L. *Royal Sporting Guns at Windsor* (London, 1968) plate 51. Other 17th-century material in the collections includes an unprovenanced back and breast-plate (NMW 13.117), and a corroded breast-plate (damaged in the neighbourhood of the left arm) from a site near the Abbey Steel Works, Margam (NMW 61.217).

SCOURING THE LAND: EARLY IRON ORE EXTRACTION AT BLAENAVON

By PETER WAKELIN

Introduction

South Wales was an important iron smelting centre from the sixteenth century onwards, and during the late eighteenth and early nineteenth centuries was the leading iron producing region in the world. The industry grew up to exploit local iron ore, or 'mine', found in the coal measures at the rim of the South Wales coalfield. Up until the mid-nineteenth century one process figured constantly in accounts of winning iron: scouring the surface of the land with water to expose the outcrops and clean the ore. The process had traumatic effects on the landscape, but its remains have been little studied. This paper describes one group of features associated with scouring north of Blaenavon.

The collection and management of water to scour minerals dates from Roman and prehistoric times. In Wales, the Dolaucothi Roman gold mines have extensive leats leading to opencast workings, the beds of which were choked with silt before *c.*800 AD (Burnham, 1994, 43). Leats at the Cwmystwyth or Copa Hill lead and copper mines supplied scouring or 'hushing' systems over large areas of mountainside. Some were being used in 1788, but it is possible that hushing also took place here in the Bronze Age (Hughes, 1994, 49; Timberlake, 1994, 133). Bick (1994) has recently identified over a dozen Welsh mining sites with man-made watercourses probably used for scouring, and it seems clear that many more remain to be identified.

With respect specifically to iron ore extraction in South Wales, documentary sources indicate that scouring was of immense importance until at least the end of the eighteenth century. Thomas Lloyd quoted a legal case of 1795 to the effect that, 'Scouring for Mine (by collecting Water and letting it down in large Quantities to carry off the earth and Rubbish) has been immemorially practiced on these Commons, and anciently the Ponds were much more numerous, but not so large as those used at present. This practice, from all appearances, has existed for Centuries.' (Osborne, 1976, 39.) It was said in the mid-nineteenth century that remains of scouring could still be seen at the head of nearly every valley in South Wales (Rogers, 1861). Place name evidence identifies scours in the words 'race' and 'y scwrfa' (for example near Blaenavon, Glyn Neath, Sirhowy, and Pontypool), while 'patches' were other superficial excavations where scouring was often used.

In spite of the impact and prominence of scouring for iron ore in South Wales, little has been done to identify or study the physical remains of the process. It has been felt that most scoured landscapes were too heavily overworked by

subsequent levels, shaft mines or opencasts to be understood, or have been destroyed by land reclamation and development. Certainly, landscapes of mining and tipping are complex and difficult to interpret, and early scours are seldom identified in the documentary record. However, it is now becoming clear that remains do survive. Some at Blaenavon were noted by Jeremy Knight and Martin Lawler in 1979, and by Lowe and Lawler in 1980.

Scouring Features at Blaenavon

The first consumers of iron ore from the Blaenavon area were bloomeries in the immediate vicinity. The Geological Survey recorded in 1861 that, 'on the highest points of the Blorenge Mountain, large quantities of cinder from the old wind furnaces are also found.' (Rogers, 1861.) Such bloomeries have yet to be located and examined archaeologically. By the late-sixteenth century, several blast furnaces were operating within a few miles. Coxe referred to the area having been let to the Hanbury family, and says that 'the masses of the ore found near the surface were conveyed to the forges of Pont y Pool' (Coxe, 1801, 228-9). The Hanburys owned five blast furnaces in the vicinity at some point from the late-sixteenth century to the late-eighteenth: Llanelly furnace was 2.5 miles to the north, Monkswood 7 miles to the south east, and there were three at Pontypool, roughly 6 miles to the south (Riden, 1993). Impressive scouring features recently noted at Upper Race near Pontypool (Bick, 1994, 39-40) are almost certainly associated with the Hanbury furnaces. In 1787 the lease of mineral rights at Blaenavon passed to the partners in the new multi-furnace Blaenavon Ironworks, completed in 1789 (Knight, 1992). This brought a new scale of iron ore and coal mining, with many drifts being driven and pits sunk. Nevertheless, limited scouring must have continued into the nineteenth century, as a plan of 1814 shows 'Scouring Works for Mine.' (van Laun, 1979, 11; copies of this map and that of 1812 are now held by the Royal Commission on the Ancient and Historical Monuments of Wales, Aberystwyth.)

