

THE ROLE OF THE UPPER DUERO AND EBRO BASINS IN MEGALITHIC DIFFUSION

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INTRODUCTION.

Until a few years ago the list of megalithic burial chambers in the north-eastern *Meseta* which were generally known to the archaeological world was so short that the area might have seemed to contain an interruption, rather than a continuation, of the zone of such chambers which appeared to stretch from the western regions of the peninsula towards the western end of the Pyrenees. Indeed the morphological differences between the passage graves of Extremadura and León and the great majority of the megalithic tombs of Pyrenean area and the Upper Ebro basin were such that it would have been natural to think that the aforementioned gap marked the boundary between two quite distinct cultural groups. Even then, however, a few «tholos» tombs were known in the upper basins of the Tagus, Duero and Ebro and a few megalithic passage graves had been reported from the Upper Ebro (1. H. N. Savory, 1968, 107 f., figs. 32 and 44; J. M. de Barandiarán and F. Medrano, 1958, 5 ff., and 1971, 33-102, 135-73). Moreover, the gap between the well-known passage graves of Extremadura and León and those of the Upper Ebro has lately been narrowed, if not completely closed, by the publication of several related sites in the provinces of Burgos, Logroño and Palencia (2. B. Osaba *et al.*, 1971 and I. Barandiarán Maestu, 1971). There can now be no doubt that the specifically west Iberian tradition of communal burial in passage graves of «tholos» as well as truly «megalithic» type spread along the northern fringes of the *Meseta* as far as the Upper Ebro. It is hardly within my power to attempt a complete and up-to-date review of the new sites in the north-east *Meseta*: this must, of course, be the task of the local field-workers. But it might of some small value if I were to discuss the ideas which the new discoveries in Old Castile and elsewhere suggest to one who

has long been exercised with the problems of megalithic tombs in western Europe generally.

THE NEW CHRONOLOGY.

It is well known that the primacy and creative influence of the Iberian megalithic culture, in relation to that of Europe north of the Pyrenees, has lately been challenged, as a result, very largely, of radiocarbon dates which seemed to suggest that the earliest passage graves of Brittany might belong to the earlier part of the 4th millennium B. C. (in «uncorrected» radiocarbon terms), while the similar dates so far available from monuments in the west of Iberia were in no case earlier than the end of that millennium (3. M. Almagro Gorbea, 1970-72; C. Renfrew, 1973, 91). This challenge has been compounded by a fashionable trend of thought which lays great stress on local ecological factors and deprecates «models» which assume folk-movements or far-reaching cultural «influences». In Britain Professor C. Renfrew has been an active exponent of this point of view (4. Renfrew, 1973, 84-108). On the one hand he has had no difficulty in using radiocarbon chronology to demolish old hypotheses of an Aegean inspiration for Iberian passage graves; on the other, he has been able to suggest that the various groups in western Europe which buried their dead in collective tombs which were rock-cut or built above ground in a «megalithic» or «tholos» tradition developed independently from local Neolithic communities, and that if there had been any cultural movement at all from one area to another at this time it is likely to have been from Brittany southwards towards Iberia rather than the other way, because of the much earlier radiocarbon dates published from the former area. Renfrew's revolutionary views were not, indeed, based solely on radiocarbon dates. Already, not long before, Professor Glyn Daniel had been quick to abandon his conventional views of megalithic diffusion in the light of new discoveries and radiocarbon dates in northern Europe which appeared to suggest an early independent origin there for long barrows with wooden chambers, sometimes associated with cremation, and to speak, first, of «Northmen and Southmen» (5. Daniel, 1967) and then of «Megalithic tombs, east or west» (6. Daniel, 1970).

For my own part, I had always been reluctant to accept the apparent contrast between radiocarbon dates from Iberian and Breton collective tombs, because the numbers of the former were not only inadequate for comparison, but were unevenly distributed among the various regional and chronological

