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(Inglaterra)

The middle bronze age

In 1947 (1) I discussed in the light of Atlantic and Mediterranean connexions the chronology on which must be based any estimate of the role of the Iberian Peninsula in European prehistory. Since then excavation has brought to light so many fresh data and the typological division of the Bronze Age has been so refined that my account has become quite out of date. A correction is accordingly due to my Spanish colleagues. At the same time they have adopted at the Almeria Conference in 1948 (2) a tripartite division of the Peninsula's Bronze Age (including as Bronze I the former "eneolítico") that is more in accord with systems current for other parts of Europe; for it embodies the minimum number of divisions attainable by any system of periodization that is not based wholly on stratigraphy.

Such a tripartite division is not inspired by Hegelian metaphysic or trinitarian theology, but by the typological method itself. For a typological period is just the time interval during which an assemblage of archaeological types, found repeatedly associated together in "closed finds", was in current use. But for types to be thus repeatedly associated, they must have been used not only at the same time, but also by the same people or social group. Conversely assemblages may differ either because fashions have changed with

(1) V. GORDON CHILDE: "Nuevas fechas para la cronología prehistórica de la Europa Atlántica", Cuadernos de Historia Primitiva, II, núm. 1, Madrid 1947; páginas 5-23.

(2) J. MALUQUER DE MOTES: "Concepto y periodización de la Edad del Bronce peninsular", Ampurias, XI, Barcelona 1949; págs. 191-195.

the lapse of time or because their users obeyed divergent social traditions. So three distinct assemblages of type fossils, A, B, and C, found repeatedly associated in the same region may define either chronological stages in the evolution of the tradition of one society or the different traditions of three distinct societies occupying contiguous territories at the same time. In the former case some of the relevant types (especially tools and weapons) are likely to differ in efficiency and so can be arranged in a "typological series", illustrating an evolution as the familiar series of "bronze" axes, daggers, razors and fibulae do; in contemporary groups disparities of this sort are not likely to be apparent. In both cases types proper to contiguous or consecutive assemblages may show a slight overlap; that is, in a few closed finds in which types of assemblage A predominate, stray objects normally associated with assemblage B may occur. So in the Middle Neolithic of Denmark an axe or bead, such as is normally found in the Single Graves of Jutland, or an arrow-head, proper to residual groups of hunters-fishers, turns up in a passage grave of the Megalithic farmers and guarantees the contemporaneity of the three assemblages. A typological periodization is possible if, and only if, while types of assemblage B are occasionally associated with types proper to assemblage A or C, types of assemblage A are never associated in closed finds with those of assemblage C. Then, and then only, can assemblages A, B, and C be accepted as representing consecutive periods. That is why three is the **minimum** number of divisions requisite for any purely typological periodization. Any such periodization is by its nature statistical; our confidence in the division depends on the number of closed finds, on the variety of types included and on the frequency of their associations. On the other hand the tripartite division is a minimum; where enough closed finds are available, subdivision is possible (3).

For the British Isles, Northern Europe (Southern Scandinavia, Denmark and Northern Germany), Central Europe (including the whole Middle Danube basin), and the Apennine Peninsula rough divisions of the Bronze Ages into Early, Middle and Late, guided by typological series of tools and weapons, have been recognized for nearly a century. In Denmark and Southern Sweden closed finds are

(3) This is a return to the numbering adopted in the "Handbook to British Prehistory" prepared for the First International Congress of Prehistoric and Proto-historic Sciences, London, 1932.

so rich and numerous that six periods are recognized in Montelius' system (which Broholm follows with minor renumbering). In Central Europe too, but only between the Elbe and the Alps, closed grave groups are so numerous and rich that Reinecke's system recognizes in effect six periods though the last two are perversely designated "Hallstatt A" and "B". Moreover during the whole Bronze Age interchange of manufactured articles between all main provinces was so brisk and frequent as to allow of correlations between the local divisions. These correlations modify conclusions based upon the *a priori* assumption of a parallelism in time in the evolution of tools, weapons and toilet articles, but permit a reliable chronological classification of types, that are not represented locally in closed finds.

On the other hand in the British Isles the custom of burying tools and weapons with the dead was abandoned at the end of the local Early Bronze Age (the hoards and graves of Piggott's Wessex culture are here classed as Early Bronze Age 2 rather than Middle Bronze Age 1). In Central Europe, east of the Elbe, and in the Middle Danube basin much the same seems to have happened so that graves attributable to the Middle Bronze Age by their metal furniture are exceedingly rare. Here, however, we have a few good hoards such as Apa and Hajdu Samsón and many stray bronzes that, thanks to specimens found as exports in closed finds in the North or West of the Elbe (4) can be recognized as Middle Bronze Age.

In the British Isles on the contrary even hoards of the Middle Bronze Age are quite exceptional. Yet our Late Bronze Age hoards abound in types that are clearly evolved directly from native types that are represented already in hoards of Early Bronze Age 2. The intermediate stages in the evolution are represented in Ireland and in Britain, South of the Tay, by plenty of isolated specimens, and the attribution of these latter to the Middle Bronze Age is guaranteed by their occurrence as imports in well-dated North European graves or hoards from Montelius IIA on (5). These British exports

(4) Cf. SPROCKHOFF in "Offo", ix, 1951, pp. 25-26; WERNER in "Atti di I Congresso di Pre- e Protohistoria Mediterranea", 1952, pp. 293-303.

(5) LIESBUTTEL, KERSTEN: "Zur älteren nordischen Bronzezeit", Taf. XIX; IHLSMOOR, in "Bericht der Römische Germanische Kommission", X, 1917, p. 37; FROJK BROHOLM: "Danmarks Bronzealder", 1, p. 223, M. 81.

in Scandinavia have enabled Cowen (6) to recognize that the spear-head of our group III A (illustrated in "Nuevas fechas para la cronología...") (7) began to be made in our Middle Bronze Age while Hawkes has distinguished as equally old the form of type IV there figured in contrast to a variant that he had shown to be Late Bronze Age.

