The Orient and Europe*

By Prof. V. Gordon Childe

FORTIFIED by the conclusion that diffusion from Asia to Central Europe is likely, let us turn to axiom 4—the prehistoric chronology of Central Europe. There the cultural sequence is reasonably clear, at least north of the Bakony and the Little Carpathians. The divisions which I tentatively suggested ten years ago have on the whole been fully justified by recent research. But to what Oriental cultures shall these several phases be compared? Encouraged by the newly revealed proofs of intercourse, let us apply Montelius's fourth axiom to dating the Danubian sequence.

The earliest bronze objects found in Central Europe (in graves and hoards of the Aunjetitz culture) include a whole constellation of specialized and arbitrary forms of ornament that are now known also in historically dated horizons. Ingot-torques have been found in Early Dynastic levels at Tel Agrab, and recur in North Syria and in the Copper Age graves of Ahlatlibel in Turkey. Earrings and lock-rings with flattened ends are common in Early Dynastic Sumerian graves and in the 'treasures' of Troy II; racquet pins are found in the Royal Tombs of Ur; the knot-headed pin goes back to Gerzean times in Egypt, and appears at Troy II; its principle was applied to Sumerian toilet sets in Early Dynastic times. By then tin bronze was already known to the Sumerians as to the Lesbians in the time of Thermi I. In a word, all the type-fossils of the Early Bronze Age in Central Europe and the technical discovery that defines the period, can be traced back to somewhere about 3000 B.C. in the Orient. On the strictest application of Montelius's axiom the beginnings of the Continental Bronze Age should be nearer 2800 B.C. than 1800!

So far as Central Europe is concerned, that chronology would involve no glaring contradiction. Oriental parallels can be found to the types that define earlier periods, while Mediterranean shells, imported even to the Rhine Valley, prove intercourse with the south-east right back to Danubian I. Stone battle-axes such as characterize period III are found already at Thermi I. The Early Dynastic levels of Tel Agrab have yielded rather degenerate specimens; better battle-axes come from the al'Ubaid settlement at Arpachiya and from Gawra VIII–IX, that is equivalent to Uruk in Sumer. Hence Danubian III could be equated with the Uruk period.

*Continued from p. 559.

Clay stamps, generally called *pintaderas*, appear in Danubian II (and in Körös sites that may be older). In form they closely resemble Asiatic stamp seals of stone and, like the latter, often bear a filled cross design. Their distribution justifies their interpretation as copies of Asiatic stone seals. But in Asia prototypes can be found so early as Tel Halaf times and in the Chalcolithic layers of Alisar; and there are pedestalled bowls remarkably like those characteristic of Danubian II. The upper limits for that period could accordingly be pushed back to Alişar Chalcolithic or even Tel Halaf.

That is not the end of our comparisons. As *Spondylus* shells were being imported from the Mediterranean even in Danubian I times, so some Danubian I vases are decorated with patterns in which Neustupny rightly sees a representation of a double-axe. For the models he looked to Minoan Crete. But double-axes were used in Assyria as amulets even in Tel Halaf times. So the *terminus post quem* provided by that motive can be relegated to a remote Tel Halaf period.

Testing this long chronology in the other direction, it can still be made to work. Åberg and Reinecke have indeed insisted on Middle Helladic and Shaft Grave parallels to Aunjetitz bronzes of period IV. But, on the whole, Middle Ægean armament—rapiers, ogival daggers, socketed spear-heads—is typologically parallel rather to that proper to the Middle Bronze Age or period V in Central Europe. A halberd from Shaft Grave IV is admittedly an Early Bronze Age type; but Forssander has plausibly compared its contours with those of a Middle Bronze Age sword from Hajdu Samsón. The pottery from Middle Bronze Age graves at Vattina and from south-eastern Hungary includes many tankards and goblets with crinkled rims and grooved handles that might be copies of well-known Middle Minoan silver vessels. In a word, a limiting date about 1700 B.C. for the Middle Bronze Age is defensible.