groups in Iberia; moreover, it was clear that the stratigraphy of some of the samples used for dating was highly dubious - a serious matter, in view of the evidence for some of the tombs having been in use for a long time, perhaps several centuries. Now, however, it appears that new approximate dates for pottery found in collective tombs in southern and central Portugal have been established by the thermoluminescence process at Oxford, and these suggest that two small megalithic passage graves excavated by G. & V. Leisner near Reguengos de Monsaraz, Alto Alemtejo, were built by the middle of the 5th millennium B. C. and that the second rock-cut tomb at Carenque near Lisbon was in use by the beginning of the 4th millennium B. C., while the large «Pavian» passage grave of Comenda da Igreja was built late in the 4th millennium (7. Whittle and Arnaud, 1975). While these dates are not as precise as radiocarbon dates derived from well stratified samples would be, they may well be supported by the new series of dates for the lower layers (III-V) in the Cueva de los Murciélagos, Zuheros (Córdoba) which show that the «Cerámica a almagre» from these layers belongs to the latter part of the 5th millennium B. C. (in radiocarbon terms) (8. Vicent and Muñoz, 1973, 106-10). George and Vera Leisner, in fact, pointed out long ago that «cerámica a almagre» also characterizes the early types of megalithic passage grave in the Reguengos district (9. Leisner, G. & V., 1951, 71-84), notably the two sites Anta 1, Poço da Gateira and Anta 2 dos Gorginos - from which came the pottery used for the thermoluminescence dates just mentioned. It is true that there are differences of detail between the pottery from the Portuguese sites and from the Cueva de los Murciélagos, but the «almagre» technique is distinctive and does not occur in the later Alemtejan passage graves. Moreover, the horizon to which the «almagre» pottery of the Alemtejo belongs precedes that on which the well-known engraved schist plaques and croziers appear, and yet the latter undoubtedly reflect the same common influences from the Italian Middle Neolithic culture of the early 4th millennium B. C. (in radiocarbon terms) which lie behind the lightly incised geometric patterns of the French «Chassey» ware, 10. J. Arnal and Gross, 1962) and Roudil has since confirmed (11. J.-L. Roudil, 1973). On this showing as well, then, the earliest southern Portuguese passage graves could not be much later than the beginning of the 4th millennium, and could perfectly well be as early as any passage graves in Brittany.

THE «SOUTHERN» AND «NORTHERN» ELEMENTS IN THE MEGALITHIC CULTURE OF NW EUROPE.

My misgivings about the recent criticisms of megalithic diffusion, however, did not relate solely to chronology. Discussion has focussed to such an extent in recent years on tomb morphology and the possibility of certain elements in the north European megalithic tradition - e. g. timber structures, long tumulus form and cremation - being derived from the central European («Danubian») Neolithic that something even more fundamental - the very practice of communal burial - has tended to be forgotten. It is this which forms the connecting link between cultural groups which otherwise undoubtedly show great regional diversity, as the result, no doubt, of the presence of locally varying indigenous elements. There is, however, no escaping the fact that the maximum incidence of communal burial, whether in natural or artificial caves or in built chambers - «megalithic» or «tholos» - in the 4th and 3rd millennia B. C. is distributed along a comparatively narrow zone stretching from Syria - Palestine through the Mediterranean islands to Iberia, western France, the British Isles and the Nordic countries. In France it is now becoming increasingly clear that this burial custom spread from west to east, reaching north-west Italy, Switzerland and the north European plain, east of the Rhine, comparatively late. In this last area, in particular, radio-carbon determinations indicate that the earliest burials in the long mounds are separate ones, and no communal burial deposits have as yet been shown to be anything like as early as the earliest in Brittany (12. U. Fischer, K. Jazdzewski, M. Strömberg, 1969 and J. A. Bakker, J. C. Vogel and T. Wislanski, 1969), most of them, indeed, belong to the much later horizon of the SOM «long graves». This, after all, is hardly surprising, since the Danubian Neolithic cultures of central and south-eastern Europe, which necessarily exercised the dominating influence on the development of the northern countries, practised separate burial. There remains, however, the question whether the use of trapezoidal cairns, instead of circular ones, at sites like Barnenez in northern Brittany (13. Giot, 1969) (fig. 2, 9) or Fontenay-le-Marmion and Colombiers-sur-Seulles in Lower Normandy (14. Caillaud and Lagnel, 1969 and 1972, Dastugue, 1971 and Verron, 1973), to cover multiple chambers, reflects the influence of the large trapezoid house characteristic of Danubian groups not only in central Europe but near the Lower Rhine and in the Paris Basin (15. Müller-Karpe, 1968, Pls. 211, 213-4, 234, 242, 246-7, 249 and Mordant, 1970). It may well be that the house of the living did, in this case, inspire the house of the dead, as it did in the case of the early «tholos» tombs

of the Mediterranean world, but it is also likely, on present radiocarbon evidence, that this interplay of two distinct cultures took place in northern or western France, and that the idea of the long communal grave and long covering mound was then transmitted eastwards as far as Poland. The practice of replacing stone with timber in these forested areas, when suitable stone was not easily to be found locally, and sometimes of burning such chambers with their contents could, however, have spread in the opposite direction.

