

## Reviews

*The Tombs of St. Peter and St. Paul.* By Engelbert Kirschbaum, S.J. 9 × 5½ in. 248 pp., 57 figures, 40 plates and 4 colour plates. London: Secker and Warburg, 1959. Price 45s.

The official report on the excavations beneath the high altar of St. Peter's in Rome was a sober and convincing factual account of the discoveries with a minimum of conjecture. Unfortunately the price was prohibitive for all but the wealthiest libraries. The non-specialist reader has had to rely too long on secondary accounts, often more concerned with interpretation than with a simple record of the facts. In any case these were inevitably prepared by authors who lacked the excavators' intimate acquaintance with every stage of the work. Father Kirschbaum, one of the signatories of the report, was associated throughout with the investigations and the present more popular account from his pen is a welcome addition to the extensive literature about the subject that has grown up. For all to whom the official report is inaccessible the book provides the indispensable basis for any assessment of the results. But it is not merely a summary of the official report; Father Kirschbaum, while recording the facts with scrupulous care, allows himself a rather greater latitude in suggesting an interpretation. He has, moreover, the advantages of having read the critics and being able to distinguish between valid and invalid objections to the statements set out in the official report.

The book has six chapters. The first three deal with the pagan necropolis below St. Peter's, the story of the excavations and the critics. There follow an historical reconstruction of the development of the Apostle's tomb, an account of the tomb of St. Paul in the basilica on the Ostian way and a consideration of the fate of the physical remains. Clearly no review could do justice to all the subjects dealt with in this closely written and authoritative work; we shall confine our detailed analysis to three topics, which have become or may become matters of controversy. They well illustrate the complexity of the subject and are basic to an understanding of the earliest Christian use of the site.

1. Have the corporeal relics of St. Peter been found? The only human remains in the area explained as a grave and lying immediately beneath the high altar was a small group of bones discovered under the 'red wall', erected *c.* A.D. 160. They belonged to a single skeleton—that of an elderly and vigorous man. They were not in situ, but had been gathered in a heap and deliberately pushed under the wall. These facts do not preclude an identification with St. Peter; we can only comment that this is probably as far as we shall ever get.

2. What is the date of the earliest graves in the central area beneath the high altar? Klauser, largely relying on von Gerkan for his critical archaeological position, has argued with a wealth of detail that the earliest graves— $\gamma$ ,  $\theta$  and  $\iota$ —cannot be older than the mausolea S, O and R; his argument is based on the relative levels of the foundations and the assumed changes in ground level. Kirschbaum has little difficulty marshalling a detailed and convincing refutation of Klauser's thesis. His section (fig. 21) makes it clear that graves antedating the 'red wall' and the contemporary *tropaion* are dug from two different ground surfaces. The second with grave  $\eta$  is approximately level from north to south and is substantially the finished level of area P. The older surface, with graves  $\gamma$ ,  $\theta$  and  $\iota$ , slopes down from north to south. The only convincing reason for this change is the disposal of the earth cleared for the construction of mausoleum S and others dated in the first half of the second century. For the oldest graves this is a *terminus ante quem*; it is not inconsistent with the brick stamps of Vespa-sianic (69-79) date and of *c.* 115-25 found respectively in graves  $\theta$  and  $\gamma$ . There are also recent excavations by Prandi, unpublished but quoted by the author in this context,

to prove that other first-century graves existed in this area, immediately behind the 'red wall'. Since the fundamental criticism against the date of the earliest graves was formulated largely on the basis of technical stratigraphical evidence, it has seemed better to emphasize this aspect of the author's refutation rather than the historically stronger argument that the group of graves as a whole represents a tradition of burial *ad sanctum*—Kirschbaum does not use the term, though it summarizes his argument (p. 89-90).

3. Is grave  $\gamma$  with its altar-like superstructure and libation pipe Christian or pagan? The latter conclusion has been widely argued. Undoubtedly Christian graves of this type dating from the fourth century have been explained as part of the influx of pagan custom succeeding the Edict of Toleration. Kirschbaum supports the view of the official report: 'the libation pipe does not disprove its (sc. of the grave) Christian character.' His argument is likely to commend itself to Christian archaeologists; it emphasizes the essential continuity of customs among the converts living in a pagan society. The argument may be reinforced by a parallel from the Münster at Bonn, where a very similar structure with two bowls for libations inset on the surface was found at the heart of the earliest cult-centre or *martyrion* beneath the altar. This was dated *c.* 270 and convincingly explained as the *memoria* of the martyred Saints, Cassian and Florentius (*Bonner Jahrbücher*, cxxxvi-vii, 38-9 and 208).

It would be wrong to leave the impression that this book is concerned solely with technical detail and controversial minutiae. Inevitably and rightly they are dealt with. But the whole story of the excavation and the history of the site are recounted with a grasp of essentials and a lucidity of presentation that compel admiration and assent. Some details may need revision as further evidence comes to light, some arguments could be challenged. The main thesis that the central space beneath the high altar of St. Peters represents the grave of the Apostle has withstood the critics. The evidence is circumstantial and lacks scientific proof. But, as Kirschbaum pertinently remarks: 'how many graves are there, accepted as historical, with an authentication as solid as the grave of Peter?'

C. A. RALEGH RADFORD

*Sylloge of Coins of the British Isles: Hunterian and Coats Collections, University of Glasgow: Pt. I, Anglo-Saxon Coins.* By Anne S. Robertson, 10 × 7½ in. xviii + 88 pp., 42 plates. London: Oxford University Press and Spink and Son, for the British Academy, 1961. Price £3 3s.