With the fall of the Mycenaean culture we have admittedly reached the Late Bronze Age or period VI of Central Europe. The barbarian invaders who sacked late Mycenaean Vardaroftsa, in the twelfth or eleventh century, brought ceramic traditions proper to the Late Bronze Age urnfields like Knoviz and Hötting; and this date is for once a *terminus ante quem* for the Continental period. An even higher limit might be deduced from the fibulæ and flange-tanged swords that

appear in Greece during the thirteenth century. Accordingly, the following scheme of European chronology might be defended :

Danubian VI (urnfield cultures, fibulae and slashing swords)	1200 B.C.
Danubian V (Vattina ware, rapiers, ogival daggers, socketed spear heads) ..	1700 B.C.
Danubian IV (Bronze, ingot torques, knot-headed pins, lock-rings)	3000 B.C.

If geologists and botanists can show good grounds for demanding an enlargement and prolongation backward of the neolithic age, archæological chronology can be adjusted to meet theirs without violating Montelius's axioms. Danubian I, admittedly the earliest neolithic culture in continental Europe, would still be limited by Tel Halaf. If the former have to be dated to the sixth millennium, the latter can just as reasonably be assigned a like antiquity.

For the moment let us adopt the maximal dates as a framework for comparing Asiatic and European cultures. How would Montelius's general view of the relations between Europe and the Orient be affected by adopting the long chronology outlined here ? What happens to his fifth axiom if the Central European Bronze Age began about 2800 B.C. ?

By that date we should have the following picture of the tract we have been surveying. We should see in Egypt and Lower Mesopotamia populous cities, covering like Erech perhaps two square miles of area, governed by a well-established organization, emancipated from immediate dependence on environmental conditions by extensive public works, a rich technical equipment and regular far-flung commerce and all fully literate. Then in Assyria and Syria come smaller cities, only slightly less richly equipped and still at least semi-literate. Farther afield in Anatolia and peninsular Greece are fortified townships whose walls protect a variety of specialized craftsmen so well served by regular commerce that metal at least could be freely used for tools ; their citizens may already need and use seals, but seem to be illiterate. Next, in the Balkans and on the Hungarian plain, we find rustic townships occupied principally by farmers. Their rural economy is advanced enough to support a truly sedentary population ; but virtually the sole outlet in industry for the surplus is offered by metallurgical employments, and trade is so imperfectly organized that metal has to be reserved mainly for armaments. The same picture would apply to Bohemia and southern Germany, with the important reservation that agriculture seems not to have advanced so far as to allow the population to be really stable. Denmark and southern Sweden are still frankly in the Stone Age. Still farther north food-gathering is the sole economy.

Look back as many thousand years as may be necessary to reach Danubian I times, which have been for this purpose equated with the Tel Halaf period in the Fertile Crescent. In the Orient we see already little townships permanently occupied by experienced farmers, comprising already expert craftsmen and supplied by trade at least with obsidian. In Crete and Thessaly, too, perhaps more self-sufficient farmers are still applying sufficient science to their fields to be able to live permanently on the same site. But beyond the Balkans nomadism reigns. Danubian I peasants are spreading over the löss, shifting their little hamlets of twenty or so households to new virgin fields every few years ; and beyond the frontiers of the löss are only food-gatherers, fishing and fowling along streams in the forest, or collecting shell-fish on the coasts.

Yet earlier still beneath Tel Halaf villages we have glimpses of settled cultivators who, judging by the few items of equipment so far recovered, were at least as far advanced as the Danubians.

Even on this extreme chronology, Montelius's fifth axiom is justified. Oriental cultures are richer than the contemporary European. Moreover, the first picture discloses a very significant cultural zoning. As we pass north-westward from the Orient, we descend through regular gradations from the many-sided richness of urban civilization to the stark poverty and immediate dependence on external Nature of food-gathering hordes. Such a grading is exactly what would be deduced from Montelius's third axiom. Its discovery in the archæological record is the best demonstration of diffusion that I can imagine. I take it as confirming the diffusion of bronze-working with all its economic implications.

But on the extreme chronology this demonstration could not be applied to food-production, to the more important discovery-complex that made possible what I term the neolithic revolution.

Montelius's thesis has come unscathed through the severest test. Even on a chronology based on geological rather than archæological premises, and designed to meet the demands of an extraneous discipline, his axioms 4 and 5 prove workable. If geologists demand dates of the order just outlined, archæologists can meet them without sacrificing any essential principles, but preserving intact their own proper methods and all the historically vital deductions therefrom. But these high dates for Central European prehistory have been advanced provisionally simply and solely to test

the applicability of Montelius's method, and not as proved or even probable. To justify them archæologically we have had to sacrifice many tempting comparisons and to explain away observed facts that must be admitted as relevant.

