

Trajan's Forum

PLATE XV1b

For my rewriting of Simpson's *Architectural development*, Vol. I (Plommer, 1956) I could find no plan of Trajan's Forum more convincing than Simpson's own, which I then republished (FIG. 1). It was duly attacked as 'grotesque' and 'hoffnungslos veraltet' by R. Martin and A. von Gerkan. In 1960, therefore, I wrote a defence of its general good sense and correctness (Plommer, 1960), as against those of the official Italian plans of Gismondi and Colini (van Buren, 1933) and of G. Lugli (1946), and begged the Italians to publish some of the evidence from their excavations of the early thirties.

Zanker admits (p. 517) that even the great Front Court is still unpublished ('Eine Antwort auf diese Frage'—the position of the Great Frieze—'ist jedoch erst von der Publikation der Ausgrabungen zu hoffen'). However, he seems prepared to believe the 'whole plan', as he calls it (really two divergent plans), and remarks (p. 503) 'H. Plommer bezweifelt mit m.E. nicht Stichhaltigen Gründen die Zuverlässigkeit des ganzen Planes. Lediglich für den Tempel und die Tempelportions ist dem von Plommer verteidigten alten Plan Lanciani's der Vorzug zu geben (*Ruins and excavations*, Abb. 119).'

I thank him for this concession. Tucked away

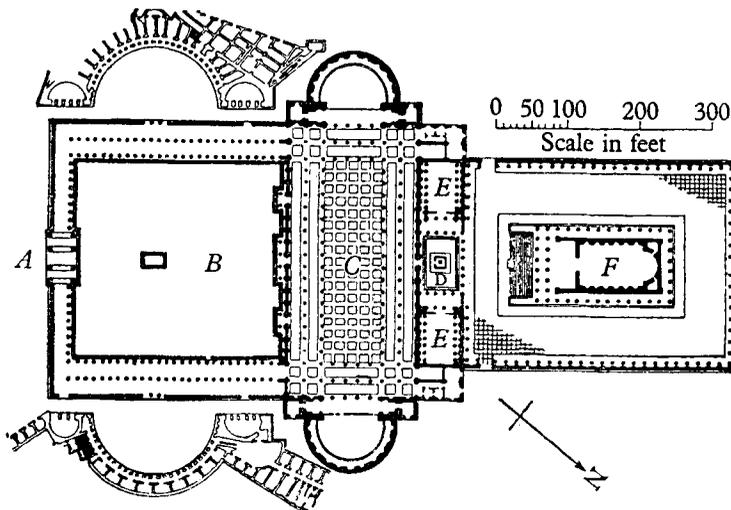


Fig. 1. Trajan's Forum: Simpson's plan. A = Triumphal Arch; B = Main Court; C = Basilica; D = Trajan's Column; E = Libraries; F = Temple of the Divine Trajan

Since then, no one in authority has published any more, and Lugli in his *Itineraria* (1970) still relied on the same plans. But at least Professor Paul Zanker (1970), has now endeavoured to collect what we know of the Forum—its architecture, its ornament and the *Weltanschauung* of its creators.

in his footnote it may not seem much. But, by making it and by adding later that the Official Plan of the Temple of Trajan and its surrounding court is 'completely hypothetical', Zanker has admitted one of my three biggest objections. These centred round (1) the design of the Triumphal Arch and Entrance Wall of the

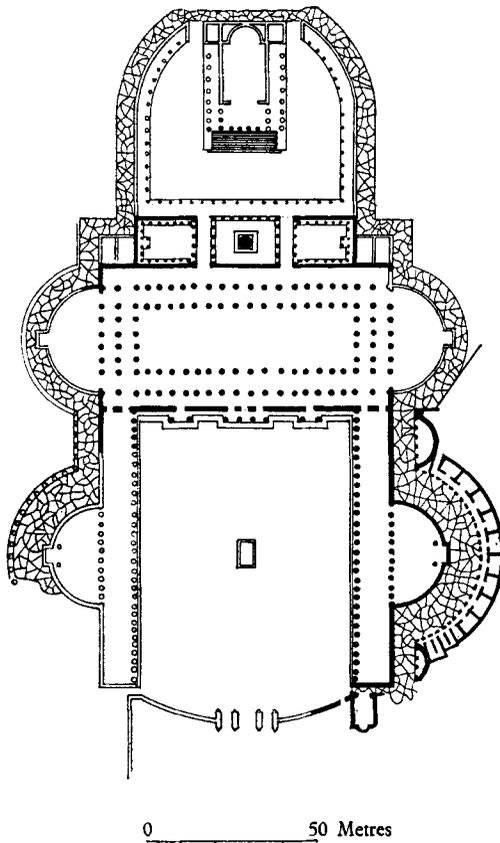


Fig. 2. Trajan's Forum: Gismondi's plan

great first court, (2) the architectural treatment of the great hemicycles beyond the first court's side-colonnades, (3) the plan of the inner court surrounding the Temple of Trajan.

Before I show that he has left my first and second objections as strong as they were, I must mention a minor but revealing detail. Zanker (Fig. 4, apparently from Pl. 5 of Lugli's *Roma antica*), shows the walls of Trajan's libraries plain without re-entrants, unlike the 'grotesque' plan in Simpson. That Simpson is right is shown by Fig. 19 of the article by B. Götze (1937), cited but evidently not digested by Zanker. By contrast, Gismondi's plan, reproduced by Zanker as his Fig. 2, is on the right lines, though less clear than Simpson. But not only does Zanker perpetuate, without a word, the discrepancies of the recent Italian

plans. He ignores even worse contradictions over the Entrance Wall and Triumphal Arch.

In Fig. 2 (after Gismondi, as is my own FIG. 2) he figures a thin, plain ashlar wall and, at the centre, an arch of three open bays. But in Fig. 4 we find free-standing columns along the inner face of the wall and, in the centre, a rather absurd and surely unparalleled Triumphal Arch of five bays and only one opening. This must derive from the picture on the *sestertius* (Zanker, Fig. 7; my PL. xvii right) interpreted as showing the Arch alone; and it is this version that has Zanker's unqualified support. For he talks (p. 506) of 'a monumental entrance-arch . . . which, as *everyone recognizes* (my italics), is represented on coins, both *aurei* and *sestertii*, with the legend FORUM TRAIANI. . . . The arch is furnished with columns standing out at right-angles (*verkröpfte Säulenstellung*) and an attic. On either side of the entrance one sees two statues in niches between the columns. . . . Over entrance and niches are five *imagines clipeatae*.' On the attic Zanker places (p. 508) a chariot with six horses and a 'victory', between two trophies and two other 'victories' with trophies—quite a circus for the attic of a triumphal arch, even one of *five bays*!

I would still rather suppose, as I did in my article, that the coin shows the whole entrance-wall, with the arch, reduced to a single bay, in the centre. After all, the legend is FORUM TRAIANI not ARCUS TRAIANI, all six horses are shown directly over the arch, the lateral compression and the probable omissions would conform to Mrs Trell's principle (Trell, 1945) that coins can omit but not invent features of the buildings that they show, and the entrance front, actually the long side, of the *Basilica Ulpia* is shown similarly compressed on the corresponding coin, Zanker, Fig. 44 (cf. the *aureus*, British Museum Catalogue, No. 492), though here, at least, 'everyone recognizes' it for the long side. Indeed, I can only suppose that the unknown source of Zanker Fig. 4, evidently some follower of P. I. Strack (cf. Zanker, note 26), tampered with Gismondi's plan and added the free-standing columns along the inside of the

Entrance-Wall under the influence of the *sestertius*, Fig. 7. But why the interior rather than the exterior? The coin should show the front, not the rear of the façade wall. Why does Zanker conclude, in note 26, that the 'Entrance gate (*Eingangsthor*) could have been decorated on its outside, but not the whole front wall (*Abschlussmauer*)'? A long façade, with free-standing columns and a broken entablature, adorns a nearly contemporary building, the Stoa of Hadrian at Athens. See still M. Sisson (1929, especially Pls. 21 and 23). As for the thin, segmental wall restored by Gismondi, is it not too flimsy to be part of Trajan's design?*

I am sorry to have to repeat so many arguments from my previous paper. But they still seem valid ('stichhaltig') to me, though Zanker has airily dismissed them all.