A subdivision of the Late Bronze Age itself is essential but far less easy since in Britain, as on the Continent, founder's hoards tend to replace the personal and merchants' hoards of earlier periods. And even on the Continent with the general adoption of cremation the graves tend to be as poor in metal furniture as they had become in Britain by the Middle Bronze Age. Hence correlations between different areas become more difficult. Still British bronzes in the Late Bronze Age were still exported to Denmark and a British sword from Kirk Soby (8) shows that an advanced phase of that British period should fall within the limits of Montelius V (Reinecke HB).

Still in the British Isles, as in Hungary, the distinction of the graves, and so of the pottery, attributable to the Middle Bronze Age is almost impossible. That period must be represented by some of the enormous number of cremation burials in Cinerary Urns or Incense Cups. But both these types appear already in the Wessex culture of Early Bronze Age 2 and, save in the South England, last in use till La Tène times. No doubt an evolution, or rather a devolution, in the form and ornamentation of the Urns is recognizable, but Savory (9) showed in 1949 that the accepted devolutionary series offers no safe guide to the intervals of time involved.

Now in the Iberian Peninsula while stratigraphical data are almost totally lacking, there is a painful shortage of reliable closed finds. In Bronze I, as now defined, and perhaps before, the normal burial rite was collective interment in natural caves, rock-cut chamber tombs (artificial grottoes), tholoi or orthostatic megalithic chambers (dolmens or *antás*). With few exceptions, hoards are con-

(6) COWEN in "Proceedings of the Prehistoric Society", XIV, 1948, pp. 233-234.

(7) V. G. CHILDE, *op. cit.* in note 1, p. 13, fig. 1.

(8) BRÖHOLM, *op. cit.* in note 5, III, p. 222, M. 157.

(9) SAVORY in "Archaeologia Cambrensis", c. 1949, pp. 77-82; the author thought that he had thereby proved that the dates currently assigned to the Wessex culture were inflated, but his argument need only mean that the supposed devolution was much faster in some areas than had been imagined.

fined to Bronze III. The types that further North characterize the Middle Bronze Age even as strays are absent from the Peninsula, as also from Brittany and some other parts of France. The palstaves and dirks that by analogy might be taken as Middle Bronze Age types are shown by their associations both within and outside the Peninsula (10) to belong in fact to Bronze III. The Argaric types of Bronze II (flat and hammer-flanged axes, flat round-heeled daggers and halberds) would in the British Isles or Central Europa be assigned to the Early Bronze Age. Worst of all Argaric cist and pithos graves have a very limited distribution, being virtually confined to the east coast from Almería to Valencia (11) and the South of Portugal. Even Argaric bronzes are scarcely known outside these areas save from some cemeteries of collective tombs in Granada and Málaga and from the Bronze I settlement of Vila Nova de San Pedro.

Yet Bronze I is so richly represented by a multitude of domestic and sepulchral sites all over the Peninsula that it would seem far-fetched to postulate a desertion of large areas, such as Giot (12) has invoked to explain a similar typological hiatus in Brittany. Accordingly it would be tempting to reduce the gap by the following expedients (i) to lower the absolute dates of Bronze I and raise that of Bronze III so as minimize the interval between them; (ii) to fill the gap where Argaric types are missing by assemblages which would have to be explained as archaistic survivals of Bronze I—in Portugal by assigning many of the *antás*, once called "neolithic" to bronze II!

As to the first expedient, though much has been learned about the Peninsula's prehistory and foreign relations in the last six years, reliable evidence for chronology based upon an interchange of actual manufactures with historically dated cultures in the Eastern Mediterranean has not been augmented. On the contrary -what Almagro (13) termed "la primera fecha antehistórica que posemos", the date of 750 provided by the Siculan fibula from the

(10) E. g., in the hoards of Monte Sa Idda, Huelva, Serra do Monte Junta; cf. MACWHITE: "Estudios sobre las relaciones atlánticas de la Península Hispánica en la Edad del Bronce", Madrid, 1951.

(11) J. ALCACER GRAU: "Dos estaciones argáricas de la Región Levantina" *Archivo de Prehistoria Levantina*, II, Valencia 1945, pp. 151-163.

(12) P. R. GIOT in "L'Anthropologie", LV, 1952, pp. 436-440.

(13) M. ALMAGRO BASCH: "El hallazgo de la ría de Huelva y el final de la Edad del Bronce en el Occidente de Europa", *Ampurias*, II, Barcelona, 1940, p. 142.

Huelva hoard, has been plausibly challenged by Savory (14). Since the latter can make out a good case for a date after 700, the prospect of reducing the "Middle Bronze Age gap" by raising the initial date for Bronze III is dark. The segmented fayence beads from Fuente Alamo can, as we shall see, no longer be relied on for dating Bronze II; they are even less reliable than the Wiltshire beads as there is no guarantee that they possess the peculiarities relied on by Beck and Stone for dating the latter about 1400.

The Cypriote and Egyptian analogies for schist idols (15) copper knives (16) or bone "imitation axes" (17) of Bronze I are too vague or doubtful to carry more conviction than the Anatolian parallels to the "neolithic" flat idols of Almería long ago cited by Siret. The bone toggle from Almazaraque (18) can now be matched just as accurately from a Late Minoan II tomb in Crete (19) as by the remoter examples from Troy and Alishar. But the Minoan specimen belongs to the 15th century, not the 3rd millennium. On examining the original I found that the pendant from Alcalá Tomb 3, is not, as Estacio da Veiga's (20) plate suggests, a hammer pendant like those from an Early Minoan tomb at Koumasa in Crete and from Boyne tombs in Ireland.

There are of course several general agreements in form and decoration between vases of Bronze I and those of the 3rd millennium in the East Mediterranean. To those I have noted elsewhere, I can add two more. "Burnish decorated" or "stroke-burnished" ware was found by Bonsor (21) "sous les incinérés" near Carmona and by Esteve Guerrero (22) at Asta Regia near Cádiz. I noted the

(14) SAVORY: "The Atlantic Bronze Age in South-west Europe", *Proceedings of the Prehistoric Society*, XV, 1949, p. 141.