Scouring at metal mines had several applications which might be reflected in physical remains. It seems to have been used as a prospecting tool to expose mineral veins or seams beneath the soil, as a means of clearing overburden, and even to break up the seams themselves (Rogers, 1861; Cranstone, 1994, 144-6; Hughes, 1994, 49-50). In iron mining, scouring was specially valuable for separating the dense ore nodules from clays and shales, and hence was used to clean piles of previously dug ore from both surface workings and drift mines (Osborne, 1976, 39). The process was said to have an enormous influence on the landscape of the coalfield rim, eroding soil and creating irregular cliffs, turning grazing land into waste, depositing huge areas of spoil, making land boggy, and choking streams for miles (Osborne, 1976, 39).

The mountain north of Blaenavon represents an exceptionally diverse range of features associated with scouring for iron ore, set within a larger landscape of

mineral working, including shafts, bell pits, quarries, drifts, tramroad routes and trackways. Contrary to expectation, many early mining features survive intact beyond the edges of the World War II opencasts which follow the mountain top around Blaen Pig, as Knight and Lawler (1979) and The Ironbridge Gorge Museum Trust Archaeological Unit (1994) have identified.

A particularly important group of features is at Pen-y-ffordd-goch, near the road from Blaenavon to Abergavenny via Llanfoist as it reaches its highest point, about 485m above sea level. Similar features which merit greater study can be found right across the mountain as far as Llanelly Hill. *Figure 1* represents some of the main features so far noted at Pen-y-ffordd-goch, superimposed on the Ordnance Survey First Edition of 1880. Unusually, several scours here can securely be assigned last dates. A mineral plan of 1812 (van Laun, 1979, 10) identifies scours on the south side of the hill in the same form as the surviving earthworks, and shows a limestone stockpile tip in existence which overlies a former hushing leat (SO 2544 1018). On the west side of the Abergavenny Road, a scour survives which was on the map of 1814 (around SO 2531 1037). Further, the scours on the north side of the hill are most unlikely to have continued after about 1817 when the water power reservoir for Garnddyrys Forge was built directly below them, as this would have silted up almost immediately.

The scours south and east of Forge Pond are among the clearest on the ground (SO 2570 1070). They form deep linear troughs from near the Llanellen road, which bisects a small leat at their head. Small dams can be seen at various points along their lengths, broken through by later scouring or working. However, the longest scour follows the southern outcrop of the iron ore south-west from the Llanellen road through Cefn-y-lan to the Abergavenny Road (SO 2623 1060 to 2560 1010). Ponds can be seen at the head of this, but water probably fed from levels all the way along it, as shown on the map of 1812. A steep slope and eroded cliffs have been left on its northern side, while there are large areas of deposition on its south which remain much as they were mapped in 1880. Some of the deposited features are crowsfoot tips from individual levels, but others are clearly washed out and deposited by water (SO 2572 1010). As this scour runs parallel with the outcrop, it is likely that it was used for washing ore from the levels. However, above the slope, sections of small hushing leats can be seen, together with holding ponds. One leat following the contours south-west of Cefn-y-lan (at SO 2555 1010) has well formed breaks at regular intervals which must have let water across the outcrop at right angles, eroding soil and breaking up the clay and shale. It was supplied by a leat at least 400m long from just south east of Pen-y-ffordd-goch itself (SO 2567 1040). Fragmentary water channels and dams on the plateau above the outcrop (for example at SO 2570 1040 and the dam recorded as 'old pond' in 1814 at SO 2578 1034)