That coins have an importance for the medieval historian, comparable, sometimes, to that which Mommsen demonstrated they should have for the Roman, has of recent years been ably pleaded by scholars of the stature of Sir Frank Stenton. Such breadth of learning should be a guarantee that it is not special pleading for an eccentric interest, and we may consider the case established. Time was when the other financial and administrative instruments that nowadays seem the main tools of the 'historian's' trade were thought marginal to his proper study. Since the publication or calendaring of these there has been no escaping them; when only selections were available comparative study was beyond the competence of the more general student: he could either ignore the instruments, or if it suited him, use them as mere illustrations.

In the last volume of this journal C. E. Blunt has put the case for yet closer examination of Anglo-Saxon coinage by showing what remarkable results it has yielded already; the advances of the last fifteen years have been astonishing. Yet much of the material has been inaccessible. The first part of the Anglo-Saxon section of the *Catalogue of English Coins in the British Museum* is three-quarters of a century old and poorly illustrated, and presumably the Trustees will not encourage a second edition until they have caught up with the coinage of whatever regime shall prevail at that dim future. But recent coins are self-explanatory and tell little that cannot be obtained elsewhere. The archaeologist and historian are concerned with two categories of coin:

those, including most Roman and medieval examples, which provide an explicit and additional sort of documentation, and those, such as ancient British and similar 'barbarian' coins, certain 'dark-age' coins, and, I would add, many early Greek ones, which are nearly meaningless outside their context, but submitted to strictly archaeological methods of distribution and comparison, form a fundamental source of information about ill-documented periods. In this category belong the Anglo-Saxon sceattas. In either category the description of material without comment is the prerequisite of research.

Publication may take two forms: there is the *corpus* of all known specimens, like Belfort's invaluable *Description générale des monnaies mérovingiennes*, made nearly seventy years ago, or Sutherland's *Anglo-Saxon Gold Coinage . . .*, where the tables are irreplaceable, though the commentary may be partly outdated; and there is the catalogue of individual collections of accumulations, pre-eminent among which for our period is the now eighty-year-old *Anglo-sachsiska mynt i Svenska Kgl. Myntkabinettet . . .* by B. E. Hildebrand. The *Sylloge* belongs with this type of work. Committees for the uniform publication of collections of Greek coins were set up under the auspices of the British Academy over thirty years ago, as well as in Denmark, but the archetypal *Sylloge* was Sir George Macdonald's of the Greek coins in this same Hunterian collection. Now, under the same patronage of the British Academy, the work is extended to British coins: the first volume, covering the ancient British and Saxon coins of the Fitzwilliam Museum, appeared in 1958; this Hunterian volume is the second, by the curator, Miss Robertson, whose services to Romano-British archaeology are well known and by whose Augustan discipline the Saxon *numeri* are admirably instructed.

The Hunterian coin-collection is unique. Formed by William Hunter, brother of the better-known John, and like him a pioneer in scientific surgery, in the last dozen or so years of his life, it was bequeathed to Glasgow University, as only part of a larger museum, specifically for teaching purposes. One is reminded of Sir Hans Sloane, and more widely, of the part played by doctors in applying scientific standards to what had hitherto been the preserve of *MM. les amateurs*. Hunter studied the coins himself, and his colleague Charles Combe, also a doctor, and after him his son Taylor Combe, prepared a catalogue that was to be the base of a larger work, that, alas, never appeared. They were abreast of their successors of today in their interest in the dies from which the coins were struck, a study that has revolutionized numismatics in recent years. The only duplicates to be disposed of were die-duplicates. Yet thereafter this amazing collection, little augmented since 1783, and preserved *pro bono publico*, has been surprisingly neglected. Now it is available to all.

Complementary to it is another rich collection formed by Thomas Coats, a textile magnate of Paisley, in the nineteenth century. This is a more selective collection, but the eighteenth-century collection contains numerous runs of coins from old finds, bought in bulk and undisturbed, which two centuries of trading would have scattered in a hundred cabinets. Perhaps the only desideratum in the text is some indication about coloration that might suggest which coins came from the same hoards. Nevertheless, having already made use of it, I can testify that this volume will be a most fruitful source-book for generations of students.

S. E. RIGOLD

*An Inventory of the Ancient Monuments in Caernarvonshire, II: Central. The Cantref of Arfon and the Commote of Eifonydd.* By the Royal Commission on Ancient and Historical Monuments in Wales and Monmouthshire. 11 × 8½ in. lxvi + 287 pp., end maps, 194 text figures, 83 plates. London: H.M. Stationery Office, 1960. Price £4 10s.

This second volume of the Caernarvonshire inventory covers an area west of a line running almost south from Bangor, but excluding Llŷn which is reserved for volume III. The general survey of the county as a whole will also appear in that volume: the introduction, in effect, forming an extensive epilogue. This awkward-seeming arrangement has been necessitated, of course, by the large and difficult area and large number of

minor monuments in the county, coupled with a laudable desire to publish the inventory itself as quickly as possible, step-by-step with the actual field survey. For a reviewer, it has the disadvantage that he is presented with individual sites, often in great detail, but without the broad picture of development to which they must contribute. Often the date of a monument is left open. In other cases, as Mr. Gresham showed in reviewing volume I (*Archaeologia Cambrensis*, CVI (1957), 123-7), the principles on which the Commission has classified sites are obscure, and will remain so until all is made clear in volume III. For these reasons it has seemed most useful for the present review not to attempt a general appraisal of this volume, but rather to draw attention to those monuments within the arbitrary period A.D. 400-1600 which might be of particular interest to readers of *Medieval Archaeology*.