It seems, therefore, that the duality of the megalithic culture of western Europe, which Professor Glyn Daniel has so long taught us to envisage, in one guise or another (16. Daniel, 1941, 1962, 1967 and 1970), must now be seen as a locally diversified mixture of traditions affecting the development of various types of structure used for communal burial, which itself reflects a single cultural movement from south to north. In western France that local diversity arose from the convergence of influences coming from central as well as from south-western Europe. While passage graves with circular chambers set in circular mounds which recall, in a general manner, the communal tombs of south-west Europe, are common on the Biscayan sea-board from Finistère to the mouth of the Charente, further inland, and near the English Channel coast, there is a parallel development of passage graves which may have circular or rectangular chambers set in oval or wedge-shaped mounds as well as circular ones (fig. 1) (17. l'Helgouach, 1969). At an early stage, these «long cairns» are often very large, and may contain numerous lateral chambers (fig. 2, 9). Such «tumulus géants» are known formerly to have been common in Poitou, Angoumois and saintonge, and in some cases seem originally to have contained only small cists while in other cases the chambers are entered laterally (18. Arnal and Burnez, 1958; Burnez and Gabet, 1967). The latter may prove to be the primary form, but modern exploration of these sites has only just begun and radiocarbon dates are not as yet available in sufficient numbers to demonstrate chronological relationship to the Armorican sites. It is now likely, however, that the origins of the British chambered long cairns of the «Cotswold-Severn» group lie in this direction rather than that of the north European plain east of the Rhine, as has sometimes been suggested in the case of the neighbouring «unchambered» group (19. Powell *et al.*, 1969, 265-7), and recently obtained radiocarbon dates suggest that this British group was in existence well before the end of the 4th millennium B. C.: indeed, the cairns of the «Cotswold-Severn» group, with multiple, lateral chambers which particularly recall the Armorican cairns of the Barnenez-Colombiers-sur-Seulles group have now been shown to be relatively early. Thus, at Pen-y-wyrld (Talgarth) in Brecknock the date of