One other feature of the Entrance Wall is prominent on the *sestertius* and is interesting, the busts in recessed tondoes (*imagines clipeatae*) in each of the full five bays. Known chiefly from simple triumphal arches such as Rimini, they also appeared at Ravenna on the *Porta Aurea* outside the framed and pedimented arches of the wide double entrance. M. Kähler (1935) shows how easily they could spread along a façade below entablature level. Actual remains of Trajan's *clipei* are scanty, and there seems no need to restore above the side colonnades of the first court a continuous attic of alternate Dacian prisoners and clipeate busts of gods. The iconography seems disjointed, and the total effect of this official restoration, as shown in Zanker Fig. 10, suggests Brunelleschi rather than Trajan. Zanker himself called it 'problematisch'. The restorers no doubt had in mind that old mock-up of the Forum of Augustus last figured in Boëthius and Ward-Perkins (1970, Pl. 108). But there the caryatids and the clipeate heads are out of scale, and the architecture unconvincing and perhaps unparalleled, unlike the attic of Nerva's Forum (op. cit., Pl. 126) a work much closer to known

* Zanker sometimes makes discussion more difficult by his cavalier treatment of attics and entablatures: e.g. of Figs. 34 and 35 he says, 'Über den Säulen der drei Eingänge sieht man eine hohe Attica.' Attic or entablature? Compare Tiberius's *sestertius* of the Temple of Concord (Lugli, 1946, Fig. 153).

compositions (e.g. Beyen, 1960, Figs. 62-3 and 242). I turn to the hemicycles, or *exedrae*, of the First Court.

I must confess that, when I wrote before, I had not grasped the interpretation put by the authorities on the semicircular structure, which I called the 'kerb', discovered some ten metres in front of the semicircular 'theatrical' façade of Trajan's market. One now naturally reads this façade as the decorated outer wall of the north-east hemicycle. But as the official model, Zanker Fig. 3, makes clear, the 'kerb' should be considered the grand-course of an ashlar wall, analogous to that around the Forum of Augustus. Though, if built to the full height of the Court's colonnades across its chord, the wall would have shut out Trajan's Market altogether—a very different proposition from the *Suburra*, which Augustus's wall shut out. I am prepared to accept it on two conditions.

(1) It must have been fairly flat and thin. For, though it is hard to measure on the published plans, it was not much more than a metre thick. But the diameter of the semicircle that it encloses is more than 40 m. and its height, even without any attic, must have been 18 m. It could not, then, have been weakened by numerous large niches; and the same is surely true of the walls around the apses of the Basilica Ulpia, nearly the equals of our 'kerb'-wall in thickness and the areas that they enclosed. Certainly, the 'kerb'-wall in the Front Court's north-east hemicycle seems inadequate for the elaborate portrait-gallery of imperial figures of varying scale (not very Roman, that!) which, according to Zanker (p. 517), 'in die sehr breiten Wände der Exedren des Trajansforum . . . eingelassen waren'. At most, I see a quiet, isolated figure, framed by the large columns—if there is warrant for them—in the *exedra*'s central recess. Or perhaps, as Ward-Perkins thinks (op. cit., Pl. 127: but contrast Fig. 96), the columns framed a large central entrance.

(2) It would have been difficult—and purposeless—to give the hemicycle a complete roof like the half-cones of the official model's, descending from a pediment 40 m. long above the rear-wall of the Front Court's portico. The restorers lighten this pediment with windows,

which, as they lessened its weight, would also lessen its stability. Besides, the impressive colonnaded walk would benefit enormously from a hemicycle in full daylight opposite the main court. The same is true of the Forum of Augustus, where the restorers again roof the hemicycles (Zanker, Fig. 3).

If hypaethral, what sort of coping did the *exedrae* possess? I am tempted to see a possible analogy at Baalbek, contemporary but admittedly much smaller, in the *exedrae* of the Front Court. I believe that in any case these were unroofed. One, the most north-westerly, seems well preserved. Large coping-stones with soffits cut at an angle, to give an inward-leaning effect, surround a pretty hypaethral opening (Fig. 4), one half of a decagon, slightly irregular, but not perceived as such. For a full plan, see Wiegand (1921, Pl. 32). Unlike Wiegand, I do not myself believe that the semi-dome was ever built up or the opening filled—the construction of the undoubted three-quarter dome in the Temple of Venus (Wiegand, 1923, Pl. 58) was very different from the normal concentric rings. But I must admit that any resemblance to Trajan's Forum cannot have been close. There the diameter (40 m.) was nearly four times the 10.5 m. of Baalbek, the walls were loftier and plainer, and any blocks of inward-leaning coping, to avoid instability, must have been relatively small. So the opening would be many sided, perhaps even semicircular.

Having defended my sceptical attitude against Zanker as well as I could, may I pass over to the offensive? Like many others, he tries to find a place in the Forum for the Great Frieze, the famous battle scene from which he shows as his Fig. 22. He would like to see it along the rear walls of the Front Court's side porticoes. He makes it some 3 m., or 10 ft. high; and to the present fragment in the *Museo della Civiltà Romana*, 18 m. (60 ft.) long, L. Pallottino—in work not, I think, published—would add others, making a total of 30–32 m. or just over 100 ft. But the stretches of rear wall on either side of the *exedra* were each 110 ft. So far, so good. Unhappily, Zanker elevates the whole frieze to a level on the wall corresponding to the supposed attic above the front colonnade.

This puts it some fifty feet (15 m.) above the floor. This is a great pity; and Zanker finds no analogy except in the Monument of Victor Emmanuel! 'Eine vegleichbare lösung kann man in der Säulenhalle des Victor-Emmanuel-Denkmal an der Piazza Venezia sehen' (Zanker, n. 52, which cites no other parallel). But to cite this monument is to despair. It would sanction almost anything.

Why does he do this? Why can the battle not occupy its natural position lower down, on the body of the wall, where it would correspond to the famous battle-paintings on the *Stoa Poikile* in Athens? He seems to think that the rear walls of the porticoes had a series of pilasters, which would preclude a continuous frieze, except at attic-level above their entablature. No plan, however, shows these pilasters; and it seems that Zanker Fig. 26 ('Pilastergliederung der Porticuswand') must show not the rear wall of the porticoes but the façade of Trajan's Market, some 6 m. to the north-east.

Much of the article is taken up not with actual restoration but with interpretation of the supposed architecture and sculpture as evidence for Trajan's cultural milieu and political propaganda. On most of this I have nothing to say. But of one important surmise, which Zanker owes to Rodenwaldt, I am very distrustful. On pp. 505 ff. he argues that the plan of the Forum, especially the Basilica on the cross-axis, owes much to the layout of military camps. But large halls on cross-axes go back at least to the Bouleuterion at Miletus, where hall and forecourt were completed as an ensemble in the earlier second century BC. Indeed, if one takes the two *agorai* recommended in Aristotle (*Politics* 1331B), the liberal and the commercial, and places his Hall of Justice for the *agoranomos* (aedile) between them, one has already the makings of a composition not unlike Trajan's Forum. There is an interesting cross-hall in the Forum of Brescia, not much older than Trajan's; and there was, of course, Vitruvius's own Basilica at Fanum Fortunae, described in his Fifth Book and similarly placed across the main axis of the city centre. No doubt some scholars would argue that Vitruvius, like Trajan, was a military man. But such speculations seem

rather profitless. It is better to sort out our attics and entablatures first.

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Early Bronze Age agriculture in western Crete

PLATE XVII

In August 1971 an Early Minoan settlement was excavated on the summit of Debla (altitude 542 m.), one of the northern foothills of the White Mountains of western Crete (Tzedhakis and Warren, 1972). The little site occupied an area of less than 900 sq. m. on the rocky summit area and on a terrace a little below to the south. There were free-standing buildings with a single room for living and working. The largest house found was triangular in plan with a maximum internal length of 6.20 m. Walls were made of unworked local limestone. The main building contained a floor deposit of thirteen vases, mostly jugs datable to late Early Minoan I or early EM II, around the mid third millennium BC. Three storage bins of coarse fabric stood against the walls of this house and it is from them that the grain impressions discussed here are derived. Other finds comprised animal bones, obsidian blades, stone rubbers and other tools and one or two clay spindle whorls. Beneath the floor level of the main building and from basal levels elsewhere on the site came fragments of scored ware and of lightly burnished bowls with thickened rims, both datable to EM I.

The agricultural evidence is among the most interesting from the site. Samples of the coarse fabric were studied by Greig for plant impressions. These were not readily identifiable *per se*, so casts were taken with quick setting silicone rubber (ICI 'Silcaset'). Its flexibility made it ideal for the purpose and the impression

negatives produced positive replicas. The central core of the fabric had not been fully oxidized in firing and thus the plant remains had been carbonized rather than completely burnt away. Many of the impressions were grains, and in this form were characteristic enough for an identification to be made, although the fact that impressions can be seen only from one side and may not even reveal the whole length of a grain made for some difficulty in this matter. Fortunately there were plenty of impressions to choose from.