1. *Religious monuments, A.D. 400-1100*. The area contains five inscribed stones of Nash-Williams's group I, all of which have been better illustrated in *Early Christian Monuments of Wales*. Indeed it is difficult to see that any purpose is served by photographs like pl. 6 (d) or pl. 7 (a). The possibility that no. 1015 from Gesailgyfarch (=Nash-Williams 105) has two independent inscriptions is touched on, but not enough is made of the half-uncial letters in the second of the inscriptions. On the date of this stone, the Commission says that it is 'of sixth-century character'. This expression leads one to hope that a critical approach has been adopted to the typology and supposed chronology of the stones; but the hope is dashed by the firm dates given to the other four. It cannot be said too often that only one stone in Group I can be exactly dated; that two others may be dated within two generations; and that this does not provide an adequate basis for a chronological system.

The Commission rightly rejects the supposed ogam on no. 1416 from Treflys (=Nash-Williams 106), leaving only one ogam stone in Caernarvonshire, no. 1016 from Llystyn-gwyn (Nash-Williams 84). Remembering that there is only one other ogam in north Wales (Nash-Williams 176 from Denbighshire) one is tempted to think that their absence is a witness to the success of Cunedda and his followers in driving out the Irish before the erection of ogams became fashionable. This plausible hypothesis must be tempered by the recognition that, apart from the two ogams and a handful of place-names, there is no evidence for Irish settlers in the area.

Apart from the inscribed stones the only monument which may convincingly be assigned to the early saints is the small building, with unmortared foundations of rough rubble, which lies beneath the chapel of St. Beuno at Clynnog Fawr (no. 795). This may well be the chapel of the saint himself. The oriented skeletons found in the grounds of University College, Bangor, probably mark the site of Bangor monastery (no. 683). The early date of the rough building found near by is rightly questioned by the Commission, especially as it produced two glazed sherds (not one, as stated p. 12 a) and the burials beside its north wall are not described as oriented in the original report (*pace* the Commission account, which should be read in conjunction with *Archaeologia Cambrensis*, LXXIX (1924), 395; LXXX (1925), 432).

One other monument has sometimes been dated sixth-seventh century, namely the well-chamber, dry-built of massive blocks, of Ffynnon Gybi (no. 1267). To this a cottage or drying-room was annexed *c.* 1750. The Commission admits that the masonry of the cottage differs from that of the well-chamber, and notes that the junction of the rear walls of the two rooms 'is in favour of the well-chamber's ante-dating the cottage': but it claims that the front walls of the two buildings bond, and its plan shows them as a single work of *c.* 1750. Inspection of the buildings shows, however, that in the front wall there are still two or more massive quoins of the well-chamber in place to the left of the cottage door; and the bond between the two buildings has been achieved by knocking out header quoins and filling-in with the smaller mortared rubble of the cottage. The details of this masonry cannot be seen on pl. 80 (b), but there is no technical reason why they should not appear clearly, for they are unambiguous on a photograph in the reviewer's collection. There can be no doubt that the well-

chamber is earlier than the cottage, though this is not to say that it is certainly contemporary with St. Gybi. This possibility should at least have been discussed and the evidence presented in accurate detail by the Commission.

2. *Secular monuments, A.D. 400-1100.* Only one site can certainly be placed in this category, the hill-fort of Dinas Emrys, no. 742. The brief reference made in the present volume to evidence of post-Roman occupation is now superseded by the full publication of Dr. Savory's excavations in *Archaeologia Cambrensis*, cix (1960). It may be suspected that some other hill-forts should be ascribed to the dark ages, notably that on Moel y Gest (no. 1438) with a plan reminiscent of the Scottish 'nuclear' forts, and three small forts enclosed by massive dry-stone walls: Castell Caerau (no. 924), the small fort near Nantlle (no. 1212) and Carn Pentyrch (no. 1262). This last is a most remarkable fort, suggesting an unfinished pre-Roman work with bank and ditch completed with stone-walled outer enclosures and inner citadel after 400. It is also probable that some of the enclosed hut-groups, otherwise of Roman date, continue into the fifth century. Another class of unfortified site has in the past been tentatively assigned to this period: the concentric enclosures represented by Llwyn-du Bach (no. 1285) and a site in Llanwnda parish (no. 1340 (iii)). Excavation of the former produced no chronological evidence, but it was nonetheless dated after 400 on very flimsy historical grounds (*Archaeologia Cambrensis*, c (1949), 173-206). The latter, which is part of a complex of huts and fields including the Romano-British enclosed hut-group of Hafoty Wern-las (no. 1340 (i)), was originally published by W. J. Hemp and C. A. Gresham, who considered it to be contemporary with the enclosed hut-group (*Antiquity*, xviii (1944), 194-6); but G. Bersu and W. E. Griffiths did not accept the contemporaneity of the two sites. Now the Commission suggests that the concentric enclosure is earlier than the field terraces which are probably to be associated with the enclosed hut-group. If this observation is sound, then concentric enclosures must be pre-Roman, not post-Roman, cattle ranches. We must await volume III for the Commission's general views on this.