(15) B. SAEZ MARTIN: "Nuevos precedentes chipriotas de los ídolos placas de la cultura iberosahariana", *Actas y Memorias de la Sociedad Española de Antropología, Etnografía y Prehistoria*, t. XIX, Madrid, 1944, p. 135.

(16) E. JALHAY and A. DO PAÇO: "El Castro de Vilanova de San Pedro", *Actas y Memorias de la Sociedad Española de Antropología, Etnografía y Prehistoria*, t. XX, Madrid, 1945, pp. 5ff.

(17) G. and V. LEISNER: "Die Megalithgräber der Iberischen Halbinsel", Berlin, 1943, pp. 469, 588.

(18) *Ibid.*, Taf. 10; 28, 22.

(19) In "BSA", XLVII, 1952, p. 272 and pl. 54, c.

(20) S. P. M. ESTACIO DA VEIGA: "Antiguidades monumentaes do Algarve; tempos prehistóricos", III, Lisboa, 1886-1889, pl. VII, 4.

(21) G. BONSOR: "Les colonies agricoles pré-romaines de la vallée du Betis", *Revue Archéologique*, XXXV, 1899, pp. 111-112, figs. 83, 84 and 87.

(22) M. ESTEVE GUERRERO: "Excavaciones de Asta Regia (Mesa de Asta, Jerez). Campaña 1942-43", *Acta Arqueológica Hispánica*, III, Madrid, 1945.

same technique on sherds from the Gruta do Vimeira (Extremadura) and from the tholos of Monge (Cintra) in the Museo dos Serviços Geologicos at the Academia das Ciências, Lisbon. The technique in all cases agrees closely with that used in the late 4th or early 3rd. millennium at Sakje Gözü (Syria), Judeideh (Orontes valley) (23), Kum Tepe (Troad), Samos, and in neolithic Thessaly and Vinca (24) while some fragments from Carmona may belong to similar carinated forms. But these early sites are a long way from Spain and the same technique is found at Golasecca in North Italy during the Iron Age (25) and in Britain in the Belgic period.

Again the large shallow plates with wide thick brims from the Bronze I tombs of Andalucia and Southern Portugal find their best analogies in the "Early Bronze Age" of Palestine before 2500 B. C. (26). On the example from Alcalá Tomb 3 the vase surface is a clear pale pink, but the interior is covered with a thin red wash or paint. The Palestinian pottery just mentioned is likewise pink in body and partially covered with a red paint or wash. This is, however, normally decorated with the burnishing tool in the manner of the selfcoloured stroke-burnished ware, producing a "lattice-burnish".

I doubt, however, whether inferences ought to be drawn from general resemblances in the shapes or techniques of pots from opposite ends of the Mediterranean. The case is different if the pot is an obvious imitation of a distinctive metallic or stone type, such as the Vapheio gold cup or the Early Minoan block vases. For vases of metal and fine stone were articles of trade, and local pottery copies of them reveal the arrival of such trade goods. But in the Peninsula I have seen no convincing examples of such imitation till Greek metal ware began to arrive in the Iron Age.

So too equally general agreements in sepulchral architecture such as subsist between corbelled tombs in Early Minoan Crete (like Krazi) or Early Helladic Greece (like those of Hagios Kosmas in Attica) and the tholoi of Almería or Algarve may well be deceptive. But one who has had the privilege of entering both the Treasury of Atreus at Mycenae and the Cueva de Romeral at Antequera finds

(23) V. G. CHILDE: "New Light on the Most Ancient East", 1952, p. 218.

(24) V. G. CHILDE: "The Dawn of European Civilisation", 1949, pp. 32, 35, 64, 81.

(25) P. LAVIOSA ZAMBOTTI: "Civiltà palafitticola lombarda e civiltà di Golasecca", Como, 1940, p. 215.

(26) Cf. ENGBERG and SHIPTON: "The Chalcolithic and Bronze Age Pottery of Megiddo", Oriental Institute Chicago, "Studies", 10, 1934.

it hard to avoid the belief that the architect of one was inspired by a vision of the other. The architectural resemblance between Mycenae and Antequera is given point by the recent discovery of a little cemetery of rock-cut chamber tombs at Alcaide (27) near the latter. These modest tombs presumably bear the same relation to the great monuments of Romeral, Viera and Menga as the rock-cut chamber tombs of Mycenae do to the built tholoi. The latter were admittedly the tombs of princes whose prosperous retainers were interred in cemeteries of rock-cut family vaults. (No such