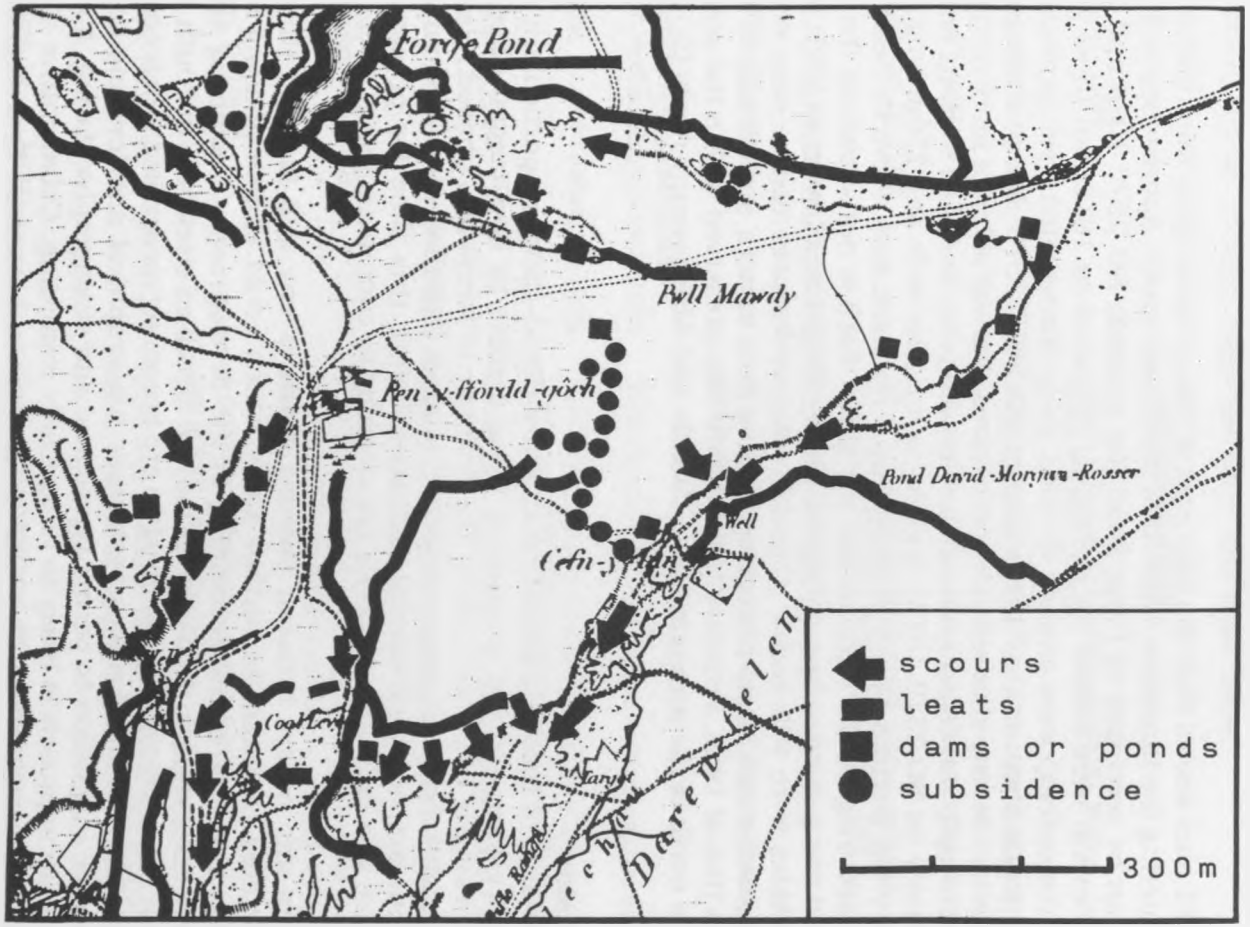


Fig 1. Interpretative sketch of scouring features noted at Pen-y-ffordd-goch, Blaenavon (NGR: SO 2570 1070), overlaid on the OS First Edition Six Inch Map, 1880.

suggest that the whole surface has been scoured and lowered. The soil is thin, with broken rock strewn across it, while rivulets cut through stratified deposits of shale waste.