3. *Religious monuments, A.D. 1100-1600.* With the exception of St. Beuno's, Clynnog Fawr (no. 795), a fine cruciform church of the late fifteenth to the early sixteenth century, the parish churches of the area were always undistinguished. We may note in passing that St. Mary's, Beddgelert (no. 700) has some masonry of the early thirteenth century; that St. Catherine's, Cricieth (no. 870) and St. Garmon's, Llanarmon (no. 1088) are unusual in their twin-aisled plan; and that St. Michael's, Llanrug (no. 1292) has a fifteenth-century roof with one hammer-beam truss. One of the most interesting features of Bangor cathedral (no. 681) is the original plan (c. 1120-1140) of the east end, with three apses, but very little of this remains above ground, and pl. 8 does scant justice to it. Otherwise it is a much-restored work of the thirteenth to the fourteenth century with a sixteenth-century west tower and nave arcades.

4. *Castles and defended works, A.D. 1100-1600.* According to fig. 1, the area contains two mottes, Dolbenmaen (no. 916) and Tomen Fawr, Llanystumdwy (no. 1374). The glossary (see p. 262) defines a motte as 'a steep, flat-topped mound of earth or scarpd rock, forming the main surviving feature of an 11th- or 12th-century castle. The mound was originally surmounted by a palisade and tower, usually of timber'. There is scarcely a phrase in this definition which is not open to discussion; but at least it makes it clear that for the Commission a motte is a pudding-basin-like feature, whether natural or artificial. Dolbenmaen is just this; but Tomen Fawr was a circular or crescentic bank with its interior on much the same level as the ground outside the ditch. It is to be hoped that volume III will provide justification for its classification, without comment, as a motte. Other medieval earthworks are found at Tŷ-mawr, Llanddeiniolen (no. 1167) and Dinas y Prif, Llanwnda (no. 1335), which is certainly a medieval moated site, though presented here as an 'unclassified earthwork'. The curious earthworks at Gadlys (no. 1338) and Hen Gastell (no. 1337) may also be medieval.

Masonry castles are represented by the works of Welsh princes at Cricieth (no. 872) and Dolbadarn (no. 1132), and by the Edwardian masterpiece at Caernarvon (no. 1104). In all these our knowledge of the structural sequence depends partly on features visible above ground, partly on observations (unpublished save in the case of Cricieth) made during clearance and consolidation by the Ministry of Works. Even at Cricieth one detects a note of scepticism underlying the Commission's remarks about such observations. In all three castles, the recovery and publication of finds has been defective and would not be tolerated on a prehistoric or Roman monument. Nor is the visual presentation of these castles by the Commission or in official guides satisfactory. It seems to be thought that a castle is a two-dimensional work; but to the soldier, elevation, with its possibilities of command of ground and the use of plunging fire, is as important as plan. It follows that, to present a castle, section- and elevation-drawings must accompany the plan; and because the nature of the ground and the approaches often determines the layout of a castle, these must be included in both plan and sections—but not in the form of the carelessly-drawn inset which passes as the site plan of Cricieth.

The account of Caernarvon castle and town is the most important item in this volume. It is greatly enhanced by the superb air-photograph of the medieval borough (pl. 40), which does something to compensate for the plans of the same subject, figs. 98 and 99. The Commission rightly rejects Sir Charles Peers's account of the structural development of the castle (but a photograph of the south curtain east of the Chamberlain Tower should have been included to justify their case) and follows the hypothesis put forward by A. J. Taylor in *Antiquity*, xxvi (1952), 25-34. The essence of this is that in conception the castle is a unitary work, designed by Master James of St. George; that the lowest part of the curtain was built around the entire circuit in 1283-92; but that the superstructure of curtain and towers proceeded more rapidly on the south, where the walled town afforded no protection. Taylor's original scheme proposed two main periods of work: 1283-92 and 1296-1323. This the Commission have modified into a tripartite scheme, splitting the second period into 1295-1301 and 1304-1330.

It can scarcely be claimed that the resulting account, though worked out in great detail, is at all lucid. The primary difficulty arises from an inconsistent use of terms. At the start of the discussion of structural development two phases of work are distinguished, on the evidence of vertical junctions, as earlier and later (p. 127a). 'The later work came . . . to surmount walls already standing 12 or 24 ft. as far as the Granary Tower' (p. 127b). But on the plan (fig. 108) and section (fig. 104), the walling above the 24 ft. level in the Granary Tower, which we should thus expect to see called 'later work' is in fact hatched as 'earlier work 1283-1301: probably from 1295'.

The confusion has arisen because the Commission is trying to divide two main structural phases between three main periods in the building-accounts, corresponding roughly to the superintendence of three architects. The argument could have been simplified had it been acknowledged at the start that pl. 43(b) shows not two but three stages of construction: (a) Eagle Tower, with adjacent curtain to a steep jagged line just east of the basement arrow-slit; (b) the curtain east of this line from the glacis up to a horizontal line a little above the lowest coloured band; (c) completion of curtain to the parapet. The coloured bands are characteristic of stage (a); and the continuation of the lowest band in stage (b) shows that this follows closely on stage (a); the discontinuity of the upper bands suggests a considerable hiatus before stage (c). In other words the 'later work'—stages (b) and (c)—itself falls into two phases, of which the earlier belongs in character with the 'earlier work' or stage (a). Some such hypothesis must underlie the Commission's correlation of structural development and building accounts; but it would have helped the reader had it been made explicit.

The description of Caernarvon castle is illustrated by excellent plans, quite the best in the whole inventory. They would indeed be faultless but for the curious convention used to denote changes of level in the plans; the meaning of their symbol may be clear to the Commission, but it is not so for other readers, and should have been explained.

