

in this elegantly locally published and printed volume, R. F. Tylecote and Radomir Pleiner. Pleiner, who as Secretary of the Comité pour la Sidérurgie—of which Guyan is still President—has for several years organized the regular publication of its activities and an invaluable bibliography in successive issues of *Archeologické rozhledy*.

Tylecote offers a brief introduction to the earliest evidence for iron in Europe with suitable African ethnographic parallels cited for kiln types, a matter also dealt with in a typically thorough survey of iron smelting sites in Schleswig-Holstein by Hans Hingst. As with Pleiner's more extensive piece on the iron routes into Europe, Tylecote misses, however, interesting 'firsts' for iron in the Netherlands. Pleiner, of course, does not omit illustration of what is probably still the earliest evidence for the use of iron in Central Europe, an Otomani culture knife blade with bronze rivets from Gánovce in northern Slovakia of the fifteenth century BC. African ethnographic analogies are also characteristically referred to by John Alexander in his essay on 'The coming of iron-using to Britain', in which he proposes a two-tier model of iron working, high-prestige and widely traded products and low prestige local types made by part-time smiths, all resting on an analysis of both the possible reactions of a local community to introduced iron-working, and the methods by which such introductions may have been made, either, probably and largely, by trade, or as a by-product of war or immigration.

For Ireland, Brian Scott contributes a most useful essay on the origins and early development of iron use, combining archaeological, linguistic and literary records. This study, which complements articles published elsewhere by Tim Champion, emphasizes the coincidental growth of iron-using in a naturally well-endowed region with a time of evident social collapse and the break-down of large socio-political units in favour of small self-supporting farmsteads—more or less equal to Alexander's low prestige communities. But the introduction to Ireland was obviously slow, perhaps with once more immigrants giving the lead and much pioneering local production being merely the adaptation of the new metal to later Bronze Age types.

Other, briefer surveys of 'firsts' in the regional history of iron making are given by Vojislav Trbuhović for the central and west Balkan regions, José Gomez and Jean-Pierre Mohen for France and B. A. Shranko for Russia.

Other studies concerned more with metallurgical than archaeological matters include an interesting paper on the analyses of a small sample of Minoan and Mycenaean iron objects by George Varoufakis which, while offering confirmation that iron smelting was introduced into the Mycenaean world from

the East, also indicates the existence of nickel-rich iron jewellery of the seventeenth to thirteenth centuries BC—possibly made from meteoric iron as is the ring depicted on the dust-jacket. From Western Europe the detailed examination of an iron sword of *Griffzungsschwert* form from a late Urnfield (Ha B3) grave in the famous Singen cemetery in Baden-Württemberg by Wolfgang Kimmig (on its archaeology), and P. O. Boll and others (on its technology), and a further general survey of the transition from bronze to iron in Sweden by Erik Nylén, show that this collection of essays lacks little in the way of geographical and technological coverage.

In brief, this is an interesting if not necessarily always innovative addition to the growing literature on ferrous archaeometallurgy. J. V. S. MEGAW

Joyce White (with contributions from Pisit Charoenwongsa & Ward H. Goodenough): Ban Chiang: discovery of a lost Bronze Age. Philadelphia: University of Pennsylvania Press, 1982. 96 pp., numerous illustrations. £15.00.

In 1974 and again in 1975, Pisit Charoenwongsa and Chester Gorman co-directed excavations at the site of Ban Chiang, a village in N.E. Thailand which overlies about four metres of prehistoric and early historic remains. A preliminary report, based largely on field impressions, was published in 1976. It described the principal metal artifacts, grave contents and occupation material. An assessment of the chronology suggested that bronze metallurgy was practised there by at least 3000 BC, and iron working by 1600–1000 BC. The main conclusions were confirmed in a paper prepared for the Aarhus conference on the origins of domestication and metallurgy, held in 1978.

Gorman was deeply involved in the laboratory analyses when, in 1979, he was stricken with a mortal illness. At that juncture, he had set in train the preparation of an exhibition of the Ban Chiang material in conjunction with the Smithsonian Institution and the Thai Government. His death early in 1981 was a hammer blow to the preparation of the final site report and indeed, to the notion of an exhibition. It is a tribute to the perseverance of Gorman's co-director, as well as the determination of Chester's many friends in Philadelphia, that plans for the exhibition continued to a successful conclusion.

The work under review is the catalogue which describes the exhibition material. It contains an introduction by Pisit, and a concluding assessment by Ward Goodenough. The body of the text is the work of Joyce White. As one of Gorman's graduate students, White was in day-to-day charge of the Ban Chiang laboratory in Philadelphia before spending 18 months engaged in ecological fieldwork in and around Ban Chiang itself. Her return to Philadelphia just after her mentor's death was timely only in the sense that she was able to shoulder the

task of cataloguing the material and writing a commentary on the Ban Chiang cultural tradition.

It is a pleasure to turn the pages of this catalogue and enjoy the impeccable series of illustrations, all of which portray the skills of the Ban Chiang craftsmen and diversity of the material remains. Each item is given a serial number and an individual textual commentary is provided. It must be even more impressive to use the catalogue with the actual material laid out in front of one.