The 1812 plan shows that the area east of Pen-y-ffordd-goch was riddled with adits entering the ironstone veins from north and south. Approaches to former levels can be seen east of Forge Pond (for example SO 2572 1076 and 2563 1077). Several were named for individual operators in 1812, but those at the east of the outcrop were already disused. Only one isolated level, probably for coal, remains open, east of the hilltop at SO 2637 1073. Many underground workings can be traced as subsidence features. A group of ten or more rectilinear holes at roughly 4m centres indicates collapsed pillar and stall working north of Pwll Mawdy (at SO 2579 1072). A gulley some 20m wide and 250m long north of Cefn-y-lan (around SO 2575 1040) has a remnant dam above its head from former scouring on the surface, but the gulley itself is not shown on the 1880 map and was judged to be a collapsed adit by Knight and Lawler in 1979, when tunnel sides were still visible. Circular collapse features can be seen nearby, though some could be tip reworkings dating from miners' strikes and lockouts such as that of 1926. Primitive bell-pits are also preserved within the area, for example north of the junction of the Pwll-du and Abergavenny roads (SO 2537 1081).

Conclusion

The remains of scouring identified at Pen-y-ffordd-goch are particularly clear and impressive, and are unusual in being datable by documentary and field evidence largely to before *c.*1814. The diversity of forms and phased relations, together with the documentary evidence, suggest that the leats and scours here represent activity over several centuries before this time for prospecting, clearance and excavation, and for ore cleaning in conjunction with levels.

This site and others between Pwll-du, Garn-yr-erw and Llanelly Hill offer considerable potential for further study which could enable phasing of the remains, and clearer understanding of the development of scouring and its environmental impact. Similar sites may be identified elsewhere in South Wales now that their physical characteristics are becoming recognised. Their complex and extensive nature justifies systematic topographical and levelling surveys and sample excavation to permit typological and stratigraphic dating. A multi-disciplinary approach is likely to be specially rewarding. Collaborative studies between historians and archaeologists, geologists, botanists, hydrologists and geomorphologists have great potential to shed new light on this crucial element in the development of the iron industry and the environmental history of South Wales.

Acknowledgements
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THE ARCHAEOLOGY OF THE SECOND WORLD WAR IN GWENT

By MARTIN LOCOCK

Introduction

It seems anomalous to talk of any sphere of archaeology as new, but recent military sites may well qualify, both on the grounds of their age and the belated awakening of interest among archaeologists in their study. At a CBA Wales conference on *The Defence of Britain* held in 1994, Mr Jeremy Knight took the opportunity to welcome the sudden inclusion of his early life into the realm of archaeology, and drew an optimistic parallel between the status of the new discipline of industrial archaeology in the 1960s, and the archaeology of the Second World War three decades later. It is a useful analogy, since it reminds us that archaeology is primarily a method, and can be applied to any period. The historical importance of the Second World War needs no stressing; it should be recognised that conventional histories (and most of the documentary sources) relate mainly to front-line campaigns, and throw relatively little light on supporting industrial and military activities.

In particular, defensive structures of all types were erected quickly, often without record; elementary prudence dictated that the making of detailed plans of defences were discouraged. The conventional historical evidence for the Second World War in Gwent is severely limited. The scope for archaeology to fill this gap is therefore enormous, for sites including fortifications, such as pillboxes; centres of distribution and production (railways and factories); training areas, stores and barracks; and air systems of attack and defence.