The photographs, on the other hand, are mixed in quality. Those by the National Buildings Record are excellent, though some of them have been better reproduced elsewhere (compare pl. 43(b) with *Antiquity*, xxvi, pl. ii, a). The other photographs, presumably the work of the Commission staff, do usually have a central zone in focus, but two-thirds or more of many plates is out of focus, or has the soft focus which is considered flattering in portraiture but is scarcely appropriate in architectural work. These remarks, it should be stressed, apply generally, and not merely to the photographs of Caernarvon.

5. *Farms and houses to A.D. 1600.* The only sizable house of early date which has remained substantially unaltered is Vaynol Old Hall (no. 1387), a fine two-story stone house of a basically L-shaped plan. Some smaller houses have interesting features, like the imposing chimneys in both gables of Garreg-Fawr, Waunfawr (no. 1421: the long section is reversed in fig. 187); the fine spere truss above the screens passage at Penarth-Fawr, Llanarmon (no. 1090); the 'rather archaic' roof trusses of Plas-du (no. 1091); or the dry-built Tŷ-Mawr, Beddgelert (no. 701), where surviving roofing arrangements reveal the original plan of the hall. No less important than planning standing houses is reporting ruined farms, some of which must be of medieval date: in particular this is true of the platform houses. Unfortunately, of the many platform houses listed, only three groups are planned, and two of these had already been published by C. A. Gresham (*Archaeologia Cambrensis*, ciii (1954), 18-53); it was scarcely worth republishing them to show minor discrepancies between Gresham's plans and those of the Commission when so much remains unsurveyed. In particular, one would have liked plans of the cruck house of Gorllwyn-uchaf, Dolbenmaen (no. 891) and associated field-systems (no. 994), apparently showing a sequence of land utilization, and of the long huts in Cwm Brwynog (no. 1143) and Cwm Dwythwch (no. 1114), which are apparently to be identified with *hafodau* mentioned in 1352 in the *Record of Caernarvon*: the relevance of these to arguments about the function of platform houses is apparent. Possible medieval field-systems are listed near Clynnog (fig. 42 with p. 49b) and Dolbenmaen (no. 982). Finally one should note the cautionary tale of Graeanog (no. 852), identified here with the medieval hall of Trahaearn Goch (*f. c.* 1300) but subsequently shown by A. H. A. Hogg's excavations to be Romano-British (*J. Rom. Stud.*, L (1960), 211).

This review, besides indicating sites of particular interest to the medievalist, has necessarily contained much criticism. It must now be said that the present volume, with its companions, represents by far the best work ever done by the Welsh Commission; and furthermore, that it will certainly stand comparison with recent volumes by the other two Commissions. A perfectionist might wish that the Welsh Commission had done better; a realist must recognize that it has done sterling work in a region of great natural difficulty. The completion of the trilogy, and the general introduction to Caernarvonshire, will now be awaited with eagerness.

L. ALCOCK

*Lincolnshire Architectural and Archaeological Society, Reports and Papers*, n.s. viii. Edited by D. M. Owen. 8½ × 5½ in. 112 pp., 10 figures, 5 plates. Lincoln: published by the Society, 1960. Price 20s.

This volume contains four articles on coastal salt-extraction in Lincolnshire from iron-age to medieval times by a team of local archaeologists and historians. F. T. Baker gives a succinct account of the iron-age salt industry in the county, while Mrs. Hallam has plotted on maps the numerous Romano-British salt-working sites in the southern part of the county discovered mainly by air photography. Her description of the debris from the sites is particularly valuable; clay linings, evaporating vessels and supports (but not the bars of the Essex red hills). The last two articles are a survey of the rich documentary sources for medieval salt-working in Lindsey by Mrs. Rudkin and Mrs.

Owen and in the Lincolnshire fenland by Dr. Hallam. They provide a wealth of material for students of the subject.

It has taken over 50 years for us to understand the methods of salt extraction from the sea in antiquity. The main point that we have had to grasp, surely obvious enough, is that in the British climate direct evaporation of sea-water by the sun is not a practical method. The word salt-pan (the normal translation of medieval Latin *salina*) conjures up the vision of broad ponds of water under a blazing sun, such as we see on the Mediterranean coast today. Nothing could be more misleading. On the English coast artificial evaporation by fire was necessary. In iron-age or Romano-British times the brine was either boiled or poured over heated stacks of clay rods. The salt content of sea-water is very low and it seems probable that the brine was concentrated beforehand in some way. In medieval times this preliminary concentration was responsible for the characteristic surviving field monuments, that are so commonly found in marshland areas. After the spring tide had passed over the sand or mud flats natural evaporation produced a high salt content on the ground surface. This surface was scraped off, the salt washed out and the strong brine solution thus produced boiled to give salt crystals. The mounds are simply the waste mud or sand from which the salt had been washed out, although they had a convenient secondary use as a high platform above the level of tidal flooding on which a hut could be built and equipment stored. Although the methods of extraction in iron-age and Roman-British times were markedly different from those used in the middle ages yet the characteristic remains in both are waste mounds, not sunken 'pans'.