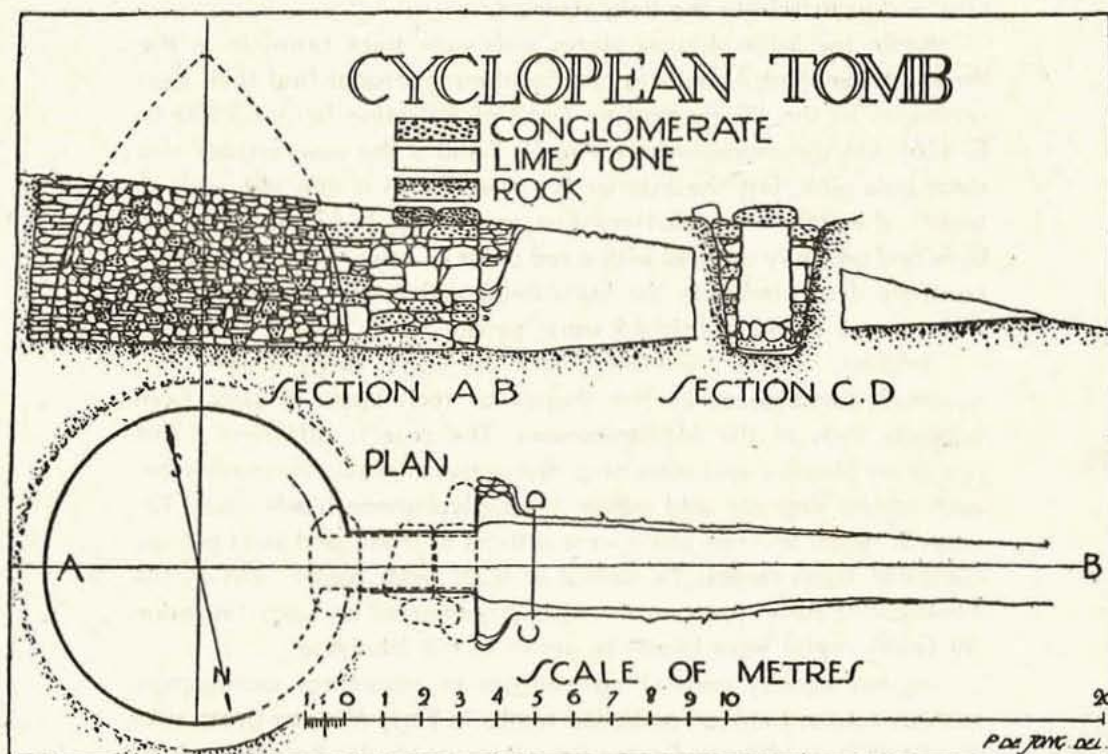


Fig. 1.—Early Mycenaean tholos, Mycenae, after Wace.

distinction is observable in the Early Helladic cemetery of Hagios Kosmas nor at Los Millares!).

Now Wace (28) has found evidence that the building of the

(27) S. GIMENEZ REYNA: "Memoria arqueológica de la Provincia de Málaga hasta 1946", *Informes y Memorias de la Comisaría General de Excavaciones Arqueológicas*, núm. 12, Madrid 1946, pp. 49-52.

(28) WACE in "JHS", LIX, 1939, p. 212.

Treasury of Atreus cannot be earlier than 1350 B. C. Romeral then should be of like antiquity. But Romeral is assigned to Bronze I (29) though Argaric elements may be detected in the Alcaide cemetery (30). So Bronze I should last down to 1300. There are of course earlier tholoi, going back at least to 1500 at Mycenae (31) and elsewhere in Greece and their undressed rubble masonry is less unlike that of the Peninsula than are the sawn blocks of Atreus (Fig. 1). Now no links have yet been found in Greece or Crete (31a) between the Early Aegean corbelled tombs of Krazi, Hagios Kosmas or Syros and the imposing Mycenaean monuments. On the other hand the Leisners have suggested a perfectly intelligible local development of the tholos type in Almería from the closed, round or polygonal ossuary cist of the neolithic stage. Hence a derivation of the Mycenaean tholoi from the Iberian Peninsula, such as Wölfel (32) has recently proposed on the other grounds, would seem the most reasonable hypothesis though nothing in the tombs themselves save the form and technique of the locally made obsidian arrow-heads recall the Peninsula. Only the chronological implications of such a revolutionary hypothesis can be considered here. Its adoption would make 1550 B. C. a *terminus ante quem* for the rise of the Los Millares culture in Bronze I; the parallelism with Romeral still suggests that Bronze I lasted to nearly 1300.

Some support for the former date is provided by Dr. Bernabo Brea's excavations on Lipari, summarized in the last number of this "Archivo" (33). On the acropolis sherds of imported Late Minoan I vases occur associated with native pottery akin to that of the Conca d'Oro culture in northwestern Sicily. Now in some natural and artificial grottoes of that group occur a few Bell Beakers.

(29) Its furniture does not suffice to date it closely but the similar tombs of Cañada Honda G and Vaquero are assigned to Los Millares I by LEISNER, *op. cit.* in note 17, 206, 197, 566, 573 and 574.

(30) In 1947 the excavator showed me a typical dagger from the place but I do not know if from a tomb.

(31) WACE in "BSA", XXV, 1921-1923, pp. 388-393.

(31a) On the strength of 80 fragments of M. M. and more of L. M. I-II vases found in a tholos near Knossos, HUTCHINSON in "I. L. N.", 1948, Mar. 2, p. 284, has dated the construction of this tombs to the 16th. century though the surviving interments belonged to the 12th. But, even if the evidence for early erection be considered sufficient, this tholos remains quite isolated.

(32) In KONIG: "Christus und die Religionen der Erde", Vienna, 1952; I know the work only from MYRES' critique in "Antiquity" xxvii, 1953, p. 9. Wölfel and Myres are both wrong in claiming that the stone-work is always chisel-dressed!

(33) L. BERNABO BREA: "Civiltà preistoriche delle isole eolie", *Archivo de Prehistoria Levantina*, III, Valencia, 1952, p. 86.

Of course the Northwest Sicilian tombs are collective sepulchres and so no more closed finds than the Bronze I burials of the Peninsula, the use of Conca d'Oro ware in Lipari need not coincide exactly in time with its currency in Sicily; finally the Sicilian beakers might come via Sardinia and not from Spain. Still, making full allowance for such sources of error, the 16th century would seem a more likely date for Bell-beakers in the Western Mediterranean and on the East coast of Spain than the 26th. proposed by Hubert Schmidt. It coincides remarkably with the deduction just drawn from funerary architecture.

Yet the 16th. century was not the beginning of contact between the Western Mediterranean and the Aegean. Before 1600, probably before 1750 B. C., actual imported vases attest beyond dispute the extension of Aegean commerce to the Gulf of Lions - I refer to the Middle Cycladic jugs from Marseilles and from Menorca (34). But the location of these finds suggests that Aegean exploration of the West may have followed the same lines in the second millennium as Greek colonization did in the first - Massilia and then Ampurias. If that exploration inspired the first expansion of megaliths in Atlantic Europe, this might have followed the classical tin route from the Gulf of Lions, leaving the Peninsula still "neolithic", and be represented by Daniel's gallery graves.

