THE THAI-BRITISH ARCHAEOLOGICAL EXPEDITION: A PRELIMINARY REPORT ON THE WORK OF THE SECOND SEASON 1967*

by

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After a successful trial excavation in early 1966 at *Kok Charoen* site, 13.5 km. north of the town of Chai Bedan, Lopburi Province, c. 150 metres west of the road to Phetchabun, which disclosed five apparently neolithic burials with rich grave goods including hitherto unknown types of pottery (see JSS vol. LV/2, p. 248 seq.), it was decided to devote this second season of the *Thai-British Archaeological Expedition* mainly to further excavation of this promising site. As already mentioned (ibid., p. 249) this well-drained area of shallow limestone mounds at the beginning of the foothills of the mountain range bordering the Chao Phraya alluvial basin on the east, seemed to fulfil the topographical requirements for the carrying of a relatively dense prehistoric population with an economy based on the shifting cultivation of some cereals (e.g. rice or millet). Furthermore, large and easily accessible clay deposits in nearby river-beds would have made possible the development of local pottery manufacture. A concentration of surface finds (potsherds, some stone adzes and fragments of stone bracelets) on a shallow mound some 200-250 metres

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west SW of the site of the 1966 trial excavation, which at that time was still covered with castor oil trees, led us to select this spot for the 1967 excavation. This mound is simply a prolongation of the shallow promontory-like spur of land surrounded by a stream on which the 1966 excavation took place, and it too is bordered on the west by that part of the stream which flows throughout the year, and on the east by a depression which is only filled with water during the wet season. Like the site of the trial excavation, this area also could have provided the ideal conditions for a neolithic settlement, and it was in the hope of finding such a habitation site that excavations were begun at this mound, named *Kok Charoen 2*, in early January 1967. By that time it was covered with partly harvested millet, in accordance with the crop rotation practiced by the new settlers. In addition to castor oil trees and millet, sweet corn is cultivated by itself or in combination with millet. All these crops involve the tilling of the soil, at places to a depth of 25 cm. below the surface, which means that not only is this upper part of the topsoil thoroughly disturbed, but also that many finds are brought to the surface in the process. Like his fellows in the immediate neighbourhood, the tenant farmer working this particular field did indeed have in his possession a good collection of small ground stone adzes or adze fragments which he had found in the few years since he had settled there. Potsherds are rarely picked up, but a certain belief in the supernatural power of prehistoric stone implements means that these are eagerly collected, though apparently they are put to no further use.

As it was planned to excavate a comparatively large area because of the expected size of the habitation surface, a 5 x 5 m. grid (4 x 4 m. cuttings separated by 1-metre baulks) was laid out over the entire mound and excavation started on seven cuttings in an L-shape branching to the south and to the east in about the centre of the mound. At circa 30 cm. below the present surface, thus just under the disturbed topsoil, the first signs became visible of burials which were obviously similar to those found at the trial excavation the previous year. These were in the form of areas of whitish granular lime soil appearing in elongated patches on the surface of the rather

heavy and sticky "Upper Black" soil which could immediately be recognized as the tops of former burial mounds. Soon the first burial pottery (resembling that found in *Kok Charoen 1*) also appeared. It thus became clear that instead of a settlement we had discovered another burial ground. Later it was ascertained that in some graves pots were stacked in three layers on top of the corpse which explains their being at the very top of the burial mound just a foot or so under the present surface. It was also found out later that at least some of these burial mounds must have been eroded at some time still unknown and for an indeterminable period before new soil formed, exposing parts of the corpses (which were already at the skeletal stage by this time) and of course any pots put on top of them.

The excavation was then completed to fill out into a square the whole area between the two lines of the above-mentioned L-shaped cuttings, i.e. to 16 cuttings of 4 x 4 m each; and later on it was further extended towards the east until 24 cuttings of this size were either fully or partly opened. The number of burials discovered in this relatively small area—42, with indications of more in the baulks and at the sides—was beyond all expectations and made the Kok Charoen burial ground a very important site indeed.