Air defences

The ground-to-air defences in Gwent were made up of active defence (heavy and light anti-aircraft batteries) and passive measures (barrage balloons, decoy sites and shelters); the role of the RAF in general, and radar-guided night-fighters in particular, has yet to be recounted in detail: Kerr notes the use of Chepstow race-course as a Spitfire base.[1]

Heavy Anti-Aircraft batteries (operated initially by the Royal Artillery, but handed over to Home Guard units in 1942) were positioned to protect the Gwent coast by winter 1940; initially, the emplacements were temporary sand-bagged sites, but these were rapidly replaced by permanent concrete gun pits and Nissen hut accommodation for the garrison. These sites have understandably survived relatively well, and most locations around Newport can be established: Rogerstone (ST 273 889) (destroyed); Coldra Woods (ST 353 899) (destroyed); Ty Mawr (ST 301 825); Pye Corner (Nash)(ST 348 851); and Caldicot (ST 481 873) (see *fig. 1*). Similar arrangements defended the ports of Swansea, Cardiff and Bristol.[2]

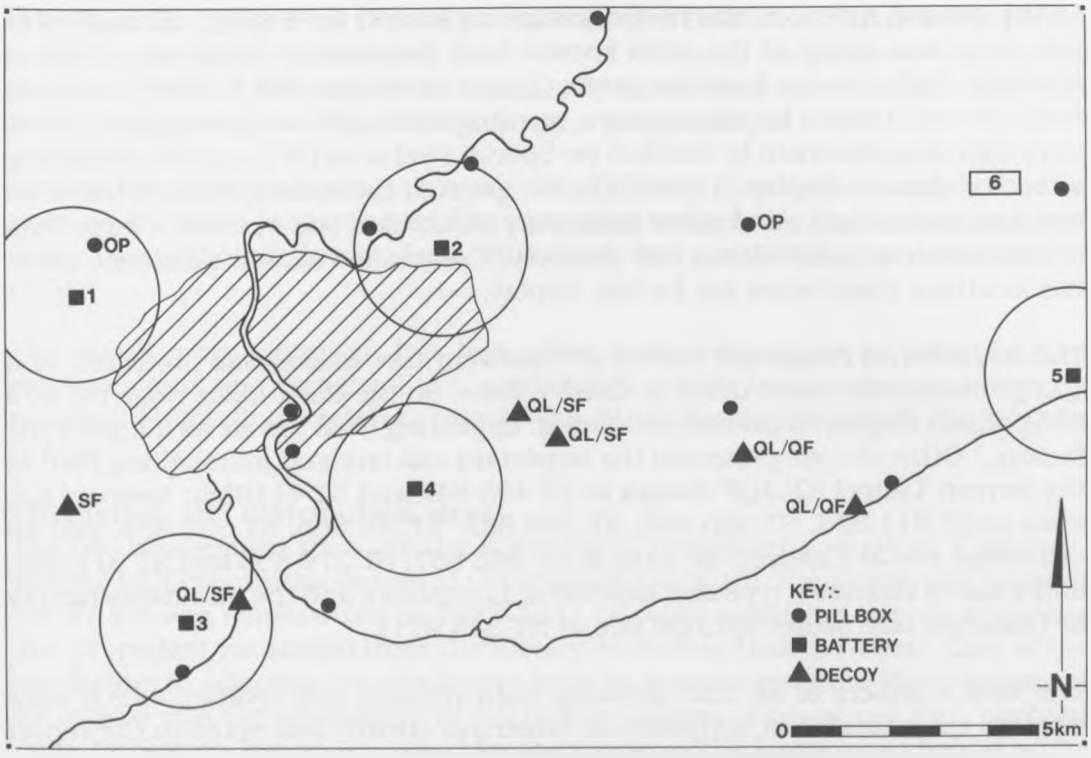

Fig. 1: Second World War sites in south Gwent
Key to sites: 1 Rogerstone; 2 Coldra Woods; 3 Ty Mawr; 4 Pye Corner; 5 Caldicot; 6 RNPF Caerwent; OP Royal Observer Corpsobservation post; SF Starfish; QL light decoy; QF fire decoy.

All of the Newport sites used 3.7-inch guns; most batteries were later increased from 4 to 6 guns, probably in spring 1941 following the raids on the Atlantic ports. The most intensively-studied site, at Coldra Woods, was shown to lack a magazine building.[3] A large central munitions store was established at Marshfield to supply the Newport and Cardiff batteries (ST 856824), as happened at Swansea, West Glamorgan[4], although the Maerdy Farm battery (part of the Cardiff defensive ring) had magazines, despite the proximity to the Marshfield depot.