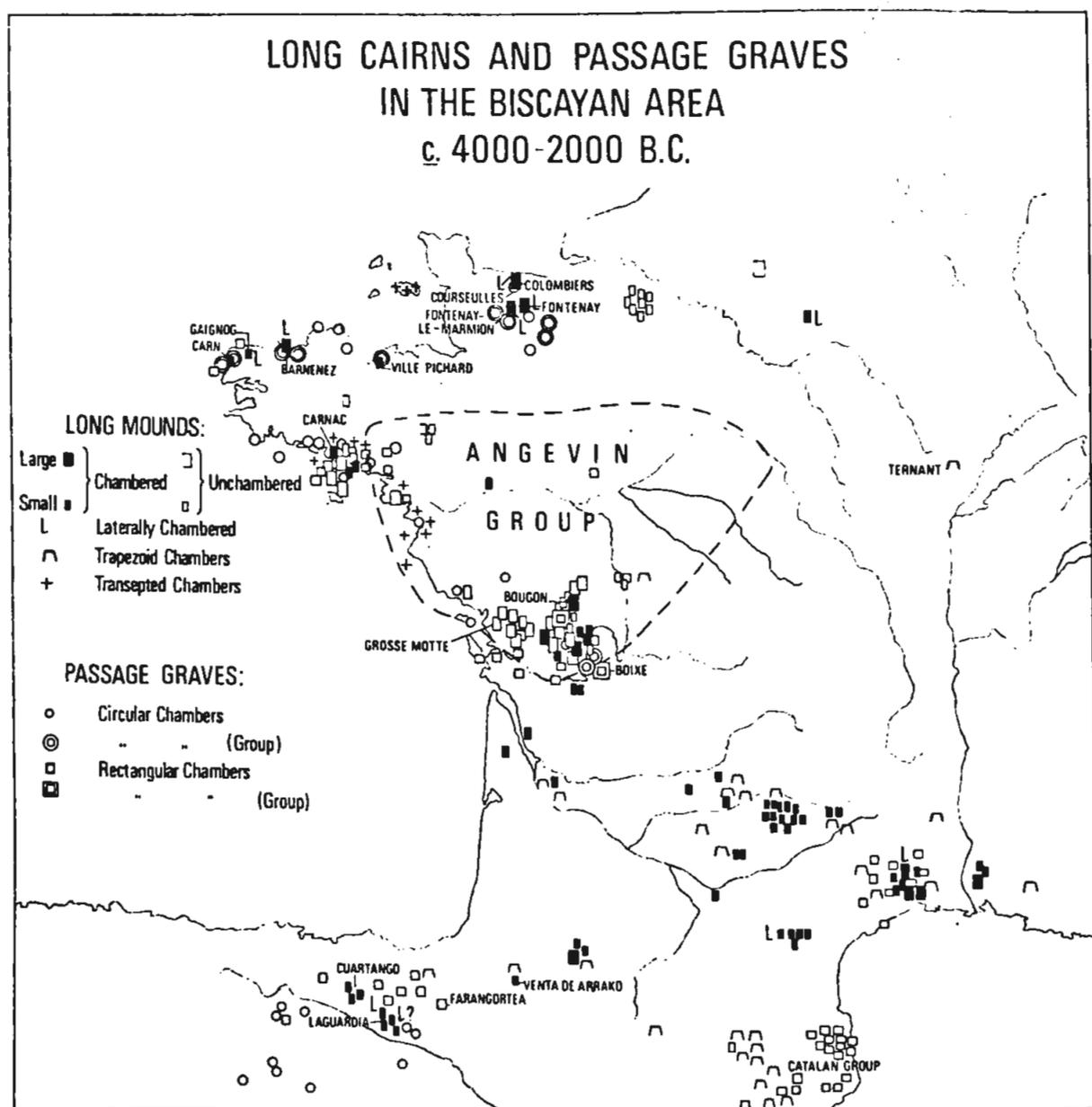


Fig. 1.

3020 ± 80 B. C. has been obtained (Har. 674), and at Ascott-under-Wychwood (Oxon.) (fig. 3, 2) there are two dates nearly as early, while the terminally-chambered, transepted long cairn of Wayland's Smithy (Berks.) (fig. 3, 3) - a type clearly influenced from the transepted monuments of the Loire mouth (20. L'Helgouach, 1969, 207, Pl. II) has yielded the date 2820 ± 130 B. C. (20 a. Atkinson, 1965). The much more numerous dates relating to British «unchambered» long cairns still have a wider range but

they have now lost the clear priority which they once seemed to possess over their stone-chambered neighbours to the west (21. Ashbee, 1970, 85-7) and which recently encouraged a strange theory of wooden prototypes for the latter, derived of course, in the first place, from the «unchambered» long barrows and ultimately from across the North Sea (22. Powell *et al.* 1969, 80-2, 180-2, 263-72).

What is more important for the present discussion, however, is the evidence for a later spread of the terminally chambered long cairn from the west-central France southwards towards Languedoc and the Pyrenees (fig. 1). Long ago Professor Glyn Daniel drew attention to the existence of chambered long cairns, many of them brought to light by field-work of M. L. Balsan, in the country of the limestone *Causses* in Aveyron and Lozère (23. Daniel, 1939 and 1950). These normally contain only one chamber in a terminal position and are small - one exception is a cairn 50m. long, north of Rodez (24. Arnal, 1956, 529, fig. 4.2). The chambers are simple quadrilateral structures - short galleries or megalithic cists with only three main orthostats, like many monuments in the west Pyrenean area of Spain (25. Pericot, 1950, 179-200, fig. 89) - but some have a trapezoid plan (fig. 3.6) which like that of the cairns, may reflect the ultimate influence of the Middle Neolithic trapezoid houses of the Paris Basin (fig. 3.1). More recently the field-work of Clottes has revealed many related sites, in Quercy, which form a connecting link between the parent group in west-central France and the late derivatives in the Cevennes (26. Clottes and Lorblanchet, 1968, Clottes and Carrière, 1969, Clottes and Darasse, 1972). Arnal himself, however, has pointed out that some of the large gallery graves of the Aude valley in coastal Languedoc were set in oval cairns (27. Arnal, 1952 and 1956, 521). These like the small «portico dolmens» of neighbouring areas in western Languedoc, which sometimes preserve traces of small oval cairns (28. Ambert, 1975), relate to the later megalithic tombs of Anjou and the lower basin of the Loire recently studied by Gruet (29. Gruet, 1967, 296 f.) and portico dolmens elsewhere in western France (fig. 2.8). The grave goods from these monuments in various parts of Languedoc clearly indicate a much later time range than the primary long cairns of Armorica - some, indeed, must belong to the later Copper Age or early Bronze Age, particularly, in the case of trapezoid chambers, as at Vallongue (Lozère) (30. Costantini and Fages, 1971) and Maurély (Bouches-du-Rhône) —an extension of the form to Provence (31. De Gurbert, 1970)—, and Arnal has long since pointed out the existence of large ovoid cairns apparently of late Copper Age date in coastal Languedoc, which contain cremations in small cists (32. Arnal, 1953). More significant from our point of view,