The following plants were identified and in this the assistance of Mr R. Alvey of the Department of Archaeology, University of Nottingham, is gratefully acknowledged. *Triticum dicoccum* (emmer wheat): identified from several impressions, including a complete carbonized rachis (PL. XVIIIa) in which there were some grains whose stigmatic hairs could still be seen. Although there were similarities to *Triticum monococcum* (einkorn) the measurements (av. length 6.25 mm., av. breadth 2.70 mm.) were characteristic of emmer. *Hordeum* sp. (barley): a few impressions could be ascribed to barley, but there were no spikelet parts. *Avena* sp. (oat): a few impressions (PL. XVIIb) suggest that oats were either grown as a crop or grew casually in cornfields. The evidence for oats is of particular interest since they have not previously been documented in Crete, save for a possible depiction on two Late Minoan I vases, suggested by Evans (1936, 629).

On the Greek mainland a single oat grain was recorded at Middle Helladic Orchomenos (Vickery, 1936, 33, 55) and *Avena sterilis* grains were found in MH Lerna and impressions of *Avena spec.* at the same site in Early Helladic III (Hopf, 1962, 4, 12).

Bromus sp. (brome grass): one carbonized grain and several impressions were found. This grass occurs today mainly as a persistent weed in cornfields (Hubbard, 1967) and its seeds are commonly found in samples of ancient grain, showing that it not only grew in cornfields then, but was harvested and probably consumed together with the main crop. Its status is not therefore clearly defined as either a weed or an additional crop. It does not appear to have been documented previously for prehistoric Crete, but it is recorded at Middle Helladic Lerna (Hopf, 1962, 4).

The Debla impressions naturally provided only qualitative evidence. No indication of quantities or proportions of crops could be expected. Indirect evidence for the use of cereals came from the presence of one or two quernstones in the settlement. Obsidian blades may have been used for sickles, but there was no positive evidence. The crops would have been grown on the flat uplands adjacent to Debla on the south, as were cereals until about eighty years ago. Abandoned field terraces and threshing floors are visible today.

The remaining farming evidence from Debla consisted of the few animal bones, studied by M. R. Jarman. The one collection from a pure Phase I level (Early Minoan I) consisted of thirty caprine and five goat bones and all remaining bones from the site were caprine, save one firmly sheep. Jarman noted that age at death seemed to be from two to five years and suggests that the settlement may have been concerned with seasonal use, summer herding and pasturage. The exclusively caprine faunal evidence is of interest since it contains a hint of specialization in Early Bronze Age stock-raising in western Crete. With a settlement at this altitude cattle would not be expected, but pig or hunted species might have been. The analysis of more faunal evidence from prehistoric sites here is much to be desired.

The agriculture of Early Bronze Age Crete is as yet not well understood and studies of land use by the inhabitants of individual settlements, in quantitative and qualitative terms, are in their infancy. But we know from Helbaek's study of a grain sample from J. D. Evans's Neolithic excavations at Knossos that bread wheat (*Triticum aestivum*) was grown as an almost pure crop, while emmer, einkorn, hulled and naked barley, lentils and weeds (chiefly mallow) were present in small quantities (Evans, 1968, 269). The sample came from the beginning of the Early Neolithic period, before 6000 BC, and all these plants were presumably cultivated from then onwards.

Olive stones occur for the first time at the same site in an Early Minoan I context (Hood, 1971, 86), while further examples were found at Lebena on the south coast. The date range of these, however, was Early Minoan II to Middle Minoan I and whether the Knossos or Lebena olives were wild or domesticated is not yet known. At Myrtos in EM II there was much evidence for olive farming, with the possibility that up to at least 25 acres (10 ha.) were under cultivation for olives alone (Warren, 1972, 145-6, 255-6, 263-5). Nearly 80 per cent of the wood charcoals analysed were of olive wood, with indications that the branches had been pruned (Rackham in Warren, 1972, 299-303). An olive stone was found and judged to be from the domestic species (J. Renfrew in Warren, 1972, 316-17). Grapes were also cultivated for wine (Renfrew, *ibid.*, 315-16) and remains of pips and stalks were found in two jars. Hulled six-row barley and wheat were also cultivated by the people of Myrtos.

Apart from the Myrtos grapes we do not yet know what, if any, fruits and vegetables were cultivated in the Early Bronze Age. But lentils are known from Neolithic Knossos and beans, peas and figs from Late Minoan sites (Netolitzky, 1934, 173-4; Vickery, 1936, 56, 59). It is distinctly possible that these were also grown in the earlier period.

The only Aegean Early Bronze Age site outside Crete for which a detailed study of the plant remains has been made is Lerna. From J. L. Caskey's excavations Maria Hopf recorded

no less than eighteen species of grains, seeds and their impressions in the Neolithic and Early Helladic periods (Hopf, 1962). These consisted of almond, barley, broad beans, brome grass, einkorn, emmer, figs, flax, grapes, lentils, oak, oats, peas, strawberry tree (*Arbutus unedo* L.), thistle (*Onopordon* cf. *acanthium* L., like the Scotch or Cotton Thistle) and vetches (including red vetchling, *Lathyrus cicera*). Hopf's excellent study shows the wide extent of the agricultural, botanical and environmental information likely to be available on third-millennium sites.

We conclude then that mixed farming was practised in Early Bronze Age, third-millennium Crete. It consisted of animal husbandry based primarily on sheep and goat, with cattle and pig also kept, and crop cultivation of wheat, barley, olives, grapes and probably oats. Since lentils are known from the Neolithic and Late Bronze Age in Crete and at EH Lerna they were in all probability grown in the third millennium in Crete also. On present evidence there was a major change between Neolithic and Bronze Age agriculture with the introduction of the olive and the vine in Early Minoan

times. Olive farming had been extensively developed by Early Minoan II (c. 2600–2200 BC) at Myrtos and in this respect the site is probably typical. The Debla evidence is our first from western Crete. Though the flora are restricted to the cereals their variety is notable and the earliest documentation of oats is important. Debla was a small site and must have been relatively insignificant. Hence the evidence of its flora and fauna for a mixed farming system in western Crete may offer a minimum agricultural reconstruction. Other sites like the Early Minoan settlement at the modern capital, Khania, or rich caves like Platyvola should have had at least as varied a farming pattern. Renfrew (1972) has demonstrated the importance of the olive-vine-cereal triad as fundamental for the third millennium social and economic developments which led rapidly to palatial civilization. The contribution from Debla in western Crete provides, in its date, variety and geographical location, a modest but useful addition for our reconstruction of early Aegean agricultural patterns.

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International Congress of Christian Archaeology

It may be of interest to readers of ANTIQUITY to know well in advance something of the arrangements that are being made for the next International Congress of Christian Archaeology, which is due to be held in Rome in 1975, probably during the week 20–27 September.

At a recent two-day meeting organized by the

Pontifical Institute of Christian Archaeology, the body responsible for this series of congresses, it was agreed that the theme of the congress should be 'The Christian monuments of the pre-Constantinian Era'. While focussing upon the reasons for and manner of the widespread emergence after AD 200 of monuments and of an

iconography that were specifically Christian in content, this is a theme that will inevitably involve wide-ranging discussion of the relationship of Christian and pagan within the world which they shared in common. Rome is the obvious setting for such a discussion, since it remains the richest surviving centre of Christian antiquities of the pre-Constantinian age, and it is proposed that papers and discussions should occupy the morning sessions, leaving the afternoons free for organized visits to the monuments themselves. Because so many of these can only be visited in small groups, this will be a complicated exercise in logistics, but both the Italian and the Vatican authorities have pledged their full support.

The morning sessions are to be organized around a series of topics for each of which one or more general papers will be prepared and circulated in advance as a basis for more detailed papers illustrating individual aspects of the topic in question and for discussion. The scholars presenting the basic papers will be responsible for prior consultation with the readers of the other papers, an arrangement which should at least eliminate much reduplication and which, in the right hands, might even

produce a meaningful, integrated programme—a rare bird at such international congresses. Among the topics selected are the origins of Christian cemeteries and cult buildings, epigraphy (which in this field is indissolubly linked with the archaeological record), iconography, and the part played by the workshops in shaping the emergence of a specifically Christian art. As usual, one day will be devoted to the presentation of outstanding recent discoveries, irrespective of date and context.

It will be seen that Early Christian archaeology has travelled a long way from the days when it was a subject apart, operating within a framework of preconceived ideas from which the affairs of the busy pagan world were, almost by definition, excluded. The Congress at Aix-en-Provence in 1953 opened many fresh doors, and that at Barcelona in 1969 set the seal once and for all upon Early Christian archaeology as an ecumenical subject. The 1975 Congress rounds out the circle, bringing the subject back to where it started, in the catacombs and cemeteries of Rome. Giovanni Battista De Rossi would have found much to startle him in the agenda for 1975, but he would surely have approved. J. P. WARD-PERKINS

An unrecorded type of South Arabian art

PLATES XVIII–XIX

Mr John da Silva, CMG, MA, here publishes one of the rare examples of a camel in South Arabian art in the charming piece of sculpture of which we print a photograph, together with what he thinks is the only comparable piece, the covered bowl on stand, also illustrated. Mr da Silva is grateful to the owners for permission to publish these pieces, and to Dr R. Barnett and Mr T. C. Mitchell of the Department of Western Asiatic Antiquities, British Museum, for helping him to have access to them, and to the British Museum Photographic Service for taking the photographs.