With very few exceptions, the burials were in a supine position with legs outstretched and arms lying parallel with the body. Unfavourable soil conditions would seem the reason for the relatively bad state of preservation of the bones, which were sometimes found to be softer than the hard, and at times compact, lime soil in which they were embedded. The smaller bones of the skeletons had mostly disappeared altogether, while even the long bones, skulls, pelvis, etc. were quite brittle and often incomplete. In one case an isolated nearly complete skull was found, in association with shells which had clearly been worked and may have formed part of a head adornment. As no other bones belonging to the same skeleton could be located, the possibility of a "skull burial" (perhaps in connection with head-hunting practices) cannot be discarded; but it could also be that particularly destructive soil conditions might have existed in a limited area and the rest of the skeleton might simply have dissolved without leaving

a trace. In these circumstances, determination of racial affinities, sex and age, or causes of death, can be attempted in very few cases only. The skeletal material from this excavation is being investigated by Professor Sood Sangvichien and his assistants in the Department of Anatomy, Faculty of Medicine, Siriraj Hospital, Thonburi, and not even tentative conclusions can as yet be drawn as regards the question of who these people buried at Kok Charoen site were. All that can be said by the excavators at this stage is that, with one or two possible exceptions, the skeletons seemed to be of adult persons of a comparable size to that of most present-day peoples in mainland Southeast Asia.

Nearly all the skeletons were accompanied by grave goods in the form of pots put at the feet or on the ankles, on the pelvis or chest, along the arms or, most commonly, near the head, where a row of several pots stretched up from the shoulder by the side of the head, or started directly above the head thus prolonging the body several feet. As mentioned above, a few burials had an especially large number of pots, even stacked one on top of the other, possibly denoting thereby some difference in social standing. One body, obviously that of a rich or otherwise important individual, as is also evidenced by a great number of finely polished stone bracelets and some tubular stone beads found with the skeleton, was literally buried under so many pots that the excavators had to go through the entire alphabet twice to designate all of them (letters being used to avoid confusion with the burial numbers).

Some skeletons were found to be lying on a bed of comparatively large potsherds, possibly from pots broken up especially for this purpose, and to be covered at least partly (arms and legs) by other large potsherds. One rather intriguing feature was presented by the strange incisions on the leg-bones of several skeletons, which were at first sight very tentatively and hesitatingly interpreted as being somehow connected with the death of these individuals but which were later, with the kind help of Dr. I.W. Cornwall of the Institute of Archaeology, London, found to have a far more prosaic and quite natural origin, being rat-bites. Judging from the nature of these

marks, it would seem that it was only after they had become skeletal that the bones attracted rats (which are nowadays very numerous in the area and even occasionally form part of the local diet). This would mean that at least parts of the skeletons must have been exposed at times, thereby giving support to the theory formulated primarily on stratigraphic grounds, that the site must have been at least partially eroded at a time when the bodies buried there were already in a state of considerable decay. This theory is further strengthened by one particular observation. The content of a footed bowl found tilted vertically on top of the lower part of a skeleton showed a clear distinction between a lower half consisting of the same lime soil as that filling the grave and constituting the grave mounds throughout the site as far as documented, the soil into which the graves were dug in fact, and an upper half consisting of the same sticky black soil as everything above it. No explanation can be accepted other than that this pot must at times have been at least partly exposed, presumably because of the erosion of the burial mound.

Two main orientations suggest two different phases of burials separated by an as yet unknown period of time. But as there would seem to be no significant difference in the burial pottery accompanying skeletons of both orientations, this difference in time may in fact have been of a few generations or a few centuries only.

All the burial pottery seems to have been made by hand in the manner already briefly described earlier (JSS vol. LV/2 pp. 251-2), and can clearly be divided into two groups: a) round-based, nearly globular, cord-marked bowls with relatively narrow to medium-wide mouths; and b) wide-mouthed, more or less shallow bowls with hollow conical pedestals added, some (both bowls and pedestals) with incised decoration. Representative items of both these groups are, however, as a rule found together in the same grave, including some vessel types already observed in *Kok Charoen I* (*ibid.*, pp. 252-3).