however, are sites like Chez Vinaigre and Champ Pourri near Angoulême in Charente (33. Daniel, 1960, 122, fig. 46.2-3) (fig. 3.4-5) and Bernet (34. Arnal, 1958, 35, fig. 7) (fig. 3.7) and Espiet (35. Seronie-Vivien, 1960) in Gironde, which with some celebrated but incompletely known sites in Gascony like La Halliade and Pouy Mayou (36. Daniel, 1960, 139-42; Fabre, 1952, 49-60) suggest that the tradition of the long mound and trapezoid chamber also reached the western end of the Pyrenees - a most important key to the problem of megalithic diffusion in western Europe.

THE RÔLE OF THE NORTH-EAST MESETA.

We have already seen that the idea of a south-west European inspiration for the early passage graves of Armorica can no longer be rejected on purely chronological grounds: there is, after all, scientific evidence for dating megalithic beginnings in Portugal as early as in Brittany. But that in itself is not enough to demonstrate a direct derivation of Armorican passage graves from those of the western coastal regions of Iberia. In fact, when we come to a detailed comparison of the earliest Breton passage graves (37. L'Helgouach, 1965 and 1969) with those of Portugal and Galicia, we find some important differences even when we leave out of the reckoning the chambered long cairns of the former area. Basing ourselves upon the comprehensive studies of the Leisners (38. G. and V. Leisner, 1956 and 1959, V. Leisner 1965) we realize that there can hardly have been any very close relationship between the builders of the classic «Pavian» megalithic passage graves of the Alemtejo and the Breton passage graves, not only because of the structural differences but because of the complete failure of the characteristic engraved schist plaques and other grave-goods found on Alemtejan sites about the end of the 4th millennium B. C. to appear in Brittany. True, most of these Alemtejan types are scarce in Beira and they hardly appear at all north of the Duero. But in these northern areas the megalithic passage graves assume various specialized forms, with the plan and structure of the chambers and passages differing considerably from what is typical of Brittany (39. G. & V. Leisner 1956, 39-99, Pls. 10, 14-15, 18-20). The main point of difference is, in fact, that the characteristic passage grave in the 4th millennium B. C. in Brittany, has a chamber which is roughly round or square, rather than polygonal (40. L'Helgouach, 1965, 21-79) (fig. 2.5-7). In the case of the former, the relationship is rather with the «tholos» type of structure with circular chambers formed of thin orthostats and corbelling (41. G. & V. Leisner, 1956, 24-8.