Remember that down to 1200 B.C. no date in European prehistory could be justified archæologically by an actual object of Oriental manufacture found in Central Europe, still less by an admittedly European product in a historically dated context. We have had to rely exclusively on copies of Oriental models made in Central Europe. Remember further that all the types on which we have relied enjoyed a long popularity in the Orient: seals that could serve as models for Danubian II 'pintaderas' were current in Crete and Asia Minor throughout the third millennium and later. Battle-axes for comparison to those of Danubian III were brandished equally long in central Anatolia, and first appear in peninsular Greece in Middle Helladic times. The type fossils of Period IV only came into fashion in the East in the third millennium, and fashions did not change abruptly. Knot-headed pins were still being worn in the third (Hittite) settlement at Kusura during the second millennium. Ingot-torques, racquet pins, lock-rings, and earrings with flattened ends are common in Caucasian graves well after 1500 B.C. The archæological 'synchronisms' so far considered are really just upper limits.

Accordingly, until geologists present their demands with more unanimity and confidence, it is permissible to recall other comparisons between Central European and south-eastern phenomena that entail substantially lower dates for our prehistoric periods. Characteristic of Danubian II are cubical blocks of clay, with one, or rarely two, cups hollowed out in them and perforated at the corners. These have been convincingly explained as clay copies of Early Minoan block vases of stone. Thus interpreted, they would bring the limits of Danubian II down into the third millennium under axiom 4.

Found allegedly in an Aunjetitz grave of period IV at Nienhagen in Central Germany was a clay cup; its curious handle is strikingly like those of the metal Vapheio cups of Late Minoan I, most popular between 1600 and 1500 B.C. Parallels between Aunjetitz weapons and those of the Mycenaean shaft graves of roughly similar age have already been mentioned—and explained away. Still, the amber beads from these and later Mycenaean graves should re-enforce the arguments for a parallelism between Central European Aunjetitz and Late Helladic Greece. The amber trade was a mainspring of the Aunjetitz commercial system. Did it involve nothing more than barter between barbarians in Denmark, Bohemia, and Upper Italy? The brilliance of the Early Bronze Age in Bohemia would become much more intelligible if that region were already connected by the amber trade with civilized Greece. The probability of such a connexion is enhanced by Piggott's recognition among the amber beads from Kakovatos (Nestor's Pylos) of massive forms and space-plates in the Danish style such as often occur in graves contemporary with Aunjetitz. All these pointers converge upon a date for the beginning of the Central European Bronze Age a full thousand years later than the upper limits deduced from the metal ornaments.

Such considerations are, however, frankly speculative, and can, if needful, be dismissed. It is less easy to explain away certain actual Ægean or Egyptian imports found in an apparently Early Bronze Age context in Central Europe. Segmented faience beads occur in four graves near Szeged associated with pottery of the Perjamos type, and in two Moravian graves with Aunjetitz pottery. Though the blue glaze is generally less well preserved, these beads, Dr. Stone assures me, agree perfectly in form and technique with those from Wiltshire and from Grave 1808A at Abydos, dated about 1400 B.C. Now admittedly the coincidence of Perjamos and Aunjetitz may not be altogether exact, and Aunjetitz and Perjamos ceramic forms and even knot-headed pins and ingot-torques outlast the bounds of the Early Bronze Age or Danubian IV as defined by hoards. But even if the relevant graves be transferred to the beginning of the Middle Bronze Age (Reinecke B), it is difficult to admit that Perjamos jugs and Aunjetitz mugs persisted virtually unchanged for 1400 years, or to spread over so long a period even the 180 graves of the Szöreg cemetery from which some of our beads come.

Perhaps then it may be legitimate to consider a short chronology such as I have previously advanced on several occasions, as a still plausible alternative to the long one outlined here. Until incontrovertible evidence from the geological or botanical side make it obsolete, it is still permissible to consider in conclusion how the low dating endorsed by the fresh data just adduced affects the general credibility of Montelius's hypotheses.

In our previous pictures of the Tigris-Rhine tract we shall have to transpose individual items to fit a Central European chronology based on synchronisms through Greece with Egypt and altogether independent of Asia. We then get two scenes both disclosing the cultural continuity and gradation recognizable only in the first picture on a long chronology. At the beginning of the Central European Bronze Age towards the middle of the third millennium B.C., the picture would be much the same as that already sketched.