The somewhat tenuous evidence thus far gathered yields a date for Bronze I not far removed from Siret's. That still leaves an interval of some 600 years before the beginning of Bronze III. The expedient of filling part of that gap by survivals of the megalithic culture where Argaric sites are missing is no longer unsupported (35). In Northern Spain Maluquer de Motes (36) has explicitly recognized that the Pyrenaic culture with collective burials in megalithic cists and in natural caves persisted till the advent of the Urnfields in Bronze III - a persistence recognized by Hélène (37)

(34) J. MARTINEZ SANTA-OLALLA: "Jarro picudo de Melos, hallado en Menorca (Baleares)" Cuadernos de Historia Primitiva, III, 1, Madrid, 1948, pp. 37-42.

(35) Cf. L. PERICOT GARCIA: "La España Primitiva", Barcelona 1950, p. 212.

(36) J. MALUQUER DE MOTES: "La cerámica con asas de apéndice de botón y el final de la cultura megalítica en el nordeste de la Península", Ampurias, IV, Barcelona 1942, pp. 185-188; and "Materiales prehistóricos de Serriñá; VI, Yacimientos Postpaleolíticos", C. S. de I. C. Estación de Estudios Pirrenaicos, Zaragoza 1948, pp. 52-53.

(37) PH. HELENA: "Les Origines de Narbone", Toulouse-Paris, 1927.

in South France twenty five years ago. But of course the pottery and other relics can be to some extent distinguished from those attributable to Bronze I. May not then many of the plundered *antas* of Portugal be likewise regarded as a persistence of the culture of Bronze I through Bronze II? (38).

Such a treatment of the Portuguese *antas* or passage dolmens as parallel to the later megalithic culture of the Pyrenees, would imply at least a partial acceptance of the theories of Forde and Childe (39) that these *antas* are just barbarous degenerations of the corbelled tholoi and artificial grottoes of Alcalá and Palmella. It is hardly compatible with the familiar theory, popularized especially by Bosch Gimpera, of the Portuguese origin of dolmenic architecture. But it is no longer possible for Forde or me to argue that Bosch Gimpera relied on an arbitrary selection of poor and pillaged tombs.

The relative age of the "small dolmens" with a single interment must indeed remain in doubt pending the publication of finds reported to be housed in locked chambers in the Museum of Belem. But in a small *anta* or passage dolmen, Poço da Gateira, G. and V. Leisner (40) have found and published an intact sepulchral deposit, apparently representing ten of the original inhumations in the tomb. They were accompanied by microliths, axes and adzes in equal numbers, and plain round-bottomed pots. Though the latter are red, not black, they are comparable to the plain ware of the neolithic phase of the Almería culture in eastern Spain and in general to the oldest neolithic pottery of Atlantic Europe, including that of Windmill Hill in Britain. This find thus proves the existence of megalithic tombs in Portugal before Bronze I.

Moreover at two sites the Leisners (41) have identified the foundations of corbelled tholos tombs, built up against, and therefore later than, megalithic *antas*. Better evidence can hardly be demanded for the priority of dolmenic over tholos architecture. It

(38) Despite the parallelism with the Apennine Culture of Italy, recognized by MALUQUER DE MOTES, "La cerámica con asas de apéndice..." (vid. note 36), it seems difficult to admit any wide gap in time between the excised decoration on the celebrated cup from Serriñá and that on urnfield vases from Roquizal del Rullo.

(39) In "American Anthropologist", 32, p. -93; and V. G. CHILDE: "The Dawn...", p. 274.

(40) G. and V. LEISNER: "Antas do Concelho de Reguengos de Monsaraz", Instituto para a Alta Cultura, Lisboa 1951, p. 212.

(41) *Ibid.*, pp. 284ff.

does not of course prove the derivation of the latter from the former, that view is indeed rejected by the Leisner's who envisage, as we have said, an evolution of the tholos from the closed round cists of the neolithic phase in Almeria. Nor yet does the recognition of neolithic **antas** in Portugal before Bronze I exclude the use and erection of **antas** there also in Bronze II. On the other hand the Leisner's observations do dispose of the theory that the passage graves in Brittany, the British Isles and Denmark, if ultimately inspired by Portuguese models, must necessarily be derived from tholoi such as those of Alcalá and so that the erection of passage graves in the former countries provides a **terminus ante quem** in terms of the British or Danish culture-sequence for the beginning of Bronze I in the Peninsula.

In the light of these facts the chronological results obtained above can be checked and given precision by the Peninsula's relations with regions where more accurately divided culture sequences are available -in the first instance with the British Isles.

For there we can distinguish with the aid of closed finds and exports to Northern Europe as already indicated a reliable typological division of the Bronze Age:

Bronze Age	Childe's Period (42)	Type Fossils
Early Bronze Age 1	III	B and A Beakers, flat tanged and riveted daggers, flat axes.
Age 2	IV	Wessex Culture; grooved and ogival daggers, flanged axes, spearheads of types I and II.
Middle Bronze Age	V	Rapiers, palstaves, spearheads of types III, III A and IV. Cinerary Urns.
Late Bronze Age 1 2 3	V and VI	Cinerary Urns, leaf-shaped swords, late palstaves, socketed and winged axes, spear-heads of types IV B and V. Deverel-Rimbury urn-fields.

(42) As set out in "Prehistoric Communities of the British Isles", 1949. p. 11. This sequence, based on funerary pottery, cannot yet be correlated with the typological periods defined by bronzes, set out in column I since Cinerary Urns occur in graves of the Wessex culture. The latter should probably be subdivided and some grave-groups with ogival daggers transferred to a subdivision of the Middle Bronze Age, but the closed finds are not numerous enough to establish such a division statistically.

Curiously enough direct contacts with the historically dated cultures of the East Mediterranean allow of the conversion of this relative chronology into an absolute one better than anywhere else north of the Alps. Not only do we have in England beads of fayence certainly imported from the East Mediterranean and even a distinctively Late Mycenaean dagger blade (43), but also imports, probably of British manufacture, can be recognized in the gold-bound amber disk from the cemetery of Knossos (44) and the crescentic amber necklace with multiply perforated spacers from Kakovatos (45). Both imports appear to have reached Greece in the 15th. century and so give 1500 B. C. as a **terminus ante quem** for the Early Bronze Age 2 Wessex culture in which the types first appear in England.