The domestication of the camel in the latter part of the second millennium BC led to the camel caravans by which the incense grown near the southern shores of the Arabian peninsula could be transported to the markets of Egypt and the Near East overland instead of,

as heretofore, by the hazardous maritime route up the Red Sea. This in turn led to the emergence along the trade routes of the ancient kingdoms of South Arabia which grew rich on the taxes levied on the caravans as they passed. R. Le B. Bowen has shown (*Ancient trade routes in South Arabia*, 1958), how the main routes were constrained by the topography to converge on the narrow defile where the mountains of central Yemen abut onto the sands of the Ramlet Sabatein, itself a southern extension of the Rub al Khali or Empty Quarter. This area lies between modern Baihan al Qasab in the south and Marib in the north. Some 80 km. east of Baihan al Qasab, astride the ancient trade route which led from the important port of Qana up the wadi Maifa, lies the wadi Markha in which sites of archaeological importance are visible from the air but which,

at least until the end of the British Protectorate in 1967, remained virtually unvisited and unexplored.

In view of the overriding importance of the camel to the economy of the South Arabian kingdoms for something over a thousand years, it is remarkable that it is so seldom portrayed in their art which, for religious reasons, gave pride of place to the bull and the ibex. Representations of the camel in any form are rare so that particular interest attaches to the figure in PL. XIX. This is approximately 16 cm. high and carved from a piece of what appears to be gypsum. The hump is hollowed out to form a vessel, which may originally have had a cover, now lost. This piece was given to its present owner some ten years ago by tribesmen in the wadi Markha who claimed to have unearthed it from a bank adjacent to one of the sites mentioned above.

Despite the fact that the civilization of ancient Southern Arabia lasted for some fifteen hundred years from the beginning of the first millennium BC, its artistic tradition remained, to judge by the considerable amount of material which has been discovered, remarkably consistent. The camel seems to lie completely outside this tradition with which it has no apparent relation. The only comparable piece is the covered bowl on stand (PL. XVIII). This is approximately 10 cm. high and is also carved from a block of gypsum.

The Paris stone circle

Perhaps I may attempt to throw a little light on the mystery of the saint in the stone circle, to which Professor Piggott drew attention in the December number (*Antiquity*, 1973, 292).

First, as to the saint herself: works of reference state that Sainte-Geneviève, patron saint of Paris, lived from about 422 to about 502 AD, and that she was born and spent most of her life at Nanterre, a town just west of Paris (30 km. WNW of Notre Dame). She it was who, at a time when Attila was ravaging the cities of Gaul, assured the people of Paris (then Lutèce) that their city would not be touched; and by the force of prayer, so it is said, she was able to keep her promise: Attila left Lutèce alone.

The decorative border around the upper and lower edges of the bowl, consisting of narrow bands of hatched lines in groups of four, is very similar to the harness on the camel (PL. XVIII). This piece was acquired in Baihan in 1965, its provenance being otherwise unknown. Both pieces have been on loan to the Department of Western Asiatic Antiquities in the British Museum.

The writer recalls seeing in the Baihan 'museum' in 1964-5 a strip of ivory or bone, which may originally have been a piece of inlay in some wooden object, about the size of a modern foot-rule (30 cm.), which was undecorated save for a similar border of hatched lines in a narrow band.

While it seems reasonable to suppose that all three objects may have been made in the general area of Baihan/wadi Markha, it cannot be said with any certainty to what period they relate. A date in the second-first century BC has tentatively been suggested. Shaikh Abdulqawi al Humayqani, a Yemeni expert who has visited a large number of sites in the Yemen in recent years, handled both pieces in the British Museum in 1972 and could not recall ever having seen anything of a similar type. Further archaeological research may in time throw more light on this unfamiliar style of South Arabian art.

The stone circle attracted the attention of the antiquarians of the capital in the early years of the present century. From their researches, which were published in the learned journals of the day, it appears that a stone circle of sorts formerly stood near Nanterre, that it still existed in the mid-eighteenth century, but was thereafter destroyed at an unknown date, perhaps during the Revolution or the construction of the railway line from Paris to Le Pecq around 1836. The exact location of the circle was not ascertained. However, early this century, stones somewhat resembling those pictured in the Eglise Saint-Merri could be seen serving as field boundaries about a kilometre on

the Paris side of Nanterre railway station, and although there was nothing to prove that they came from a stone circle, it is of interest that a part of this locality still bore the field name *le parc* (i.e. enclosure) *de Sainte-Geneviève* as recently as 1930. By that time the area had been disturbed by gravel workings and it has subsequently been very largely built over.

As to the connexion between the saint and the circle, apart from the tenuous evidence of the field name, several writers of the seventeenth and eighteenth centuries record the tradition that Sainte-Geneviève had been in the habit of using the stone circle as a retreat when watching over her flock of sheep. Indeed, it would seem that the respect which these stones so long enjoyed was due in large part to that tradition. Dom Jacques du Breul, whose work on the antiquities of Paris was published in 1608, records the local belief that the circle was proof against Seine floods, the waters invariably stopping short of the stones and even rearing themselves up into a wall of water around them. This looks like an example of sympathetic magic: it would be natural for simple people to believe that Sainte-Geneviève's miraculous defensive power had been acquired by the stone circle which she frequented.

Since the earliest of the known written accounts postdates the painting it would, of course, be possible to maintain that they were inspired by it and have no other validity. Even the 1608 story is not, perhaps, an insuperable obstacle to this view. However, all who have examined the painting are struck, as was Professor Piggott, by the realism with which the circle has been depicted. 'Manifestement', says one writer this century, 'le cromlech a été dessiné d'après nature'. Is it probable that the artist would have gone to the trouble of drawing a stone circle from the life, as it were, unless he had reason to believe that Sainte-Geneviève was associated with it? The connexion receives some slight confirmation from the romanticized background of the picture, which by general consent includes on the centre-right skyline Mont Valérien, a prominent landmark just south-east of Nanterre. To the left, rising behind what looks like a stretch of the Seine,

are various edifices apparently symbolizing Paris, for they are said to include Notre Dame, the Tour du Temple and the Donjon de Vincennes, but they are not in proper geographical relationship.

I find it hard to accept the view of Réau that the representation of the saint as a shepherdess was no more than a late medieval invention. Surely every country girl in the fifth century AD would have had the chore of taking the family's flock of sheep or goats out to pasture for an hour or so each day while the menfolk did the heavy farm work and mother stayed home with the babes and the boilings? In the remoter districts of France and other countries such is still very much the rule even to this day. Since the Saint-Merri picture is said to be the earliest example of this mode of representation, perhaps it at least may be allowed to be authentic on this point, even if later examples have to be regarded as conventional imitations.

As to the probable nature of the stone circle itself, the researchers early this century concluded that there were 38 stones in the circle, set fairly close but not in contact, the tallest of them barely 1 m. high, and that the diameter was 6–7 m. It may be seen that, apart from the unnaturally smooth blocks in the centre on which Sainte-Geneviève is seated, there are several other recumbent stones within the circle. The view was expressed that the circle was originally the peristalith of a burial mound, which, on analogy with similar sites encountered in the region (particularly in the neighbouring department of Oise), probably covered one or two inhumations placed under large stones. A small example of this type of tomb, found last century at Saint-Maur-des-Fossés, a south-eastern suburb of Paris, is preserved in the garden of the museum of that town. It consists of a circle of 18 small slabs set on edge, having a diameter of 2m. 20. Within, under several larger stones, were the remains of a man and a woman, accompanied by a typically SOM assemblage of artifacts, including a polished greenstone ('diorite du Morvan') axehead. At one side, within the circle, were the remains of a horse; also certain other animal bones. No metal objects were noted.