No Light Anti-Aircraft batteries have been located; they would probably have been housed in temporary emplacements or modified pill-boxes. In the *1945 Peace Celebrations Souvenir Programme*, published by the County Borough of Newport, a Home Guard Ack Ack rocket battery (Z battery) in Newport is mentioned; this has not been located.

A High-Frequency Direction-Finder post was located at Cefn Crib (ST 241 997); due to poor reception, this was replaced in 1950 by a new building on Mynydd Maen (ST 256 983); this was abandoned shortly afterwards. No radar sites have been noted.

Of the passive defences, the best evidence we have is for decoys, although it is not clear how many of the sites known from documents retain any physical features. Night decoys have the prefix Q, and were intended to divert bombers from the real targets by simulating a burning town (QF) or lighting (QL); these were later supplemented by Starfish (or Special Fire) sites (SF), capable of creating a more elaborate display of fires.[5] On the ground, these decoys consisted of an arrangement of lights and other temporary structures laid out over a large area of farmland, controlled from a well-protected Command Post some distance away: the locations cited below are for the display.

The Royal Naval Propellant factory at Caerwent (*see below*) was protected by a QL/QF decoy site constructed at Coed-y-Paen, on the Coed-Llifos ridge (ST 472 955), which displayed permitted lighting, appearing from the air as if it were the factory.[6] Other decoys protected the important rail link and marshalling yard at the Severn Tunnel (QL/QF decoys at ST 435 847 and ST 411858); Newport (QL sites at ST 311 828, ST 380 958, ST 366 867, ST375 866, ST 390 838, and an unlocated site at Caldicot; SF sites at ST 366 867, ST 276 855 and ST 311 828; and a site of unknown type and location at Llangibby); and the munitions factory at Glascoed (*see below*) (QL/QF site at ST 345 971).

The vast numbers of air-raid shelters, both military and civilian, which once existed, are now almost invisible; an Anderson shelter was noted in the report on excavations at Abergavenny Orchard.[7]

It is difficult to assess how successful these defences were, since their primary role was as a deterrent; certainly no confirmed "kills" were recorded. One intangible benefit was the effect on morale of a highly visible and audible defence: during the "Three Night's Blitz" on Swansea, it is said that the Coastal Batteries were fired solely for this purpose.[8]

Ground defences

The most visible part of the ground defences surviving today is usually the pillbox; these were constructed in great numbers in the early years of the war, to fulfil three functions: 1. coastal defence against landings; 2. protection of key points (eg airfields); and 3. creation of stop-lines to impede advancing forces.

In Gwent, few pillboxes have been recorded (Wills lists only seven).[9] Recorded pillboxes are located at: ST 299 815, ST 322867, ST 323 861, ST 331 827, ST 342 904, ST 359 915, ST 385 948,ST 405 903, ST 412 868, ST 444 851, ST 504 873, ST 535 942, ST542 964, ST 549 903, ST 551 903, ST 962 967; SO 011 538, SO 330093, SO 371 013, SO 375 012, SO 480 910, SO 513 126, SO 514 127,SO 537 011, SO 537 378, SO 540 051, SO 567 182, SO 578 193, SO588 178. Most are in positions selected for coastal or key-point defence. The stop-

lines noted in Dyfed, West Glamorgan, and around Bristol are paralleled in Gwent on the crossings of the Usk and Wye.[10] Royal Observer Corps observation posts survive at ST 288 902 and ST 415 903. A command post (form unspecified) was found during excavations at Cross Street, Abergavenny.[11]

Among the more intriguing sites are the Auxiliary Unit hides, intended to be used as the base for local guerillas operating behind the lines of an invading army; one of these is known from Wentwood, and another near Usk (at SO 388 020).[12]

The much more common, but less often preserved, defences (sand-bagged emplacements and trenches) are, predictably, poorly represented by surviving remains, although a stretch of trench was found during Manning's excavations in Usk.[13]