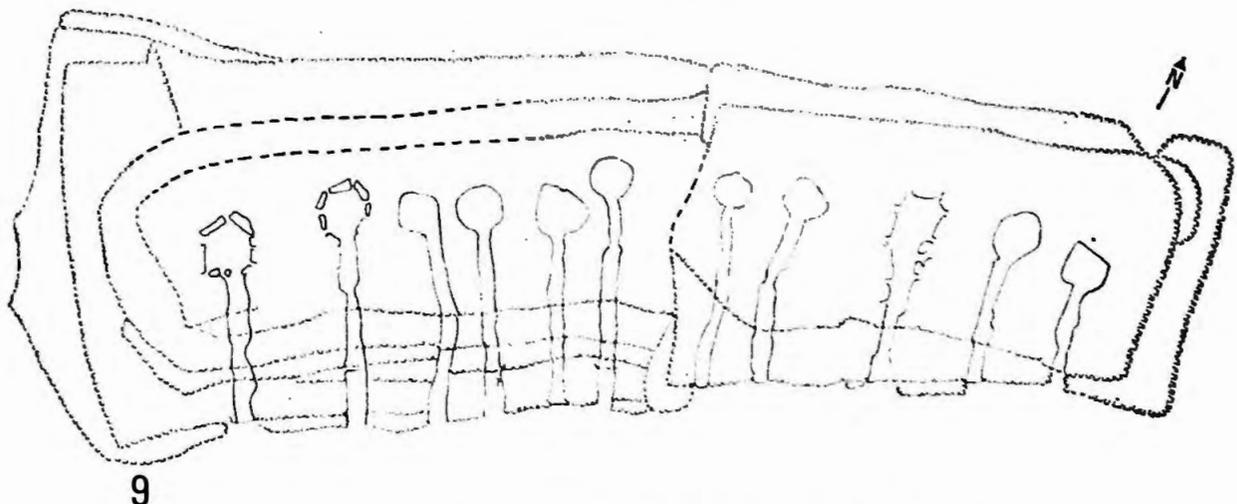
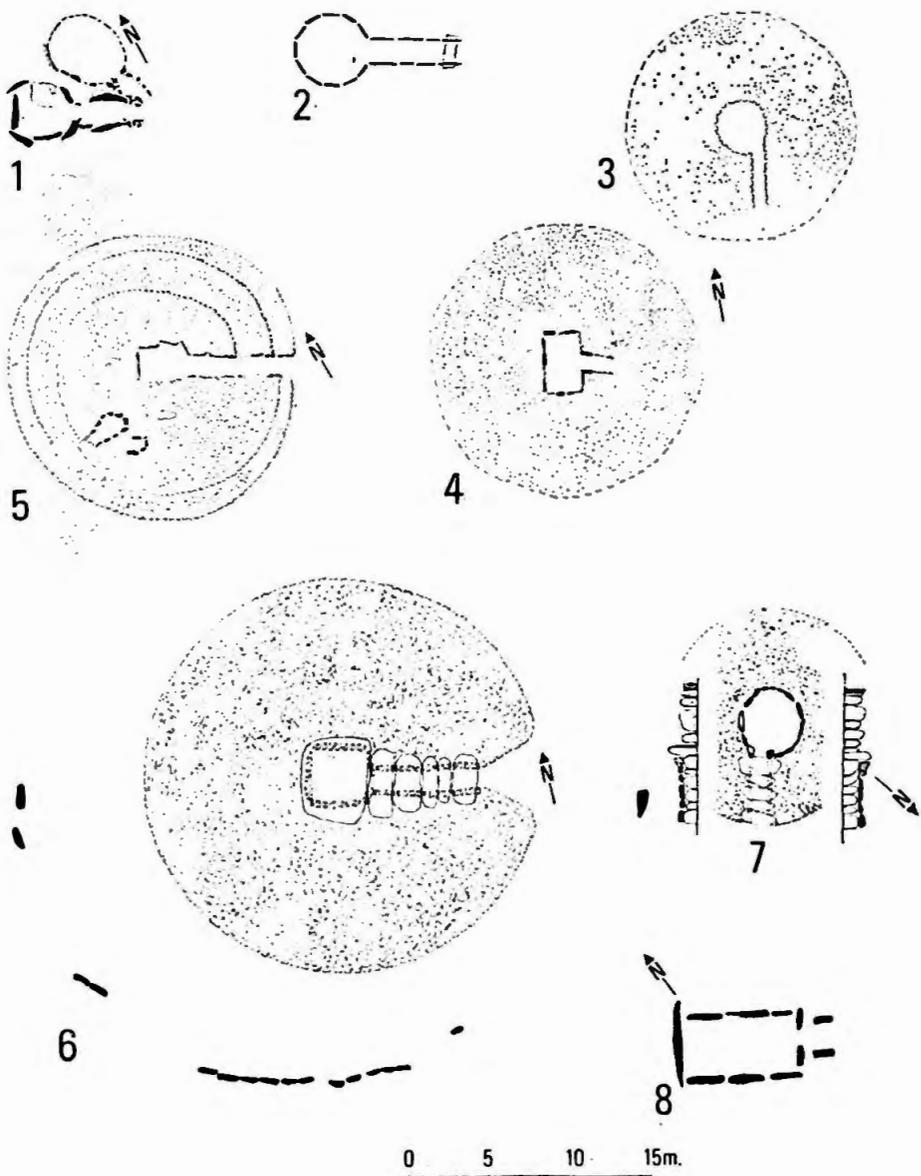