A bibliography of the Nanterre circle is included in my inventory of the Paris region, awaiting publication; the main evidence is

summarized in the *Bulletin de la Société d'Excursions Scientifiques, tome IX, 1923, excursion LXXXII.* JOHN PEEK

Air reconnaissance: recent results, 34

PLATE XX

For nearly 30 km. the line of Ermine Street runs across the chalk, until at Royston the road descends the main scarp to a belt of low-lying country, 6 km. wide, comprising the outcrop of the Gault Clay. Only as the village of Arrington is approached does the Roman road climb once more above the 100 ft. (30 m.) contour, on to the boulder clay plateau of west Cambridgeshire. The low-lying ground has numerous tiny streams that unite to form the Upper Cam or Rhee. There is perhaps no greater contrast anywhere along the whole course of Ermine Street than that between the waterless chalk uplands and water-logged basin of the Upper Cam. The north-facing slopes of the chalk comprise for the most part not very steep slopes, empty of villages; even Royston, at the junction of Ermine Street with the Icknield Way, is a comparative newcomer to the landscape (Beresford and Joseph, 1958, 169). By contrast, there is a string of villages along the base of the chalk outcrop, Litlington, Bassingbourn, Kneesworth, Meldreth and Melbourn,* related to the line of springs emerging from the Chalk Marl. A little further north, the (now tiny) villages of Tadlow, Shingay, Wendy and Whaddon lie within the clay vale itself, with Croydon, Arrington and Wimpole beyond them at the spring-line on the south-facing slope of an outcrop of Chalk Marl below the boulder clay.

All these villages, together with others in the upper catchment area of the Cam, have one or more moats, of varying degrees of complexity. Such earthworks, when within a village, and perhaps masked by trees or by farm-buildings, or even with part of their circuit filled in, may not yield much to air photography. A notable exception is at Caxton, in Cambridgeshire, where the earthworks, lying on land never ploughed in modern times, remain in good

* All these villages lie on the OS map TL 34, 1:25,000 scale, which should be consulted for the topographic setting.

order (*RCHM*, 1968, 41, pls. 2-3). By contrast, the moats at Bassingbourn (PL. XX) though now largely filled in, can be recorded almost in their entirety, if viewed from the air under the right conditions.

The site, known as John of Gaunt's House, lies 1.5 km. W of Ermine Street, at the North End of Bassingbourn, not far from the line at which the outcrop of Chalk Marl gives place to Gault Clay (TL 32514516). The earthworks survived in fair order until about 1887 when the ground to the north and east was dug over for coprolites† extracted in open-cast workings. In the subsequent reconditioning of the land for agriculture, the moats seem to have been filled up. The first edition of the large-scale maps of the Ordnance Survey in 1885 came too late to record details of the earthworks. On account of the wholesale removal of trees and hedges, necessitated by the construction of an airfield, there is now a wide prospect northwards from the site across the flat vale of the Cam. A description and plan by C. W. Phillips is included in the Victoria County History (*VCH*, 1948, 15-16).

Already in the twelfth century Bassingbourn had produced men of quality. In 1170-7 one Warin de Bassingborn was joint sheriff of Cambridge and Huntingdon. In 1266 another Warin de Bassingborn was granted licence to enclose his houses at Bassingbourn with a moat and wall of stone and lime and to crenellate the same (Farrer, 1920, 23-4, quoting *Cal. Pat. R.*, 1266, 648). In 1276, the manor of Bassingbourn was given by Henry III to John de Britannia who married the king's daughter: in 1302-3 the manor was held by John earl of Richmond (Farrer, 1920, 25). It was still known as 'castle manor' in Lysons' time (Lysons, 1808, 72).

The photographs (PL. XX) from which the

† Phosphatized fossils in the Cambridge Greensand, a band of rock only a few feet thick occurring at the junction of the Gault Clay and Chalk Marl.

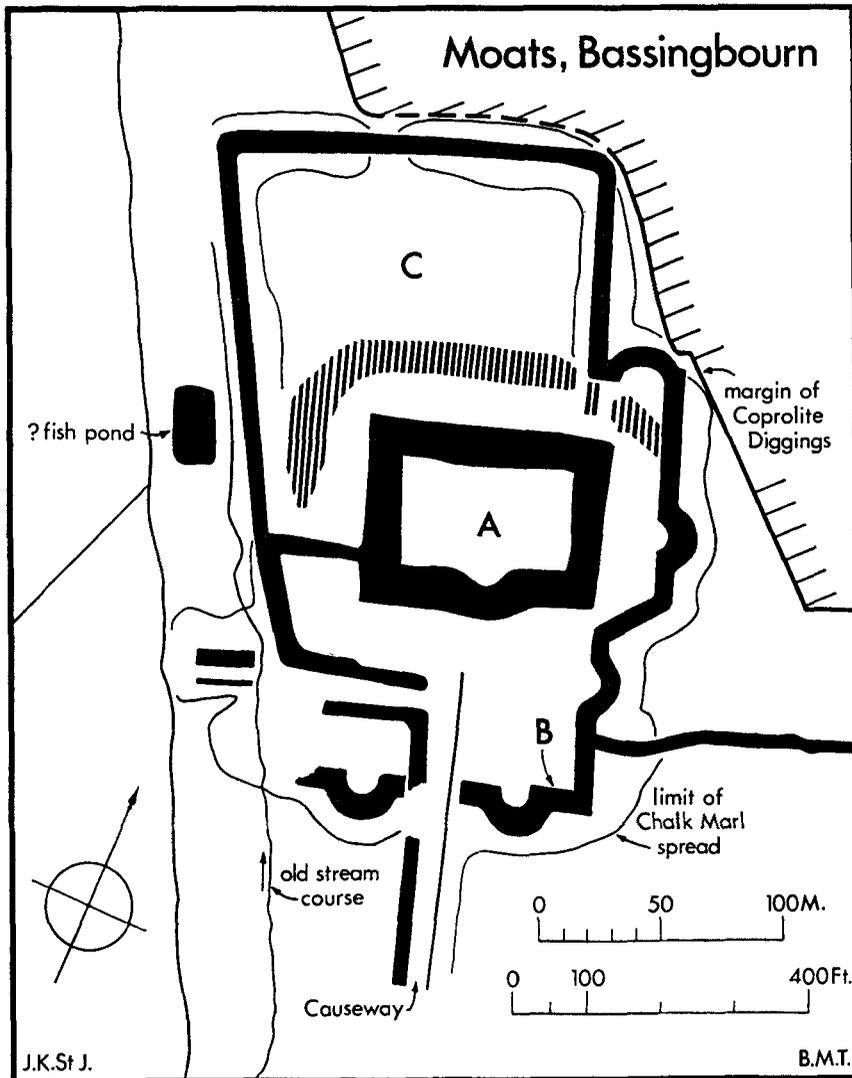


Fig. 1. Moated site 'John of Gaunt's House', Bassingbourn, Cambridgeshire; interpretative sketch based upon aerial photographs

sketch-plan (FIG. 1) has been prepared add considerably to knowledge of the site. Details of the moats appear by reason of the contrast in tone between the black soil filling the ditches and the lighter coloured earth elsewhere. The whitish tone over much of the area is caused by a spread of Chalk Marl either dug out of the moats or imported to the site to raise the general level above the flat land around it. An interpretation of the succession of structures from

soil marks such as these can, at least, be tentative. At the centre of the site is a prominent subrectangular enclosure A (c. 70 m. by 42 m.) having a wide moat with sharp angles. A ditch runs out obliquely from the W side of the moat perhaps to provide a feeder channel from the Bassingbourn brook. The stream now flows in an artificial course along the W edge of the field. In spite of long-continued ploughing, the ground within the moat still stands up to 1.5 m.

ANTIQUITY

above the surrounding land. This enclosure occupies the northern half of a roughly square area delineated by a ditch, or moat B, which has been laid out with considerable care. Thus, on the S front the ditch curves outwards to form two projecting semicircles; similarly on the E front there are two semicircles or large segments of a circle. Whether there were corresponding projections on the W front cannot now be seen, but there seems to have been at least one on the north near the NE corner. The semicircles on the S are symmetrically arranged on either side of a causeway which provided the main access to the site. Much of the circuit of this elaborately devised ditch can still be traced on the ground, especially after fresh ploughing, when colour differences in the soil show to advantage. It seems to be an addition to the system, for the northern half of the enclosed area is wider than the southern half, as if specially to accommodate the moated site within it. There is yet a third enclosure C, roughly rectangular in shape (140 m. from E to W by possibly as much as 200 m.) that extends further N than the works already described. It is bounded by a ditch with a chalk bank on the inside; the angles are sharp. About half the area of this enclosure is ground in common with the other two. On the N side there is a break in the soil mark caused by the upcast bank of Chalk Marl: if this is not due to subsequent disturbance, it could well indicate an entrance.