Fifteen hundred years or so earlier the gradations would be similar, but the zones would have contracted. We should see :

(1) In Egypt and Mesopotamia true cities the walls of which may already enclose nearly two square miles, relieved from immediate dependence on environmental accidents by public works and organized commerce, comprising a variety of artisans and officials, including scribes.

(2) Smaller cities in Syria less richly equipped, and only partially literate.

(3) Copper Age townships in Anatolia and peninsular Greece with a walled area of two to four acres, and a population comprising specialized smiths and some other craftsmen adequately provided by trade with metal and other raw materials.

(4) In Thessaly, Macedonia, and the Morava-Maros region beyond the Balkans, neolithic villages are permanently occupied by experienced farmers who are content to do without metal.

(5) North of the Maros Körös herdsmen and Bükkian troglodytes are grazing and tilling patches of löss and then moving on ; still farther north Danubian I hoe-cultivators are shifting their hamlets of twenty odd huts every few years to fresh fields until they reach the confines of the löss.

(6) Beyond these on the North European plain are only scattered bands of food-gatherers hunting, fowling, and fishing, and collecting nuts or shell-fish.

In each picture we see within a continuous area of interlocking cultures gradations such as would be deduced from the diffusionist postulate. But a comparison of the second picture with the first reveals just that expansion of the zones affected by the neolithic revolution that would be anticipated were its effects being indeed diffused. The acceptance of axiom 4, the rigorous application of his chronological method alone, would virtually allow the graphic demonstration of Montelius's remaining assumptions.

Obituary Notices

Prof. Samuel Alexander, O.M., F.B.A.

WITH the death of Prof. Samuel Alexander in his eightieth year, we have lost one of the few creative thinkers of our day. At the end of the nineteenth century many believed that all philosophical systems had been thought of, so that there could be no new ones, and that, as hitherto no British philosopher had ever produced a system, none ever would. Alexander's work refuted both these beliefs.

It has been customary to call his philosophy realist as opposed to idealist, but it is not so easily classified. It is true that he revolted against the Hegelian tradition he was trained in, but even more he revolted against that wider tradition, not necessarily idealist, that makes the theory of knowledge the central and almost the only topic of philosophical discussion. For those of the tradition, the sole starting point of philosophy is the individual conscious mind, and 'knowing' is its unique relation with the world, if there is one. For Alexander the starting-point is the world as known ; knowing is not a unique relation but is common to all related beings that 'prehend' each other, to use Whitehead's term. As a conscious being I 'enjoy' my activities as knower, but this 'enjoyment' is strictly irrelevant to any discussion of what is known. The iron 'knows' the magnet but does not 'enjoy' it, for it lacks the privilege of consciousness. The spider 'knows' the fly and incidentally may or may not 'enjoy' it, and so *mutatis mutandis* does the fly. The starting-point then is the world as known, and Alexander finds its universal substratum or matrix to be space-time, which includes minds and bodies and everything. Bergson helped Alexander to realize that time cannot be left out as a regrettable imperfection ; and the mathematical physicists that space and time separately are not primary. Time is related to space much as mind is to body. The main task of philosophy is to point out and classify the recognizable features of space-time, that is to say, the categories. The world as we now see it is the result of a process of development such that there is a hierarchy of natures. Of these the higher can understand the lower but not the lower the higher. Minds are the highest natures we are acquainted with. There is potentially a higher stage in the hierarchy towards which the universe may be said to be striving : this is deity. It is deity that is the end of moral progress and the object of religious worship.

Alexander himself said that his philosophy was Spinoza's "with Time put in". There are, in fact, many resemblances between these two Jewish philosophers and their philosophies. For both of them philosophy must begin with the results of the natural sciences, but must go beyond them to make their crown and completion. Unless in this process philosophy becomes theology and moral theory, it is nothing. Alexander realized, as did Kant, the further point that a philosophy with a naturalistic basis must come to terms with man's sense of beauty and artistic activities. In his later years he was occupied mainly with these problems.

The external events of Alexander's life can be briefly told. He was born in Sydney, New South Wales, in 1859 ; like Kant, the son of a saddler. He went to Wesley College, Melbourne, then to the University of Melbourne, and in 1878 won a Balliol