Fig. 2.—Passage Graves: 1. Anta I da Farisoa (Reguengos) (after V. & G. Leisner); 2. Prado de las Navas (Salamanca) (after V. & G. Leisner); 3-4. Tumulus de la Boixe (Charente) (after Daniel); 5. Le Notério (Morbihan) (after L'Helgouach); 6. Kercado (Morbihan) (after L'Helgouach); 7. Kermaric (Morbihan) (after L'Helgouach); 8. La Frébouchère (Vendée) (after L'Helgouach); 9. Barnenez (Finistère) (after Giot).

Pls. 1-2, 1959, Pls.42-4), and the finest Armorican structures had much dry-stone walling, forming beehive roofs above the orthostatic walls, closed at the top by a large slab, as at the Cueva de Romeral. As the Leisners realized, «tholos» tombs in western Iberia form a distinct group, particularly well represented in western Andalusia, Algarve, Baixo Alemtejo, Extremadura and León, only overlapping marginally with the fully megalithic passage grave groups (fig. 2.1.). Some of these tombs undoubtedly have late inventories, and others have yielded late radiocarbon dates (42. Almagro Gorbea, *loc. cit.*), but others could be early, e. g. Folha da Amendoeira (Beira Baixa) (43. Savory, 1968, 99) and it must always be remembered that some «tholos» chambers contain deposits which must have accumulated over a very long period. The fact that the main distribution of these western «tholos» passage graves forms a zone lying to the east of the megalithic passage graves, north of the Guadiana as far as Salamanca province (fig. 2.2.), perhaps explains the appearance of the related structures already mentioned on the north-eastern edge of the Meseta in the provinces of Palencia, Burgos and Logroño (44. Osaba *et al.* 1971); the very large diameter of the chamber at Cubillejo de Lara de Los Infantes (Burgos) recalls that of the chamber at Terradillos (Salamanca) (45. Moran, 1935, 5-9) and the provinces of Salamanca and Zamora have a large concentration of passage graves in the «tholos» tradition.

The tendency to a square plan which the chambers of a number of early Breton passage graves show —Kercado (Morbihan) is a well-known example (fig. 2.6) (46. L'Helgouach, 1965, fig. 7)— is an architectural feature which is difficult to reconcile with the idea of a cultural movement from the atlantic coast of the peninsula. It points rather to a connection with the earlier passage graves of the interior of eastern Andalusia (47. G. & V. Leisner, 1943, Pls. 34, 36, 39, 41 and 46-51) and it is possible that the practices of this area in the 4th millennium B. C. exercised some influence on those of the north-eastern Meseta, in addition to that coming from the western Meseta at this time, just as those of the same area at a somewhat later date influenced the construction of passage graves with oblong chambers separated by port-hole slabs from passages of nearly equal width, at Portillo de Enériz and Mina de Farangortea, Artajona in Navarre (48. Maluquer, 1964, 22-35). If this is so, it is all the more important to note, as L'Helgouach did in studying the earliest Breton passage graves (49. L'Helgouach, 1969, 205 f.) that there are passage graves in Charente - halfway between Brittany and the Pyrenees - which share with the earliest Breton and Andalusian passage graves a tendency alike to square and circular chambers, orthostatic or drystone walled with entrance passages which sometimes pass through one

end rather than the centre of one of the sides of the chamber or enter a circular chamber in a lop-sided fashion. Such long lop-sided entrance passages are found in Brittany both in trapezoidal cairns like Ile Gaignog and Barnenez (50. L'Helgouach, 1965, figs. 5 and 10) (fig. 2.9) and in circular cairns like Notério, Ile Carn and Kermaric (figs. 2.5, 7) (51. *ib.*, figs. 4, 12 and 13). In Charente they are found only in round cairns as at the cairn cemetery of La Boixe and at Fouqueure (52. Daniel, 1960, 125 and Chauvet 1880) (fig. 2, 3-4), and a related monument is recorded at Les Lisières, Pamproux (Deux-Sèvres) (53. Daniel, 1960, 130, fig. 47.4). It is therefore worth considering the possibility that the influences which shaped the early passage grave culture of Brittany came from Andalusia and the western and northern fringes of the *Meseta* rather than from the Atlantic coastal regions of the peninsula, even though a number of truly megalithic passage graves with polygonal chambers in the province of Alava, like the Cabaña de la Hechicera, El Villar (54. Pericot, 1950, fig. 89.2) and El Sotillo (55. J. M. de Barandiarán *et al.*, 1969, 135-145) may reflect the influence of the Portuguese form, as J. Guilaine has suggested even of a few sites in Catalonia and Roussillon (56. Guilaine, 1972, 71-5).