The relationship of the different works as revealed by the photographs might suggest that the large rectangular enclosure C is the latest of the three. The main grounds for this conjecture are the almost continuous light-toned mark of the bank on the W side, the very clear SW angle and adjoining S side, and the intersection of the E side of enclosure C with that of B. Photographs taken in April 1971 show this intersection more clearly than in PL. XX: the elaborately planned ditch B seems to link with C after curving round yet another semicircle. On the N side of the inner moat the original line of B, represented by shading on FIG. 1, was perhaps abandoned. Continued ploughing may, of course, displace chalk from

the banks on to the black soil of the ditch-filling, thus giving a false impression of superimposition. A rectangular dark-toned area, c. 30 m. by 18 m., lying W of the main moat A by the natural course of the stream (and the existing hedgerow) is matched by a corresponding area 300 m. further S.* These may be fish-ponds. Other lengths of ditch as yet unexplained reflect further phases of the history of the site.

Within the first-mentioned moated enclosure an abundance of thin roof-tiles can be picked up after fresh ploughing, while here and there along the edge of the elaborately planned ditch B, the plough brings up soft, rotted sandstone, as if the sides of this ditch were faced in stone in some sectors. It would, indeed, have been difficult otherwise to maintain the shape of the semicircular projections, and a stone facing would explain the very sharp edge to the soil mark on the line of this ditch. As to date, whether the rectangular site A is a homestead moat of the twelfth century may some day be determined by excavation. Can the unusually elaborate outer moat B with its projecting semicircles represent the refurbishing and fortification of the site occasioned by the licence to crenellate of 1266? The 'wall of stone and lime' implies fortification: semicircular bastions on a curtain wall occur at Corfe castle, in Dorset, in the period 1205–85 (*RCHM*, 1970, II, pt. I, 58, 64–7), while Barnwell castle (Northamptonshire), about as remotely situated as the present site, has circular angle-towers of thirteenth century date.† Clearly Bassingbourn poses questions of quite unusual interest.

To N and E of the site air photographs show a pattern of very distinctive soil marks which surely relate to the coprolite diggings. At the main centres of the industry near Cambridge, coprolites were obtained in shallow open-cast workings, the overburden being dug by manual labour and dumped on ground already worked over: the process was continued until the depth of the overburden became too great. A first impression of the marks at Bassingbourn

* Both areas are best seen on PL. XXa.

† I am grateful to Mr C. C. Taylor for drawing my attention to these possible parallels.

suggest that the workings were in shallow cuts, perhaps 5 m. wide, spaced a similar distance apart, but this would have been a somewhat casual method of extraction, for half the ground would remain undug, and appearances on the air photographs may be deceptive.

At the time of photography, the surface of the field was bare soil. Oblique photographs such as PL. xx*a*, taken on 6 February 1973, give a clearer rendering of detail than the vertical photograph (PL. xx*b*) taken three days later. Together they furnish a more complete record

than could be obtained by ground survey, since long-continued ploughing has greatly reduced the profile of the earthworks.

J. K. ST JOSEPH

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Analysis of Welsh Bronze Age implements

The Board of Celtic Studies of the University of Wales, recently made a substantial grant for a programme of analysis of Bronze Age implements found in Wales. The analysis will be carried out in the Department of History and the School of Electronic Engineering Science of the University College of North Wales, Bangor.

A novel method of sampling has been devised, involving the use of a hypodermic needle attached to an ultrasonic transducer to drill a small core out of each implement. The scanning Electron Probe analyser will be used as the main analytical tool. These methods should ensure that damage to the implements will be kept to a minimum and, since the analytical

methods are non-destructive, the samples obtained will be kept and will be available for further reference.

The project is being supervised by a Committee under the chairmanship of Dr H. N. Savory. Curators of Museums which contain Bronze Age implements found in Wales and the Marches, are invited to join in the attempt to make the survey as complete as possible.

Anyone who has in his possession Welsh Bronze Age implements which he might be willing to submit for analysis, should communicate with R. G. Livens, Department of History (Archaeology), University College of North Wales, Bangor, Gwynedd.

R. G. LIVENS

The Sutton Hoo coins again

Four years ago, in a brief note in *ANTIQUITY* (Grierson, 1970), I suggested that the coins and gold ingots found at Sutton Hoo formed a kind of grandiose Charon's obol. The forty small gold 'coins'—actually thirty-seven Frankish coins, made up to a total of forty units by the addition of three blanks each of the same weight as a coin—were intended for the forty oarsmen of the great ship, and the two slightly larger ingots for its steersman.

If I had written 'for the captain and the pilot' I might have been nearer the truth, for Mr Bertel Tingström, a Swedish numismatist, recently informed me of something of which I was then ignorant, that the figures 40 or 42

in precisely this connexion played an important role in the early Danish taxation system. He also put me in touch with Landsarkivarie Gunnar Fritzell, of the Landsarkiv at Visby, who is doing research on the subject and who has kindly provided me with further information. I am also grateful to Professor P. G. Foote for reading and commenting on this brief note.

The early military organization of the Scandinavian countries was based on the *leidang*, a levy of ships with their complement of men and armament which was called out by the king and supplied by the population on a proportional basis. The units in which it was reckoned were known in Denmark (including Scania) as

a *hafnæ* ('bench seat') and in Sweden as a *hamna* ('rowlock loop'), and what appears to be an explanatory gloss tacked on at the end (§24) of the so-called Abel-Christopher Ordinance (Abel-Kristofferske Forordning) of March 1251, which is printed in the *Samling af danske Forordninger* (1871, p. 11), defines the standard *skibæen* as having 42 *hafner*. This in practice would mean forty rowers together with a captain (*stryrisman*) and pilot (*stambonde*). The *leidang* system was in the twelfth century gradually transmuted into one for taxation, as scutage was in England, and the *Jordebok* of King Waldemar the Victorious (1202–41) includes long lists of payments due under it from different parts of the kingdom.

The fullest accounts of the *leidang* in English are by Koht (1929, 372) and Foote and Wilson (1970, 281–2), while references to the specialist literature can be most easily found in the article 'Leidang' in vol. x of the *Kulturhistorisk Leksikon for nordisk middelalder* (1965), coll. 432 ff. How far back it went is uncertain. Foote suggests that 'it probably began a full, regular existence in the tenth century', while Koht believes that the institution, as originally developed in Denmark, was 'perhaps as early as the sixth century'. The size of the contributory groupings varied from one region to another, but multiples of 40 or 42 antedate the Ordinance of 1251. Aakjær (1921, 66–71), discussing it in relation to the Ordinance, points out that the figure of 40 as a standard already occurs in Eriks sjællandske Lov, the Zealand code traditionally ascribed to Waldemar and Eric, and 40 or 42 are the multiples used for several

localities in the Halland (south Swedish) section of Waldemar's *Jordebok* (Aakjær, 1926, I, 125–7; Henøflæ [40], Harthusæ [42], Aræstat [42], Holmstat [40]). Hjärne (1947, 15–21), discussing the *tvitugsessa* ('twenty-bencher') in a study of the Roden, the coastal area of Sweden responsible for supplying ships and crews, also makes out a plausible case for the same unit in Sweden. Dr Fritzell writes me that in his view it was 'fundamental for the oldest and most common ship in the war-organization of the Danish state'.

That the coins from Sutton Hoo had anything to do with the later development of the *leidang* as a system of taxation is, of course, out of the question. But the custom of reckoning by *hafner*, and the role played in it of the figures 40 and 42, can be reasonably taken to support the idea that the number of 'coins' found at Sutton Hoo was determined by the size of the crew.

PHILIP GRIERSON

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Calibration of the radiocarbon calendar

Dr Switsur has now (*Antiquity*, XLVII, 310–14) given us the benefit of a much fuller explanation of the aims and intentions of his original article, 'The radiocarbon calendar recalibrated' (*Antiquity*, XLVII, 131–7). That he did not do so in the beginning was greatly to the detriment of his first article and a loss to his readers. However, in attempting to answer the points which I felt that his first article raised Dr Switsur has, I consider, attributed quite erroneous nuances

of meaning to some of my remarks. Two points may serve to illustrate this and help to make my original position clear.

First, it is, of course, quite wrong to suggest as he does (p. 310) that my remarks were intended to be critical of the quality of the research work of others; this is a complete misinterpretation. Any criticism implied was aimed at the undesirability of making unnecessary additions to the number of calibration

relationships already published, particularly if such additions cannot be upheld statistically, which, as Professor Renfrew points out (p. 315), is the case here.

Second, it is a further distortion of my remarks to suggest (p. 311) that I have advocated that the publication of calibration curves should cease until we have a definitive relationship. Dr Switsur reminds us of the progressive manner in which scientific advances are made, that is, by a series of tested approximations towards the truth. My contention was precisely that his curve does not conform with this process or, incidentally, help to clarify the present situation usefully for the archaeologist. In his reply to my remarks Dr Switsur has indirectly made my general point for me; the length of his explanation underlines the complexity of the detailed problems still to be resolved and

the numerous uncertainties which remain.