The identification of the clay bars, supports and briquetage from the Essex red hills by Reginald Smith (*Proc. Soc. Ant. Lond.*, 2 ser., xxx (1917-8), 36-54) has made this type of monument easy to identify, especially as the material normally occurs in profusion. The publication of the Elizabethan map of Fulstow and Marshchapel (*Lincs. Mag.*, II (1935), 196-206) made it clear that medieval salt-making also gave rise to mounds. They are normally too large to excavate by ordinary means and very unproductive of material. However the conversion of marshland from pasture to arable that has been taking place in some areas recently has led to the destruction or disturbance of a number of these mounds. In 1955 I was able to watch the bulldozing of five such mounds on Seasalter Level, near Whitstable, Kent (*Arch. Cantiana*, LXX (1956), 44-67) and excavate on one of them. Owing to the waterlogged state of its centre this yielded a mass of wooden objects (paths of sticks, hurdles, wicker-lined pits with wooden covers, wooden tools), while another gave masses of burnt material and quantities of lead, evidently the material used for the boiling-pans. Unfortunately there was no documentary evidence for the mounds, and it became clear that what was needed was a thorough survey of the documents of a well-documented area. The volume under review exactly meets this need and I will mention briefly some of the more interesting points.

The boiling-pans were of lead, as was inferred at Seasalter, while the fuel was peat (perhaps also used for straining off the mud from the brine?). The mound normally bore a house or *cote*, and each saltern had an attached area (*sandacre*) of sand or mud (they were often arranged in strips like the open fields they adjoined) and apparently sometimes lay near a stream or watercourse (cf. Seasalter). The surface mud or sand scraped up was called *muldefang*, as distinct from the *turfe* (peat). The medieval word *cotels* (p. 93) is perhaps analogous to the modern dialect word *coterells* of unknown etymology used for the large marshland mounds on the south side of the Isle of Sheppey, Kent. Some pasturing of animals was normal in the area attached to each boiling-house, and, except in certain areas, where the saltmaker was a specialist, it was a local cottage industry.

The map of Fulstow and Marshchapel shows that salt-making was also a crude method of reclamation of the marsh for pasture (by making the mounds farther and farther seaward), but these two uses of the marshland are really exclusive, for the

construction of a sea-wall to secure the pasture from tidal flooding at the same time cuts off the supply of salt water. Why did coastal salt extraction die out in late medieval and Tudor times, so that the sites of the salterns lie today in imbanked marshland, sometimes a long way from tidal water? We can hardly attribute it to the Black Death, for this should have affected all industries equally. At Seasalter the construction of the sea-wall is well documented to 1325-40, by which time the thirteenth-century salt industry had apparently died out altogether. The early failures and difficulties encountered in building the sea-wall at Seasalter are a reminder of the rising sea level in later medieval times which, as Evans has shown, played such an important part in the imbankment of the Kentish marshes (*Archaeol. Cantiana*, I.XVI, 103-46) and which we now know was responsible for flooding the Norfolk broads. Tidal flooding was a normal hazard of the industry and might have required a re-siting of the mounds, but it could hardly have made extraction impossible. Dr. Hallam argues, from a deep knowledge of the Lincolnshire written sources, that tidal flooding prevented or hindered the extraction of peat, the saltmaker's fuel. This may well have been the important factor in Lincolnshire, although I formed the impression at Seasalter that a good deal of the burnt material was wood-ash. This cumbrous method of coastal salt extraction was vulnerable to cheaper supplies of salt from two sources: the inland brine springs where a high salt content made direct boiling feasible, and southern Europe where direct evaporation by the sun was possible. The former still await study, but the latter has been the subject of a recent book by Dr. Bridbury (*England and the Salt Trade in the Later Middle Ages*, Oxford, 1955). He has shown convincingly that in England and north-west Europe generally from the mid-fourteenth century onwards the cheap Bay salt, imported from the Bay of Biscay area, increasingly replaced home-produced salt as the chief source of supply.

M. W. THOMPSON

*The Scottish Castle*. By Stewart Cruden (Studies in History and Archaeology, ed. F. T. Wainwright). 9¼ × 6½ in. xvi + 272 pp., 25 figures, 48 plates. Edinburgh: Nelson, 1960. Price 42s.

This book, well produced, with a profusion of excellent plates and a sufficiency of plans, is a fine and welcome addition to the literature of castles and military architecture in Great Britain. Scottish castles require separate treatment for the good reason that Scottish history differs from the history of England and Wales, which produced the castles south of the border. It is difficult to think of anyone more qualified for the task than Mr. Cruden, Her Majesty's Inspector of Ancient Monuments for Scotland, and not easy to see how the job could have been better done. In his Preface the author announces an attempt 'to explain the "why" as well as the "how" of Scottish castles' (p. v), and admirably fulfils the promise in the pages which follow. It is the most satisfying general feature of this good book that its author is throughout aware that 'architecture is a reflection of its social environment and the spirit of the age' (p. vi); for although, as he rightly says, this is a 'truism', it is also a profound truth which has frequently been ignored by architectural *soi-distant* historians. There are, too, on pp. 100-3, some penetratingly sensible remarks about medieval castles in general, which should be closely read by all who desire to understand a subject often obscured by mere antiquarian writing. (Wordsworth is appropriately quoted to the point in the Preface—'I've measured it from side to side, 'tis three feet long and two foot wide'). Armed with the divine gift of historical common sense, and a formidable accumulation of expert architectural and archaeological knowledge, Mr. Cruden has rethought and rewritten the history and development of the castle in Scotland, with important results. The story begins with the motte, in Scotland as in England the outward and visible sign of the incursion of Norman feudalism, and thereafter for the next 250 years Mr. Cruden would reasonably have his Scottish castles developing more or less as their English counterparts, though generally with less spectacular results. The absence in Scotland of tower keeps of the first rank does not imply a total absence