This catalogue, however, is by no means ephemeral. Indeed it contains a lengthy consideration of the Ban Chiang cultural tradition and of later Southeast Asian prehistory in general. This section may not engage for long the attention of the interested visitor to a travelling exhibition. It could, however, attract those seeking clarification on the chronology and the nature of the Southeast Asian bronze and iron ages.

White has chosen not to discuss in detail the problems underlying the chronology for Ban Chiang. Noel Barnard has called on all those working on this and related sites to set out the precise provenance, sample size, corrected date and stratigraphic relationship to the event being dated. It is no secret that the stratigraphy at Ban Chiang was fugitive, and that a good many samples do not derive from clearly *in situ* contexts. White does not address this problem, although it is arguable that this catalogue would be an inappropriate vehicle for doing so.

Let me, however, illustrate the daunting task confronting anyone seeking clarification of the chronology of early bronze by referring to one artifact, a bronze spearhead found in grave number 76, the flexed burial of a young man. First, White has replaced the now familiar six-fold subdivision of the excavators, by a new one of her own comprising Early (3600–1000 BC), Middle (1000–300 BC) and Late (300 BC–200 AD) Periods.

On page 24, we are informed that those flexed interments are counted among the earliest graves at Ban Chiang, but that they continued in vogue until *c.* 1600 BC. One of the earliest, says White, contained a socketed spearhead 'one of the oldest bronze artifacts found in a grave'. This surely implies that the spearhead dates to a very early context in the Early Period, which is said to begin about 3600 BC. Ten pages later, we see this same spearhead illustrated alongside a beaker vessel from the same grave. Now turn back to page 20, and we find that beakers are *late* in the Early Period, and date to between 2000–1500 BC. On page 77, this spearhead is dated to '*c.* 2000 BC'.

The mystery takes a further twist when we re-read the actual excavators' statement, written in 1978, that 'only four flexed burials, all from the basal layers, were excavated during our two seasons at Ban Chiang; burial 76 is such a flexed burial, and it contains a bronze spearhead and a beaker vessel; the beaker types are again a marker of basal phases at Ban Chiang.' Referring to the grave fill, Gorman went on 'this indicates the grave was cut shortly after the initial occupation of that part of the

mound'. The reviewer finds himself slightly bewildered.

The same view that the Ban Chiang tradition was exceptionally early applies to White's description of two bimetallic spearheads. These, she asserts, were among the most important and unexpected discoveries of the Middle Period (1000–300 BC), implements which 'rank with the oldest iron artifacts in East Asia.' Such bimetallic implements are also found about 400 km northeast of Ban Chiang in Dong So'n sites, and are relatively abundant in Yünnan. Given the increasing number of Dong So'n artifacts in Northeast Thailand, these spearheads are not at all unexpected. It is only that their proposed date is inflated by about four centuries.

Many prehistorians with specialized knowledge of Southeast Asia will also take issue with White's conclusion that the area witnessed a 'peaceful Bronze Age, enduring at village level for several millennia'. Her statement, if it refers to all three periods at Ban Chiang, has such important implications that it must be read in full:

That this technological precocity occurred in simple village contexts that derived their subsistence from hunting and gathering and simple cultivation is most intriguing. No urban, state or military stimulus from within or outside the region is in evidence. No complex, stratified social organisation appears to have been a cause or consequence of the development of metal technology. The types of metal artefacts manufactured by the people of the Ban Chiang tradition and elsewhere in Southeast Asia reflect this non-urban, non-military context.

These statements must be considered relative to other discoveries in Southeast Asia. Thus, two bronze axe halberds have been recovered only ten km from Ban Chiang at the site of Ban Thart. Similar axe halberds are among the weapons being brandished by warrior-aristocrats on the Dong So'n drums. The Mun and Chi valleys in Northeast Thailand are studded with large settlement sites, some over 100 ha in extent and many, moated. Non Chai covered 38 ha by the late period of Ban Chiang. Vietnamese archaeologists have identified a huge Dong So'n centre at Co Loa, covering about 600 ha. One Dong So'n boat-coffin at Viet Khe contained over 100 burial offerings, including daggers, swords, spearheads and a hide shield with silver decoration. Indeed, there is now compelling evidence for a major change from autonomous communities to central places, militarism and high rank in Northeast Thailand and Vietnam during the first millennium BC. This presents more similarities than differences when compared with, for example, Shang China and the Aegean area.

For the layman, this catalogue will capture the imagination, for it contains all the stuff which makes archaeology so appealing: the thrill of discovery, a long-lost past brought to life, and objects of rare beauty. More importantly, it seeks to remove the sensationalism which has surrounded the Ban Chiang discoveries, and replace it with a sober assessment of the site's place in Southern Asian prehistory. This stance is admirable. For the specialist, the catalogue has greatly enlarged the available comparative material, and brought to light the

full range of prehistoric technology practised at Ban Chiang. Clarification of the chronology is for the future. This reviewer feels that once one adduces evidence which shortens the duration of bronze working and admits the development of central places and militarism during White's late phase, new and important theoretical issues will be addressed.