Meanwhile, a little more progress has been made. Since this discussion in *ANTIQUITY* began the Pennsylvania laboratory, one of those actively concerned with calibration measurements, has published, in *MASCA Newsletter* 9, a set of calibration tables (mentioned as a footnote by Dr Switsur, p. 311) which are based on virtually all the long-lived tree-ring data (mainly bristlecone and sequoia) measured so far, over the time interval from AD 1849 to 5383 BC (Ralph *et al.*, 1973).^{*} This is perhaps the most useful generalized calibration available and is properly accompanied by instructions for its use and an assessment of the errors this may involve.

RICHARD BURLEIGH

^{*} Ralph, E. K., H. N. Michael and M. C. Han. 1973. Radiocarbon dates and reality, *MASCA Newsletter* 9 (1), August 1973, 1-20.

Fenestrae obliquae: a contribution to literate archaeology

Splayed windows—that is, windows in which the sill and jambs are not at right angles to the wall face—are a commonplace of Anglo-Saxon and Norman architecture. They are, for a start, useful type fossils. Thus, a Late Saxon date is thought appropriate for double-splayed windows, where the aperture itself is at about the middle of the wall thickness, and the opening widens towards both the interior and exterior wall faces. On the other hand, single-splayed windows, widening only to the interior, may be either early Saxon or Norman. We must decide between the two on the structural character of the jambs, the way in which the window head is turned, and similar criteria (Taylor and Taylor, 1965, 9-10).

These chronological judgements reflect no more than the modern scholar's attitude to the evidence of ancient buildings. In this particular case, however, we can attempt to go beyond our necessary preoccupation with typological criteria and chronological studies, and seek to approach the minds of the people who constructed and used the buildings. For a start we can consider the reasons why Anglo-Saxon windows were splayed. One suggestion is that it was to economize in the use of glass. But

this seems an unsatisfactory explanation in face of the quantity of glass already recovered in the excavation of Monkwearmouth (Cramp, 1970). Moreover, at Jarrow it appears that the already constricted aperture was narrowed from the start by the insertion of stone slabs (Peers, 1935, 109). A more likely explanation is that windows were splayed in order to reduce the weakening effect of an opening in the wall. But it is worth noticing here that Jackson and Fletcher (1951, 24-6) consider that, because the construction of single-splayed windows requires more skill than that of the later double-splayed examples, they must be the work of imported masons.

In some circumstances we may think that we can recapture the visual impression that these windows would have created for Anglo-Saxon worshippers. The best place to seek this effect is at Escomb on a bright summer's day when the sunshine pours through the high windows in the south wall to flood the nave with light. This effect is, of course, bogus. Professor Cramp's discoveries demonstrate that the light would not have been clear and white but dappled, a kaleidoscope of colours (Cramp, 1970, pl. liv). And this would have been falling

on walls which were not white-washed as today, but variegated with paintings and hangings.

We may dispute the structural purpose of splayed windows, or their visual effects; but curiously enough we can know for certain what their inner, allegorical, significance was for an influential Anglo-Saxon writer. Among Bede's exegetical works is one, *de Templo*, which expounds the arcane spiritual significance of Solomon's Temple. One section of this is devoted to the phrase *fecitque in templo fenestras obliquas*, 'he made in the temple oblique windows'. The ultimate source of this is I Kings vi, 4, where the actual Hebrew appears to mean 'windows with narrow lights' (AV), 'windows with recessed frames' (RSV) or simply 'embrasures' (NEB). But the phrase came to Bede not from the original Hebrew, nor from the Greek of the Septuagint, but from the Latin of Jerome's *Vulgate* (III Regum vi, 4), where it appears in the form just quoted. And Bede—whose actual knowledge of religious architecture was confined to the twin monasteries of Monkwearmouth and Jarrow—at once recognized something familiar, both to himself and to his readers, who had the same architectural background. To them he explains the *fenestrae obliquae* of Solomon's Temple as follows: *id est intus latiores*, 'that is, wider on the inside'. In brief, for Bede the *fenestrae obliquae* of the Temple were the single-splayed windows of an early Anglo-Saxon church.

It was not, however, in the recognition of the familiar that the interest lay for Bede. His concern is with the spiritual or allegorical significance of the windows. He interprets them in terms of the holy men of learning who behold, better than other men, the heavenly mysteries. When they reveal to the faithful what they have seen in private, they may be compared to windows which, having caught the light of the sun, fill all the recesses of the temple—*quasi suscepto lumine solis fenestrae cuncta templi penetralia replent*. 'Therefore', he concludes, 'they are well said to have been oblique (or splayed) windows'.

To most of us today, such modes of thought and perception are alien to the point of incomprehensibility, but they were fundamental to

the way in which medieval man saw the world about him in terms of symbol. The historian must therefore accept the duty of attempting to comprehend them; and by extension, so, too, must the student of historical archaeology. The responsibility is the greater in this case because of the influence which Bede's exegetical writings had both in his own day and among his successors. Towards the end of his life, Bede appended a biographical and bibliographical sketch to his *Ecclesiastical History*—the kind of sketch which appears on the dust jacket of a modern book. He makes it clear that in his own eyes his life work had been to make notes and commentaries on Holy Scripture for his own benefit and that of his fellows. When he lists his writings, the works which seem important to us—his chronological studies, the lives of the abbots, and the *Ecclesiastical History* itself—come low in the list, but fourth place is given to his work 'About the building of the temple, an allegorical exposition' (*HE* v, 24).

We know, too, that Bede's exegetical and theological works were much in demand among his contemporaries and successors (Jenkins, 1935). We know, for instance, that the *de Templo* was among the writings sent to Bishop Acca of Hexham. Some decades after Bede's death, Bishop Lul of Mainz wrote to Cuthbert, abbot of Monkwearmouth-Jarrow, asking for a copy of the work on the building of the Temple (Whitelock, 1960, 4–6). The spread of Bede's writings and influence is likewise revealed by a study of the surviving early manuscripts of the *de Templo*. Seven manuscripts of the tenth or earlier centuries are known; and the work was copied at Corbie in Picardy, and at Saint-Gall in Switzerland, before c. AD 900 (Laistner and King, 1943, 5 and 75–8). This continental diffusion is not irrelevant here. Baldwin Brown long ago drew attention to the windows, widely splayed to the interior, of the early ninth-century church at Michelstadt in the German Odenwald. He concluded that 'we may take this form to have been at the time normal in all the Carolingian realms' (Brown, 1903, 66).

This at least is certain. Throughout Anglo-Saxon England, the churches of the eighth

century had single-splayed windows. In many of these churches, Bede's comparison of such windows with the *fenestras obliquas* of Solomon's Temple, and his allegorical interpretation of them, would have been familiar; and men of religious learning would have been moved to think of Bede's exegesis whenever a shaft of sunlight struck through the multi-coloured glass. And as part of our understanding of the architecture, we, too, must learn to think in this same mode.

Acknowledgements: I am grateful to the Reverend I. M. Douglas for advice on Bede's *de Templo*, to Professor R. Cramp for answering queries about the windows at Jarrow, and to Professor E. L. G. Stones for his comments on the issues of medieval thought which are implied here.

Another aspect of these windows is discussed in Parsons, 1974, which appeared after this note was ready for the printer.

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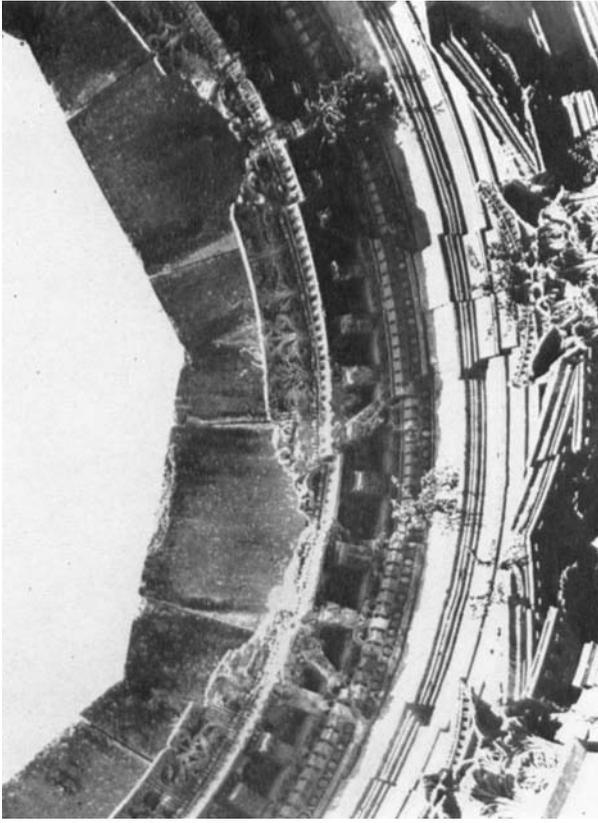