The East Mediterranean imports in Britain do not give such a precise **terminus post quem** for the duration of the Wessex culture and Early Bronze 2. Segmented beads were being made of bone in Egypt already in Badarian times (46) before 3500 B. C. and about 3000 in fayence in northern Mesopotamia (47) and thereafter are not uncommon. Hence, though Beck and Stone (48) after examining a very large sample of Egyptian and East Mediterranean specimens identified exact parallels to the Wessex type only dated about 1400-1380, pending still more extensive search it can no longer be considered quite certain that the Wessex beads, still

(43) From a barrow at Pelynt, Cornwall; CHILDE in "Proceedings of the Prehistoric Society, xvii, 1951, p. 95.

(44) CHILDE, *Op. cit.* in note n.° 1 pag. 16; I am not prepared to accept de NAVARRO's arguments in "Early Cultures of North-western Europe", Cambridge, 1950, pp. 100-102, against the British origin of the disk nor for a reduction in Sir Arthur Evans' date for the tomb in question.

(45) The spacer-beads from Kakovatos were originally compared to those from "Hügelgräber" in Bavaria and Alsace belonging to Reinecke's Bronze Age B (B2) by G. von MERHART: "Die Bernsteinschieber von Kakovatos", Germania, XXIV, n.° 2, 1940, pp. 99-101. Since then it has been found that the distinctively British crescentic necklaces of amber and jet have exactly similar spacers which are actually rare in Central Europe. Hence our German colleagues themselves contend that the type is of British origin and reached Greece by the Western route.

(46) CHILDE: "New Light on the Most Ancient East", 1952, p. 45.

(47) *Ibid.*, p. 212; "Iraq", ix, 1947, p. 254. Note also the segmented stone bead from Early Minoan Crete, CHILDE: "The Dawn...", p. 34.

(48) "Archaeologia", lxxxv, 1935, p. 203 ff. There are of course other segmented beads in the British Isles, of different type, later date and probably local manufacture.

less those from Parc Guren in Morbihan (49) Fuente Alamo or Oszentivan in Hungary (50), are necessarily of that date. Its adoption for the Hungarian beads would seem to involve chronological contradictions though these are not quite insoluble (51).

Similarly the Mycenaean dagger fragment from a grave at Pelynt, Cornwall, has no associations and is not precisely datable in Greece. An attribution to Early Bronze Age 2 could be defended on the grounds that after that no weapons were buried in British barrows. In the Aegean, though the type is attested as early as the 14th. century, more specimens belong to the 13th. or even 12th.! The fragment could then be used as an argument for direct contact between Britain and the Aegean down to the fall of the Mycenaean civilization.

Direct contact between the British Isles and the Peninsula during Bronze III is concretely demonstrated by imported British spearheads and cauldrons in the latter area and by stray Iberian imports or copies of such in the former. If the amber trade with Britain attested by the crescentic necklace from Kakovatos and the gold-bound disk from Knossos, really went by the Atlantic route, we might regard the very numerous amber beads from Los Millares (52) and specimens from Alcalá and other sites of Bronze I as marking stations on that route. In that case the amber and perhaps the jet from tombs in the Peninsula would provide equally concrete evidence for direct contact with the British Isles during Bronze I.

In any case some relations in that period are admitted on the grounds of general parallelisms in sepulchral architecture, decorative styles, and fashions in ornaments. In the last five years they have been intensively studied by Mac White (53), Daniel and Po-

(49) LE ROUZIC in "L'Anthropologie", xlv, p. 508; the tomb is a tholos, but according to GIOT in "L'Anthropologie", loc. cit. in note 11, reused in the Bronze Age.

(50) CHILDE in "American Journal of Archaeology", xliii, 1939, p. 23.

(51) The beads occur in graves of the Szöreg III (Tószeg B) group (BANNER in "Dolgozatok", Szeged, xxii, 1941) belonging to Reinecke's period A, but Milošević argued very plausibly that the bronzes from the later group III graves are still only Reinecke's B while pots from them imitate closely Middle Minoan vases like EVANS "Palace of Minos", i, fig. 139 a, that are not traceable in Greece after 1550 B. C. Cf. note 45.

(52) PERICOT GARCIA: "La España Primitiva", Barcelona, 1950, p. 138.

(53) MACWHITE, op. cit. note 10, pp. 24-54.

well (54), Piggott (55), Savory (56) and Scott (57) but without bringing to light much fresh evidence in the way of an actual interchange of manufactured articles on which reliable chronological conclusions may be based. On the contrary it has appeared that some evidence hitherto accepted is at last ambiguous. The stone lunulae from Alapraia do not necessarily either inspire or copy the Irish gold ones, nor need the later Portuguese examples be derived from the latter. The round gold earrings from Ermageira have only two stray parallels in Ireland though they are not unlike two copper earrings from an Early Bronze Age II hoard in Scotland (58). How, if at all, such round earrings are related to the basket-shaped type (59) found twice with B1 Beakers in England and therefore assigned to Early Bronze Age I there, is quite uncertain.

The best new contact is the identity of a stone pendant from Carn G. on Carrowkeel Mountain (Co. Sligo, Ireland) and one from the sepulchral cave of Monte de la Barsella, Alicante, first seen by Piggott (60). The Irish pendant may rank as an import from the Peninsula and so establish a partial synchronism between the Boyne culture of Ireland and Bronze I in Spain. Unfortunately the Boyne culture, to which the Carrowkeel tombs belong, is no more exact a chronological horizon than is Spanish Bronze I and its position in the English sequence is still debatable. Carn K at Carrowkeel and other Boyne tombs contained Food Vessels, attributable in England to Early Bronze Age 2 or even the Middle Bronze Age as noted by Powell and Daniel. On the other hand the same Carn K yielded a sherd of plain British Neolithic A pottery (61). Since, however, elsewhere in Ireland (62) such "Neolithic" pottery seems associated

(54) "Revista de Guimarães", lxii, 1952, pp. 5-64.