Provisionally, the first group can be divided into seven, and the second into eight, main types, some of which can be divided further into sub-types.

rim. A) Neck slightly inward turning; stem of ring-foot covered with five raised bands of triangular cross-section; base of ring-foot spreading widely. B) Body very shallow; neck concave and outward turned; stem of ring-foot covered with only two raised bands, base of ring-foot higher and slightly concave. C) Neck nearly straight and slightly inturned; body larger in comparison with base; one raised band where body meets pedestal, below which concave pedestal curves out to wide base.

Type 5 Carinated pedestal bowls, with the parts above the carination and the pedestals quite high in relation to the lower part of the body, and covered with an incised decoration consisting of dotted areas bounded on the lower side by an incised wavy line (in the case of the neck and the lower half of the ring foot), or limited on both sides by a straight incised line (in the case of the upper part of ring-foot. A) Neck vertical; ring-foot rather straight and narrow. B) Neck slanting inward and slightly concave; ring-foot wider and also concave.

Type 6 Heavy, thick-walled pedestal bowl with shallow rounded body and inconspicuous carination. Rounded rim. Neck is covered with incised triangles filled with dots, the body is cord-marked, and the ring-foot, which is nearly half of the total height of the vessel, also bears an incised decoration.

Type 7 Pedestal bowls, carinated with high necks and high bases, both of which areas are covered with elaborate incised decorations. A) The section above the carination is nearly as tall as the body below and is covered with incised decoration, consisting of large, dot-filled overlapping triangles; the stem of the ring-foot is covered with incised crossed lines; just below this, where the base begins to spread out, there is a dot-filled band bounded by two incised lines. B) The section above the carination is lower, and slightly concave, but slanting inwards,

and is encircled by a pattern made by two incised intertwined wavy lines forming interstices which are filled with pricked dots; the base also has dotted and incised decoration. C) Similar to B), but incised decoration on inward slanting neck consists of dot-filled rectangles, and that of the ring-foot of three wavy lines with dots.

Type 8 Thick-walled bowl with heavy ring-foot, body nearly hemispherical and covered with cord-marking; transverse cut rim; upper covered with haematite slip; base concave and rounded at bottom.

If pots were fairly evenly distributed as grave goods, with the exceptions mentoned above, this was not the case with other grave goods and personal adornments. A number of very small-ground stone adzes were found, but not always clearly associated with a burial. They were mostly trapezoid in shape, with a unilaterial bevelled cutting edge and a rectangular to lenticular cross-section. In several cases adzes made of soft limestone but having the same form as real stone adzes suggest that substitutes were given to the departed instead of real stone adzes which were presumably regarded as being too valuable to be wasted in this way. It is surmised that it was the scarcity of suitable raw material in the area rather than reluctance to spend time and energy in producing a new stone adze which accounted for this attitude. And indeed only very few and small lumps of natural stone suitable for the manufacture of adzes were to be found at the site or as surface finds in the neighbourhood, so the possibility that such lumps were in fact brought or traded from elsewhere cannot be dismissed.

On some skeletons fragments of fully polished stone bracelets, or even complete bracelets, were found. In the burial with the unusually large number of pots there were thirteen of these on the lower left arm. As in the case of the stone adzes, the raw material for the the manufacture of such finely grained bracelets does not seem to occur in the region in sufficiently large lumps, while the alabaster-like

calcite limestone used in the production of other bracelets may well have been found locally. Bracelets made of sea shells also occurred, and in one case there were twelve of these bunched together on the lower left arm with a cowrie shell near the wrist. Here again trade would seem to be the most likely explanation for the presence of these shells as the sea is now more than 200 km. away as the crow flies, and can hardly have been very much nearer then.