PLATE XVIIb: TRAJAN'S FORUM
 (above) *Baalbek, Temple of Jupiter :
 forecourt, NW exedra*
 (right) *Sestertius of Trajan*

See pp. 126-30
 Photos: (above) H. Plummer;
 (below) Arch. Anzeiger, 1970,
 Pl. 74



PLATE XVIIa: THE SANTORINI VOLCANO
Volcanic deposits in the Phira quarries

See pp. 110-15

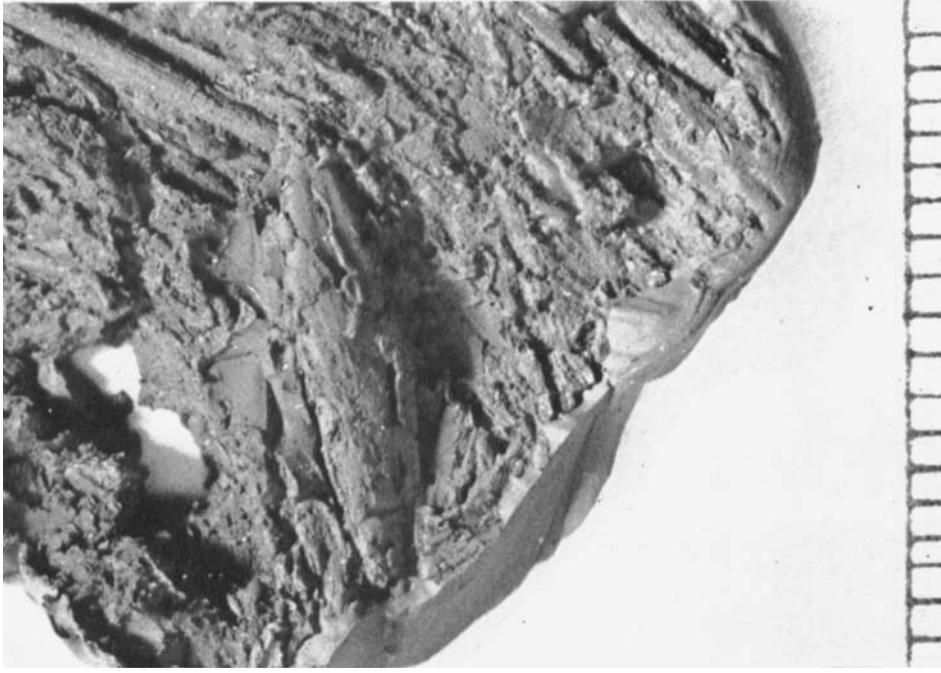


PLATE XVII: EARLY BRONZE AGE AGRICULTURE IN W. CRETE
(a) Seeds of '*Triticum dicoccum*' (emmer wheat). (b) Seed of '*Avena sp.*' (oat)
(Scales in millimetres)

See pp. 130-2



PLATE XVIII: AN UNRECORDED TYPE OF SOUTH ARABIAN ART

(Caption on opposite page)

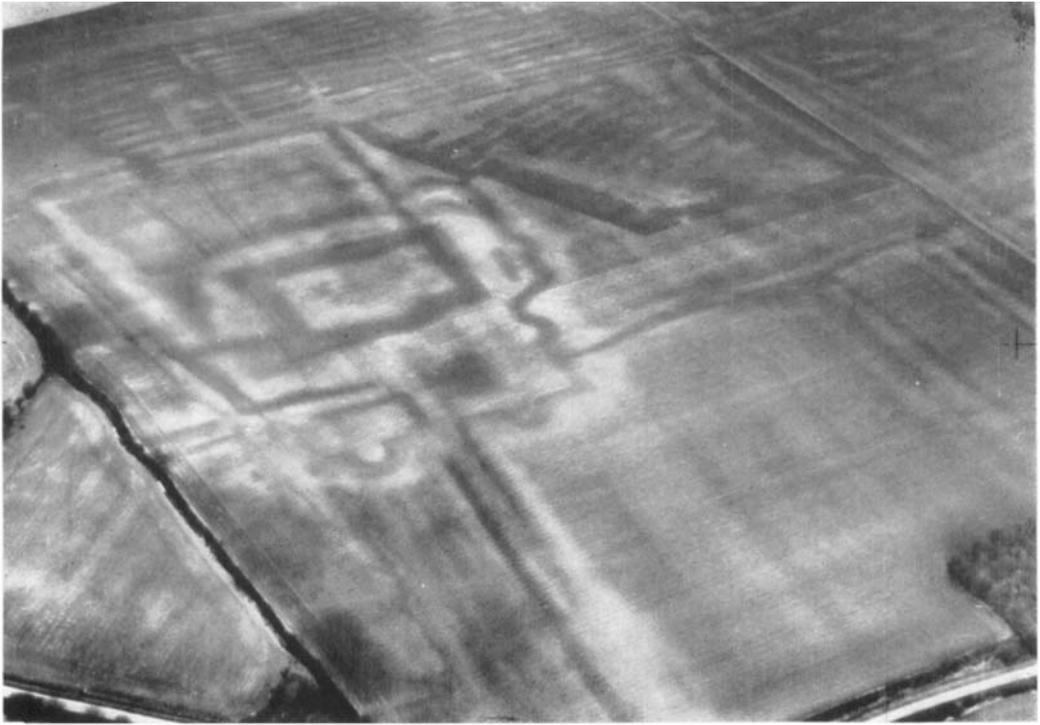


AN UNRECORDED TYPE OF SOUTH ARABIAN ART

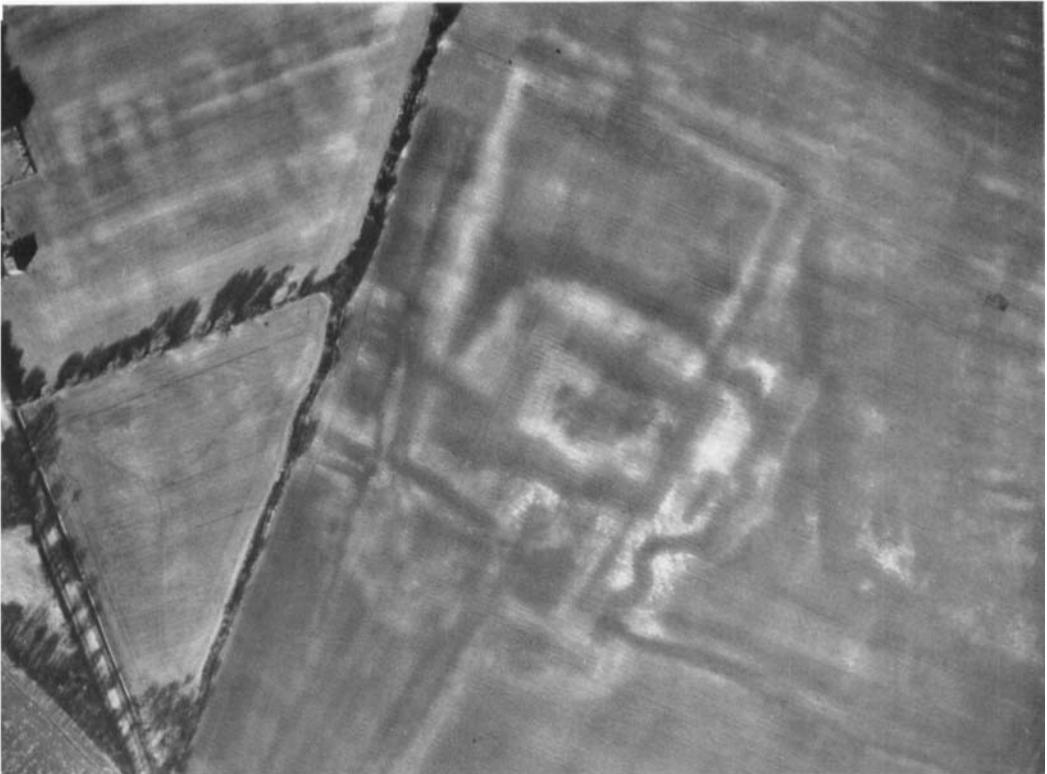
PLATE XVIII (*opposite*). Covered bowl, approximately 10 cm. high, carved from a single block of gypsum
PLATE XIX (*above*). Camel, approximately 16 cm. high, carved from a single block of gypsum

See pp. 133-4

Photos: British Museum



a



b

PLATE XX: AIR RECONNAISSANCE: RECENT RESULTS, 34

Moats, Bassingbourn, Cambridgeshire TL 325451 : (a) oblique photograph looking N, taken 6 February 1973 ; (b) vertical photograph, scale 1 : 3,800 taken 9 February 1973

See pp. 136-9

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