(55) "Revista de Guimarães", lvii, 1948, pp. 10 ff.

(56) H. N. SAVORY: "A influencia do Povo Beaker no primeiro período da Idade do Bronze na Europa Ocidental", *Revista de Guimarães*, LX, 1950, pp. 351-375.

(57) L. SCOTT: "Proceedings of Prehistoric Society", xvii, 1951, pp. 45-82; "The Chamber Tomb of Unival, North Uist", *Proceedings of the Society of Antiquaries of Scotland*, lxxxii, pp. 38 ff.

(58) "Proceedings of Society of Antiquaries of Scotland", xxxv, p. 266.

(59) V. G. CHILDE, *op. cit.* in note 1, p. 18, pl. 1, 1-2; add now the grave group from Radley, Berks., CHILDE: "Prehistoric Migrations", Oslo, 1950.

(60) "Revista de Guimarães", LVII, p. 10.

(61) Unpublished; noted in the National Museum of Ireland, Dublin, in 1950.

(62) E. g. in the Grange circle, Lough Gur (Co. Limerick); S. P. ORIORDAIN, in "Proceedings of the Royal Irish Academy", LIV (C), 1951, p. 53.

with B and A Beakers and Food Vessels, this need not enhance the antiquity of the Boyne culture. As stone hammer pendants identical in form with amber pendants from Wessex graves in England, were found in Carrowkeel tomb G. the pendant from the same tomb and that from Monte de la Barseilla can provisionally be assigned to English Early Bronze Age 2. A similar or even later date is given by the ribbed bone cylinder (63) found with cremated bones and Food Vessels in a cist in Galway if it really be the head of an Iberic pin of Leisner's (64) type I imported from the Peninsula.

A still later synchronism might be deduced from two short knife-daggers found with Cinerary Urns and cremations at Gilchorn near Arbroath in Scotland (fig. 2, 2) and at Harristown in Southern Ireland (65). Both have midribs on one face only and notches near the butt in place of rivet holes. The only parallels I know are the blades from Los Millares tomb 57 (fig. 2, 1) and from Alcalá tomb 3 (66); for the blade from the celebrated Middle Neolithic hoard of Bygholm in Jutland to which I have elsewhere compared the latter has no notches and no midrib but only two incised grooves on one face (fig. 2, 3). As notched blades, both of copper and flint are common in the Peninsula during Bronze I, the Scottish and Irish specimens may well be imports. But the urns associated with them are more likely to belong to the Middle Bronze Age than to Early Bronze Age 2. So the only *termini ante quos* for Iberian Bronze I suggested by actual or probable imports in the British Isles lie between 1500 and 1200 B. C.

A much higher limit is, however, given by British Beakers at least on the prevailing theory that the true Bell Beaker (*vaso campaniforme*) originated in Spain. For in England Beakers belong to

(63) V. G. CHILDE, *op. cit.* in note 1, p. 18 and fig. 3.

(64) G. and V. LEISNER, *op. cit.* in note 17, p. 452; assigned to Los Millares I.

(65) V. G. CHILDE: "The Prehistory of Scotland", p. 137, fig. 34, 2; "Journal of the Royal Society of Antiquaries of Ireland", LXXI, 1941, p. 139.

(66) G. and V. LEISNER, *Op. cit.* in note 17, p. 529. In Lozère (South France) at least 7 such notched daggerblades with midrib on one face only have been found in a collective burial by cremation in tumulus X "de la Serre", Com. de S. Bazile, Freyssinél-Morel in *Bul. Soc. des Sciences, Lettres et arts du Lozère*, 1936, Nos. 1-2. The grooved blade from Bygholm might on the other hand be compared to one with grooves on both faces from the Rinaldoni site of Chiusa d'Ermini near Vulci (Italy) "Atti I Congresso de Preistoria Mediterranea" (Firenze, 1950), p. 339.