of early stone castles, and many Scottish castles are accordingly and convincingly argued back to the twelfth and thirteenth centuries to which they seem rightfully to belong—including Rothesay (pp. 27, 29-36), and notably the west Highland group of Kisimul, Mingarry, Tioran and Dunstaffnage, seen as monuments to Scottish expansion against the Norse power (pp. 38-48). Thus another promise of the Preface is fulfilled, 'to refute the heresy of time-lag which has bedevilled the study of early castellated architecture in Scotland. There is no reason to assume that in Scotland things are not what they seem' (p. vi). Upon such firm foundations, Inverlochy can be raised c. 1270-80 (p. 61), to be followed by the great 'Edwardian' castles of Caerlaverock, Bothwell, Kildrummy and Tantallon, none of which here, however, is attributed to Edward I (pp. 69-72). Mr. Cruden thinks it improbable that Edward raised new castles in Scotland (p. 71), and one may add that if the king had done so, then surely, on the analogy of Wales, we would have known more about it. After these triumphs and the great upheaval of the Edwardian wars, after the captains and the kings, the eagles and the trumpets, comes the increasingly splendid anti-climax of the tower-houses. In addition to much valuable detailed description, Mr. Cruden also has some sound things to say about their origins and the history which produced them, and one feels hereabouts that he has grave doubts (which he is almost too polite to confess, but not quite—see p. 89) about Dr. Douglas Simpson's thesis of the relationship of tower-houses, and their alleged precursors the keep-gatehouses, to Bastard Feudalism. Not without counterparts in late medieval England, the tower-house lasts and develops in Scotland, to become 'one of the most remarkable manifestations in Europe of a national architecture' (p. 91), and nothing is more striking than the resumption of vertical building and tower-houses by Scottish lords and their builders in the sixteenth and seventeenth centuries after the false dawn of the Renaissance in Scottish architecture (see ch. v). At this point also the author provides an admirable chapter on the development of gunpowder and cannon in Scotland (here, at least, there does seem to be a 'time-lag'), not forgetting to point out the deficiencies of the new weapons, which perhaps partly help to explain the happy indifference to them shown by most late Scottish castles. 'Please God, I will build me such a house as thieves will need to knock at ere they enter' (Patrick Forbes at Corse Castle c. 1500, p. 224)—here is the spirit and the context of the later tower-house. Then in the mid-seventeenth century the New World broke in, the Indian Summer of medieval tower-houses was over, and the book ends with an account of Cromwellian and Hanoverian fortifications (which, like earlier pages on the mystery of the broch, has little to do with castles, but is welcome none the less).

There is at times a certain awkwardness in the arrangement of the text, which combines chronological argument with the division of castles into types, and the detailed descriptions of individual examples; sassenachs, at least, would like a map; and too much is read into the *thirteenth-century* use of the word *castellum* on p. 83. But this is an admirable book which can be recommended with enthusiasm. R. ALLEN BROWN

*Castles and Cannon. A Study of Early Artillery Fortifications in England.* By B. H. St. J. O'Neil. 9½ × 6¼ in. xix + 121 pp., 10 figures, 24 plates. Oxford: Clarendon Press, 1960. Price 30s.

It has long been a convention to end books on the English castle in the fifteenth century, and to regard it thereafter as a military anachronism, stressing its increasing domesticity and making casual reference to its forlorn defence in the Civil War as a prelude to dismissing it with a formal slighting by Parliament. This book performs the essential service of carrying the history of fortification through without a break from the late fourteenth into the seventeenth century, demonstrating its continuity and exploring to a degree never before attempted in this country the intimate relationship between the two subjects of its title, castles and cannon. It does for the British Isles, in greater detail, with a wealth of example, and for a shorter period, what M. Ritter was doing

for France at about the same time. It has the advantages and disadvantages of a pioneer work, and as a posthumous publication it must be judged with caution, for we do not know how the author might have revised his text and rounded it off had he lived.

The early chapters, which will be of most interest to readers of this Journal, are the best. There is an introduction by Professor Russell on the early use of gunpowder incorporating the results of research by Dr. Hall. The author then opens his subject with a detailed study of the manner in which the late medieval castle adapted itself to defence by cannon, and in particular a study of the evolution of the gun-port that, both in text and illustration, is a model of how such research should be conducted and presented. From this he passes by way of the first true artillery forts at Dartmouth and Kingswear, made familiar by his own early research, to an overall study of the contribution of Henry VIII's engineers to the development of coastal defence.

It is with the introduction of the bastioned trace after the middle of the sixteenth century, and especially with its application during the seventeenth century, that the treatment of the subject becomes less firm. The main problem in the study of fortification during this and later periods is the formidable mass of theory that has to be assimilated, with its attendant danger of supposing that this theory was closely followed in the field. As Muller said of Coehorn's theoretical treatise, 'had he left us in writing that knowledge which he acquired by his great experience, it would undoubtedly have been worthy of so great a man'. Mr. O'Neil shows that he was alive to the danger (p. 85), but his text shows that he occasionally forgot his own warning. It is doubtful, for instance, whether his reliance on the angle of flank as a feature of typological significance can be justified. Before the great days of Vauban the angle of flank (in practice if not in theory) was variable within reasonable limits, because, given a well-drawn line of defence, it can be neutralized and the salient covered by traversing the pieces on the flank itself. Nevertheless, this later part of the book contains valuable descriptions of sixteenth- and seventeenth-century fortifications in the British Isles, both extant and destroyed, and in reading it one is constantly reminded of how much of this material is due to the author's own research.