CHARLES HIGHAM

Martin Brennan: The stars and the stones. London: Thames & Hudson Ltd, 1983. 208 pp., numerous un-numbered pls and figs. £12.00.

It is not often one gets for review a book on Irish archaeology and/or related themes that arouses equal sensations of risibility and wrath. The author of the book in question came to Ireland from America in 1970 where he had majored in Visual Communication. He has since returned to New York but his Irish sojourn produced two books, the first of which, *The Boyne Valley vision* (Dolmen Press), appeared in 1980. In the book under review, his vision has become enlarged to almost encyclopaedic proportions because, as well as embracing what he persistently calls 'the megalithic mounds' of the Boyne valley and Loughcrew, it has been expanded to include 'most of the Irish sites containing megalithic art' (p. 8).

In Part I, the Introduction, he lauds the antiquarians and lambasts the archaeologists. He considers General Charles Vallency to be 'the most important of the Irish antiquarians' (p. 22) and by fairly explicit and frequent implication, M. J. O'Kelly of Newgrange is practically at the bottom of the pile as far as what Brennan calls 'the modern archaeologist' is concerned. The failure to investigate until 1969 the well-known fact that 'light entered the passage at Newgrange . . . in many ways was one of the greatest blunders of modern Irish archaeology' (p. 28). He concedes that O'Kelly discovered the roof-box through which the sun's rays enter at the winter solstice, but small credit to him for he found it 'intact'. When O'Kelly finally got around to observing the winter solstice for the first time (the correct date is 1967), he 'presented the facts as best he could . . . Based on flimsy and superficial data, some held that the probability of chance occurrence was one in ten or fifteen . . . some went so far as to claim that O'Kelly reconstructed the roof-box himself in order to admit the light' (p. 36).

Mr Brennan tells us that after ten years of research he began practical observation in the field 'in late 1979 at Newgrange, where we observed the midwinter sunrise, and ended one year later in the chamber of nearby Dowth, where the rays of the setting sun projected a beam of light at winter solstice' (p. 9).

Now, there's a nice example of reconstruction, had Brennan but known it. The tomb in question, Dowth South, was in ruins even at the time of the 1847-8 excavation of the Dowth mound. In 1885-6, Sir Thomas Deane reconstructed it, placed a concrete roof over the chamber and reconstructed the passage so as to have three

orthostats at each side instead of the two-a-side shown in his preliminary survey. The low lintel at the entrance has no basis in archaeological fact and the remaining lintels are highly suspect. So much for the astronomical alignment of this particular example!

The view-halloo with which the Irish national press greeted Brennan's discovery was equalled only by the similar reaction to his discoveries at Loughcrew the previous March. These had been featured in the *Irish Independent* as 'Golden Secrets of our History' and the full page splash is reproduced in the volume under review (p. 49). Personally, I think Dowth had the edge on Loughcrew as a publicity medium because, whereas one has to climb what Brennan calls the 'Loughcrew mountains' to bear witness to his earlier triumphs, Dowth is but a nice drive from Dublin. I myself witnessed the long line of cars whose occupants were drawn there the following week-end by the fame of Martin Brennan who had made, 'A discovery . . . which will have international significance and mean far-reaching changes in existing historical and archaeological theories about the world during and since neolithic . . . times' (*Irish Press*, 15 Dec. 1980).

Archaeologists and students of related disciplines may wonder what relevance Brennan's spurious claims, misrepresentation of facts, sneers at archaeologists and innuendos about their credentials have to do with anything of importance. My late husband typified this attitude, and I fear his 'bad press' as far as Brennan is concerned may be due to the fact that when interviewed by the *Irish Times* (22 Dec. 1980) about the 'great new discoveries by an American researcher', his only comment was that Brennan was 'a nice young man'.

I do not agree that it is wise to ignore the harm done by widespread publicity of the kind mentioned above. Irish archaeological field research depends for its funding ultimately on the taxpayer and if a young man, be he nice or not, can come here to Ireland with no previous qualification or expertise in archaeology and archaeoastronomy and solve all in a couple of years, the time may come when our paymasters may question the *raison d'être* of expensive excavations, field surveys and the like.

Part III is called Megalithic Art. Mr Brennan began by 'researching the art on a casual basis, but by 1976 I was involved in full-time documentation and analysis' (p. 37). The dust-jacket blurb says that 'in his own superb two-colour drawings, Martin Brennan fully documents these discoveries'. Discoveries they were not, as all the known decorated stones of Ireland, including those of the Boyne valley, had been freshly recorded before the end of the nineteen-seventies and the bulk of them were in print by 1981. All the significant stones and decorative motifs of Newgrange, Dowth and Knowth were available in various publications throughout this period. Many of the decorated surfaces discovered during the Newgrange excavations had been drawn and published and were covered up again by the time Brennan arrived in Ireland. The Boyne vision apparently confers strange powers.