Small shell disc beads about 5 mm. in diameter and approximately 1 mm. thick, with a hold of about 1 mm. diameter in the centre, were associated with several skeletons, usually grouped together in large amounts in the pelvic region where they could have decorated a garment, but they also could have originally been worn on the wrists. Sometimes they were also found in patches near the head, and in this case were obviously the remains of a head adornment or decorated headgear. In one case disc beads were found lying together as if still on a string near the right wrist of a skeleton. The shells of the large land snails still common in the region today seem also to have been used for adornment, as examples of these which had clearly been worked were found near the heads or arms of some skeletons. On one skeleton, tubular beads of black stone were lying on the upper chest, while right by each side of the skull of another was an as yet unidentified object (possibly a worked bone) shaped like a golf tee which can onlybe interpreted as the remains of a very individualistic head decoration. A nail-shaped object of calcite limestone, about 10 cm. long, with a cylindrical shaft approximately 1 cm. in diameter, pointed at one end and topped by a flat "head" circa 4.5 cm. in diameter and decorated with incised crossed lines, was found at the general level of the burials but was not clearly associated with any skeleton. The purpose of this object is still unknown *; Presumably it was also used as an ornament. An identical object was found some years ago near Lopburi (Nikom Suthiragsa, pers. comm.), but to the best of our knowledge has not so far been published.

* Its recent interpretation as a "chisel" (*Archaeology* vol. 1, no.2 Bangkok 1967, photograph after p.60) seems unlikely in view of the fragility of the material.

A special feature of this site, as of the entire region, is the surprising occurrence of a large number of tektites, tektite fragments or tektite flakes, both as surface finds and in prehistoric layers down as far as that of the burials, although again no unequivocal association with a grave is evident. Surprising, because this part of Thailand appears as blank on tektite distribution maps, even the latest, e.g. those of von Koenigswald or Barnes,* where the nearest tektite occurrences shown are at least 30 to 41 km. further east, these being regarded as the westernmost of the large distribution of tektites throughout the Indochinese Peninsula. Although the fact that tektites have been recorded in a place where they had not hitherto been known to exist may not in itself be of great archaeological interest, it becomes so when it is realized that most of the excavated tektite flakes had unmistakably been intentionally flaked off, some of them even showing traces of use. It is still too early to formulate a clear theory as to why, when and by whom these flakes were fashioned and for what purpose they were used, but the scarcity of suitable raw material for the manufacture of cutting implements, which has been referred to above, points to a utilitarian use dictated by technological necessity.

Dating

The suggestion was made in the preliminary report on the trial excavations at Kok Charoen 1 that comparison of the burial pottery with that of other prehistoric sites in Thailand, notably with that of Ban Nadi in the northeast, points to a date in the second millennium B.C. This suggestion, made mainly on typological grounds, has been corroborated by revised thermoluminescence dates of two potsherds from burial pottery of Kok Charoen 1, obtained from the Research Laboratory for Archaeology and the History of Art, Oxford, which

* Von Koenigswald, G.H.R., "Tektites in Borneo and Elsewhere", *The Sarawak Museum Journal*, vol. X, nos. 17-18 (July-December 1961), p. 323; Barnes, V E., "Tektite Strewn Fields", in O'Keefe, J.A. (*ed.*), *Tektites*, Chicago, Chicago University Press, 1963, p. 34.

now are 1180 B.C. (probable limits of error 880-1480 B.C.) and 1080 B.C. (probable limits of error 780-1380 B.C.).* After an examination of the Kok Charoen 2 burial pottery it would seem that the possibility cannot be excluded of a still earlier date for the earliest phases. In view of the fact that several types of Kok Charoen 2 burial pottery are found elsewhere in Thailand in pre-bronze levels (although some do indeed continue well into the "metal age"), and that not one metal object was found either at Kok Charoen itself or anywhere in the vicinity, whereas typically "neolithic" stone objects abound, the excavators feel justified in calling this burial ground "neolithic". This, of course, is a preliminary conclusion only, but one which is supported by some clear evidence. If accepted, it would mean that the Kok Charoen site is the largest purely neolithic burial ground so far excavated in the whole of Southeast Asia.

* For the previous uncorrected dates see Zimmerman, D.W. and J. Huxtable, "Recent Applications and Developments in Thermoluminescent Dating", *Archaeometry* vol. 11 (1969), pp. 105-8.