The gap of six years between Mr. O'Neil's death and the publication of the book is responsible for the fact that some recent work is not included. To the discussion of early sixteenth-century prototypes of the true bastion (p. 68) must be added Mr. Rigold's discovery that the perfect little eared bastion at Yarmouth castle in the Isle of Wight dates from 1546-7; King Charles's castle in the Scillies is regarded on recent evidence as belonging to 1550-54 instead of *c.* 1537 (p. 47); the account of the successive fortifications at Tilbury should be read in the light of the detailed study of that fort and of the defences of the Thames estuary by Mr. Saunders.

Throughout the book the discussion of fortification is linked by accounts of the political background that provoked the need for it, and it could be wished that less space had been devoted to this. The plates are of uneven quality, and amongst them some of the author's own illustrations shine like good deeds in a naughty world of official photographs. The line-drawings from the pen of Mr. Monroe are consistently excellent, and the general standard of production conforms to the high traditions of the Clarendon Press.

A pioneer work on so large a subject is particularly vulnerable to criticism, and this should not be allowed to disguise the fact that Mr. O'Neil has put us permanently in his debt by providing a comprehensive survey of a subject to which younger scholars, encouraged by his example and leadership, are already beginning to give added precision.

R. GILYARD-BEER

*Parish of Hackney, (pt. i): Brooke House.* (Survey of London, vol. xxvii). Ed. F. H. W. Sheppard. 11½ × 8¾ in. xiv + 90 pp., 19 figures, 42 plates. London: the Athlone Press, 1960. Price 30s.

The partial destruction of Brooke house by bombing in 1940, and the subsequent

demolition of the still substantial remains, represented a major loss, both historically and architecturally, among the buildings of greater London; more especially was it a loss to the group of former country residences which originally lay on the periphery of medieval and Tudor London.

The Royal Commission on Historical Monuments (London vol. 5) described Brooke house as a late sixteenth-century house, built on a double-courtyard plan, and much altered in the two succeeding centuries. The present survey—an earlier L.C.C. monograph also treated of Brooke house—substantially modifies previously-accepted dating of the house. Its comprehensiveness is due, very largely, to the opportunities offered for complete recording while the rest of the house was being demolished, and the site excavated.

The book is divided into three main sections. The first deals with the building above ground. Evidence from before 1940, and from the work of the L.C.C.'s Historic Buildings Department during demolition, is lavishly recorded by plans and photographs of the standard which one expects from a Survey of London volume. The arched-brace roof of the south range provides an important addition to our detailed knowledge of examples of this class of roof. A number of early Tudor brick and timber features was also brought to light, as were the methods employed to enlarge the fifteenth-century timber-framed ranges round the principal south court. Perhaps the most striking find was the considerable remains of fifteenth-century mural paintings in what must have been the chapel. The principal figures depict St. Peter confronting a kneeling priest, presumed to be the builder of the house. The figures are seen over an engrailed diaper field with flowers, and so on, in the panels.

The second section, by Professor and Mrs. W. F. Grimes, describes the excavations carried out after the house was demolished. This section, with its plans and intelligible photographs, is basic to the understanding of the house in its earlier phase. The plans of the period-I (fifteenth-century) house, together with its hall, previously unidentified—and of the succeeding sixteenth-century periods are revealed fully for the first time. The original hall, lying in the almost completely rebuilt and remodelled east range, is shown to have possessed a porch with adjoining stair turret, a screens passage of traditional form and a substantial oriel window.

In the third section, which deals with the documentary evidence, the original house is associated with William Worsley, dean of St. Paul's in 1479—almost certainly the figure in the mural already mentioned, for his initials and the arms of the Radclyffes, his steward's family, figure in the frieze of the mural. An interesting sidelight refers to the use of the 'dean's roof'—perhaps the long-destroyed roof of the hall—as a model for the roof of the hall of the Pewterers' Company between 1496 and 1498. Documents also indicate the extent of the major modifications carried out in 1535, during Thomas Cromwell's brief occupation.

The rapid and complicated development of Brooke house during a relatively short period—*c.* 1476-1536 and *c.* 1585—is of particular interest and also of general significance when considering building of this date and class. This development is most clearly brought out in the account of the excavations, where the phases are distinguished sufficiently to provide a framework for the chronology suggested by the architectural detail above ground and by the documentary sources. As is suggested by the author of the first section, however, contemporary variations both in methods of construction and in the type of mouldings in some of the timber work confused rather than clarified the picture.

The gaps in the archaeological record, notably in the east range which was almost completely 'georgianized', made it difficult to bring to life the working anatomy of the house in its earlier phases and the conclusion is perhaps a little disappointing, although it draws the preceding sections together into a coherent and cogently argued but perhaps rather lifeless story. It is also possible that an even fuller study of the construction and detail of comparable timber-framed buildings and of the planning

of the household of an important medieval ecclesiastic might have filled out the picture of phase I and, incidentally, of phase II.

While the internal evidence seems to date the roof of the south range securely might not a discussion of analogies have been worth while? In the same way the regional or typological characteristics or indeed lack of characteristics of the timber framing could have been discussed with profit. For the same reason I would have liked to have seen the mouldings depicted in the excellent detail drawings grouped together and to the same scale. Nevertheless as a record of the house it could hardly be more comprehensive, and for students of the late medieval house generally it must be regarded as an extremely valuable addition to the literature on the subject with a relevance extending beyond the confines of the London area.

P. E. CURNOW