Production and distribution sites

The two best-known sites are the Royal Naval Propellant Factory at Caerwent, and the MOD munitions factory at Glascoed (SO 350010). The factory at Caerwent (ST 47 91) was constructed in 1938-1941 to supplement the supply of cordite (the propellant for shells) from the factory at Holton Heath, Dorset. One of the key factors in selecting the site (apart from its remoteness from likely targets of air attack) was the availability of 7.5 million gallons of water per day, pumped from the Severn Tunnel, required for the process. The factory was linked to the railway system by a specially-built branch line. The complex was laid out as two separate units to minimise the risk of disruption by air attack (in the event, only isolated bombs fell on the site). The production of up to 230 tons of cordite per week at this site must rank as one of the most important contributions of the area to the war effort.[14]

The Newport Docks were also, of course, of prime importance, as one of the receiving points for materials coming across the Atlantic. In addition, one of the floating harbours used in the Overlord landings in Normandy was built there. However, it is uncertain how much of the surviving structures can be said to reflect specifically military use.

Future prospects

The common factor in these examples is the necessity of understanding the sites as a system, to move beyond the single site to the group which reflects the military thinking of the time. Of course, such studies are only possible when most of the sites can be identified (as in the example of the Heavy Anti-Aircraft batteries).

There is little doubt that there are many (perhaps hundreds) surviving sites which have yet to be included on the county Sites and Monuments Record; it is

to be hoped that the CBA Defence of Britain initiative, channelling the work of local recorders, will make a significant contribution to this end.

Acknowledgements
This paper draws together information provided by numerous individuals, including Roger J. C. Thomas of RCHME, Brian Stephens, David J. Maynard of GGAT, and David R. Evans, now of Avon County Council. The recording of the Coldra Woods battery was funded by Celtic Inns Ltd.

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A SELECT BIBLIOGRAPHY OF THE WRITINGS OF JEREMY K. KNIGHT 1962 to 1995

By JOHN R. KENYON

Introduction

This bibliography lists all Jeremy's main publications which have appeared up to the spring of 1995. The list excludes reviews and most notes on sites which have appeared in such publications as the summer meeting programmes of the Cambrian Archaeological Association. I offer this, together with my note on Raglan Castle, to Jeremy with thanks for all the assistance he has given me over the years since I crossed to the west of Offa's Dyke in 1979!

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REVIEW

Monmouth School and Monmouth, 1614-1995. By Keith Kissack. xi + 158 pp., 17 figs. and 18 plates; 250 x 170 mm. (Hereford: Lapridge Publications, 1995). ISBN: 0-95-18589-8-X. (Obtainable at £7.50, from Brian Stevens, Church St., Monmouth, or the Bursar, Monmouth School).

This fascinating book on the history of Monmouth School and its long and often tempestuous links with the town of Monmouth, is the latest from the pen of Keith Kissack, who has produced a distinguished list of books on the town and the surrounding countryside. As such, it will be welcomed warmly by those with an interest in local history, as well as by past and present members of the school.

The school was founded in 1614 by the Worshipful Company of Haberdashers, with money left to them by William Jones, one of their members who, though having spent most of his life abroad, had connections with Monmouth and Newland. He left £9,000 *"to ordain a Preacher, a Free-School and Almes-houses for twenty poor and old distressed people ..... of the Towne of Monmouth"*. He also endowed a preacher and alms-houses at Newland, which already had a free school. Education was to be provided free for all children, especially those born in the town, but also those born within the county. Accordingly, land was acquired on the river bank and building commenced.

In this well-researched book, Mr. Kissack shows how the admirable aims of the new grammar school were slow to establish themselves for several reasons - the doubtful quality of the appointed teachers, the distant administration of the school from London and the constant criticism of the townsfolk, many of whom were also the parents of the children being educated. By way of trials, vicissitudes and triumphs over nearly four centuries, the school in 1995 has earned its place in the educational field and also as an indispensable part of the life of Monmouth.