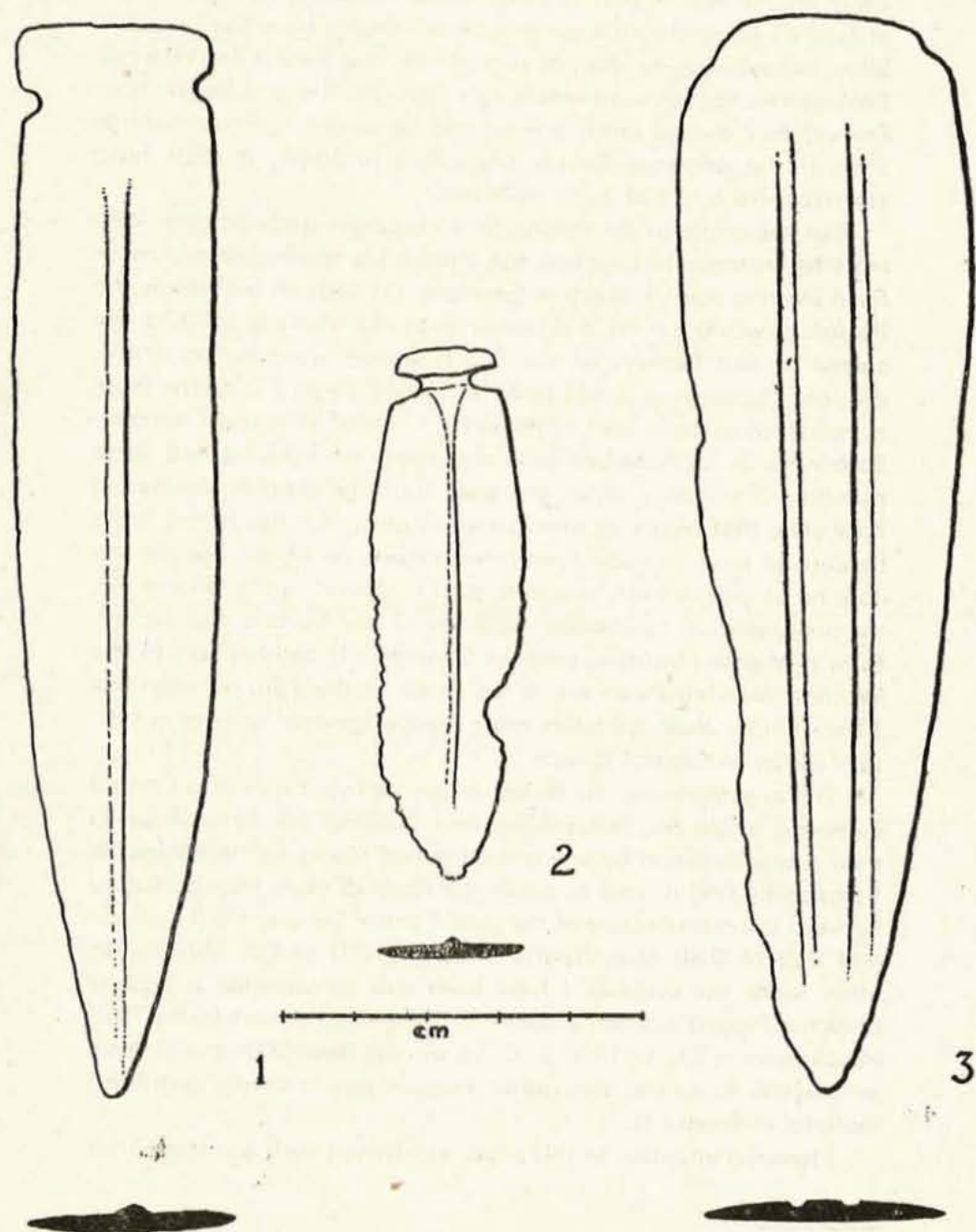


Fig. 2.—Daggers blades from 1: Los Millares (Almería); 2: Gilchorn (Scotland), and 3: Bygholm (Denmark).

Early Bronze Age I (67). Yet no British Beakers, not even those of type B1 to which of course the famous sherds from Moytirra, Co. Sligo, belong, can be derived direct from the Peninsula. Whether Beakers reached Britain immediately from the Rhine valley or from France, they arrived much altered and by some circuitous route so that, if the ancestral Beaker originated in Spain, it must have started there by 1800 B. C. at latest.

But the origin in the Peninsula is no longer unchallenged. Wilmott for instance has worked out a plausible typological argument for a starting point in western Germany. On such an hypothesis the Peninsula would be the end rather than the starting point of the spread of Bell Beakers of the Pan-European type; arrived there, divergent local styles would have developed giving rise to the more complicated patterns seen at Palmella, Ciempozuelos and Carmona; Savory has in fact adduced good arguments for thinking that these peculiarly Peninsular styles are later than the simpler alternating zone style that recurs all over Europe. Support for this heresy could be derived from Bernabo Brea's excavations on Lipari; for the low date he very tentatively suggests (p. 175 above) is far too late for the pre-Unetician bell-beakers of Bohemia and Bavaria and the one from a Middle Neolithic tomb in Denmark. If bell-beakers in the Western Mediterranean are to be dated to the 16th. or even the 17th. century their ancestors must have originated at least a century earlier in Central Europe.

Still even adopting the rather desperate hypothesis of a Central European origin for bell-beakers and allowing for some delay in their transplantation by still undetermined routes to the Peninsula, I personally find it hard to admit the lapse of more than a century between the manufacture of the good Central European bell-beakers and that of their counterparts in Alapraia II or Los Millares. In other words the evidence I have been able to assemble is against reducing Piggott's dates of 1800 to 1400 for Bronze I in the Peninsula below 1700 to 1300 B. C. So we still have 500 or 600 years over which to spread the rather exigous and unevenly distributed material of Bronze II.

I have no intention in this paper to attempt such a spread. That

(67) What may be an imported "Palmella point" associated with a Beaker in an English grave, if correctly diagnosed, would establish a synchronism between British Early Bronze Age I, and Bronze I in the Peninsula.

must be left especially to my Portuguese colleagues. But it might be helpful in conclusion to point out that it is not only in the Iberian Peninsula that an apparent hiatus seems to interrupt the archaeological record. In the Apennine Peninsula the drastic reductions of Montelius' inflated dates, advocated notably by Aoberg (68) and Sundwall (69) have left a yawning gap between the earliest Villanovan graves and the "Apennine" horizon dated by Mycenaean imports at Punto del Tonno (Taranto), on Ischia and on Lipari. Five or six centuries have to be filled by further developments of "Apennine" pottery and "Peschiera" bronzes (seldom found in good closed finds) that were already well advanced by 1300 B. C.

In the Balkan Peninsula too there are surprisingly few closed finds that Aegean experts will admit as belonging to the period between 1200 and 800 B. C. Prehistorians like Furumark (70) work down very cautiously from the latest Mycenaean styles dated by exports in Egypt or Palestine. Students of classical vase-painting work back still more timidly from the styles current when the Greeks colonized Italy and Sicily after 750 B. C. The two approaches fail to meet! In each case there is perfectly obvious continuity of traditions, at least in technology, across the apparent gap. This must then be bridged by redistributing the material. In so far as this means **raising** absolute dates, it may help to shorten the "Middle Bronze Age hiatus" in the Iberian Peninsula. For the dates assigned to the urnfields of Bronze III there are limited by those of "Hallstatt" A and B and even C in Central Europe which in turn depend on dates assigned to the Villanovian phases on the strength of Greek pottery found in the latest of them!

(68) ABERG: "Bronzezeitliche und früheisenzeitliche Chronologie", I.

(69) SUNDWALL: "Die älteren Italischen Fibel", 1943.

(70) FURUMARK: "Chronology of the Mycenaean Pottery", Stockholm, 1941.