Mr. Kissack includes many fascinating sidelights in his narrative, such as the parlous state of many Monmouth houses in the eighteenth century, because their foundations of Roman and medieval 'cinders' were being sold by their owners to forges at Osbaston and in the Wye valley. The illustrations are good and plentiful, and the appendices interesting - the examination papers of 1870-72 would strike terror into many a young schoolboy's heart today. The rather uninspired title should not put the reader off sampling the delights of this book.

Gwenllian V. Jones

FIELD EXCURSIONS AND OTHER ACTIVITIES, 1995.

Day Outings: May 20th, to Shropshire.
A full day was spent exploring several interesting sites in the county, beginning with the visible remains of the third Roman fort to have been built on the site of present-day Leintwardine. After lunch, under the expert guidance of Mr. Peter Curnow, members visited Hopton Castle, a tower house of around 1300, which was besieged during the Civil War and its garrison of Parliamentary troops massacred after surrender. Our Chairman, Mr. Jeremy Knight, was the guide for the rest of the afternoon, at the Saxon and Norman church at Diddlebury, the stone-built house known as Upper Millichope, a rare survival from the early

fourteenth century, and, finally, the splendid Priory at Much Wenlock, founded for nuns around 680 by St. Milburga. Members enjoyed a welcome cup of tea in the Priory Hall before the journey home.

September 30th, to the Bredon Hill villages.
The autumn outing found us in Worcestershire, exploring some of the picturesque villages encircling the foot of Bredon Hill.Our guide to the history of the villages and geology of the area was Mr. Paul Whitehead of Little Comberton. Over coffee and biscuits at Eckington, he gave us a brief outline of what we would be seeing during the day. The weather was kind for our perambulations around Little Comberton, Elmley Castle, Overbury and Kemerton, with their photogenic houses and splendid churches. We were very proud of our driver, Jeff, when he calmly negotiated the very narrow "hole in the wall" at Elmley Castle with his large coach. We enjoyed a substantial tea at Bredon in the company of an exuberant local rugby team, before heading home by way of Ledbury.

Evening visits.
Once again, attendance was patchy. Perhaps members would care to respond to the invitation issued every year, to send in their suggestions for visits? Our first engagement was at Treowen, the family home of Mr. John Wheelock, who showed us round with obvious love and enthusiasm, from attic to cellar. This fine Tudor manor house, with remnants of a Tudor garden, probably dates from the middle of the sixteenth century. At Llanfair Cilgoed, Rev. David Williams showed us the Victorian chapel of ease, with its fine east window, restored by him (when rector) in 1981, and the foundations nearby of a medieval Cistercian grange of Abbey Dore. At Llanvetherine, on the same evening, we saw several very fine tombstones, including an early effigy of a priest and those of a seventeenth-century rector, Rev. David Powell, and his wife - resplendent in a Welsh hat. On a Saturday afternoon in August, we walked the "second half" of the Piercefield walk *(see 1995 volume for the first half!)*, with Mr. Keith Underwood, thus completing the circuit, to our great satisfaction, and at the same time exciting the interest of an enormous flock of sheep near Lover's Leap. Our final visit of the season was to a delightful old farmhouse at Penygarn, Pontypool. Lower Twyn Gwyn is a good example of a sub-medieval Monmouthshire house and still retains its distinctive pentice. We had a very warm welcome from Mrs. Lewis, and a glass of wine in the flower-filled garden, before making our way in the dusk to the recently rebuilt Folly Tower at the top of Pontypool Park.

Annual General Meeting: March 25th, 1995.
Mr. Jeremy Knight was installed as Chairman at the meeting, held at the Endowed School, Caerleon, after which Mr. Michael Ponsford delivered a lecture on 'The Archaeology of Bristol'.

October Lecture: October 14th, 1995.
The annual lecture was given by Dr. Martin Bell, of St. David's University College, Lampeter, to a substantial audience at the Caerleon College of Further Education. Dr. Bell spoke on "The Archaeology of Goldcliff and the Gwent Levels", a popular and timely topic in a year when there has been so much discussion about the impact of the second Severn bridge and the M4 extension on the Gwent landscape. The lecture was very well received and generated many questions.

G.V.J.