If we are to think of the spread of the practice of communal burial, and the construction of round cairns with passage graves as a result of movements by land rather than by sea, following a route from the *Meseta* through the western end of the Pyrenees to Saintonge and the Loire estuary, we can also envisage the establishment of cultural contacts which ultimately brought practices which had originally evolved in western France, by the same route in a reverse direction, to Gascony and the upper basin of the Ebro. For it is a striking fact that the only part of the Iberian peninsula which appears to have adopted, to any degree at all, the practice of building long cairns instead of round as a cover for megalithic tombs, is precisely that adjoining La Rioja in the province of Alava, and the neighbouring province of Navarre. In the latter region the well-preserved gallery grave of Venta de Arrako, Roncal, stands in a small oval cairn defined by a peristalith (56 a. Maluquer de Motes, 1964, 15-17, fig. 11); it is situated in a high Pyrenean valley, separated by lofty mountains from the Gascon group of long cairns already mentioned (p. above). Far to the south-west in the province of Alava, are several monuments which seem to have had small oval or trapezoid cairns, although these have not been very precisely explored or planned. Some of these, like Gurpide S. and S. Sebastián S., Cuartango, in western Alava (57. J. M. De Barandiarán *et al.*, 1969, 34-46 and 96-102) and Cascaja, (Peciña) and Layaza in the Rioja, eastern Alava (58. *ib.*, 58-61 and

92-5) appear to have been oval, though clearly affected by cultivation, and had their megalithic chambers (of passage grave type) placed along the long axis of cairn near to one end, but with the passage opening towards the further end (fig. 3.8). Another, however, Alto de la Huesera (Laguardia) (59. *ib.*, 62-5) is definitely represented as broader at one end, with the megalithic chamber rather closer to the narrow end than to the broad one; it is not clear from the plan and description whether the entrance was approached from the side of the cairn, or from its broad end (fig. 3.9). Another site, S. Martín (Laguardia) is of interest because the plan suggests that here a megalithic passage grave was entered from the long side of an elongated mound (fig. 3.10). One cannot press this possibility, however, because the report stresses that the cairn had been extensively damaged by agricultural operations (60. *ib.*, 147-73). In general one must note that all these cairns are very small compared with those long cairns of Poitou and Brittany which contain one or more laterally sited passage graves. One cannot hope to evaluate their relationship to monuments in north-west Europe until their cairns have been carefully explored with a view to establishing their original outline. In Britain, at any rate, long cairns normally have revetment walls formed of fine horizontal slabs, blocks or upright slabs according to local geological conditions. Since, however, with the possible exception of Gurpide S., the Alavese chambers are of polygonal passage grave type, they present a contrast to the simple rectangular chambers found in the trapeze-shaped cairns of the Languedoc *Causse*s which are of a size comparable to the Alavese cairns. They are likely to represent a convergence of cultural traits derived from beyond the Pyrenees, on the one hand, and from the western areas of the peninsula on the other. In the absence of radiocarbon dates a study of their recorded grave-goods may enable us to take the question of their chronological position a little further.

A study of the inventories described by J. M. De Barandiarán suggests that the Alavese passage graves were being used over a very long period: some have primitive arrowheads of triangular or trapezoid forms with steep marginal retouch, like those found in the earliest megalithic chambers of Portugal, as well as bifacial arrowheads of leaf or barbed and tanged form, copper projectile points and awls, and even Beaker sherds. At the problematic Dolmen de S. Martín the excavations of J. M. De Barandiarán were able to establish a stratigraphical distinction between objects deposited in the entrance passage and underneath fallen orthostats of the chamber and those deposited above the latter. The primitive triangular and trapezoid arrowheads and oval section axe-heads and hoes characterized the former, barbed and tanged

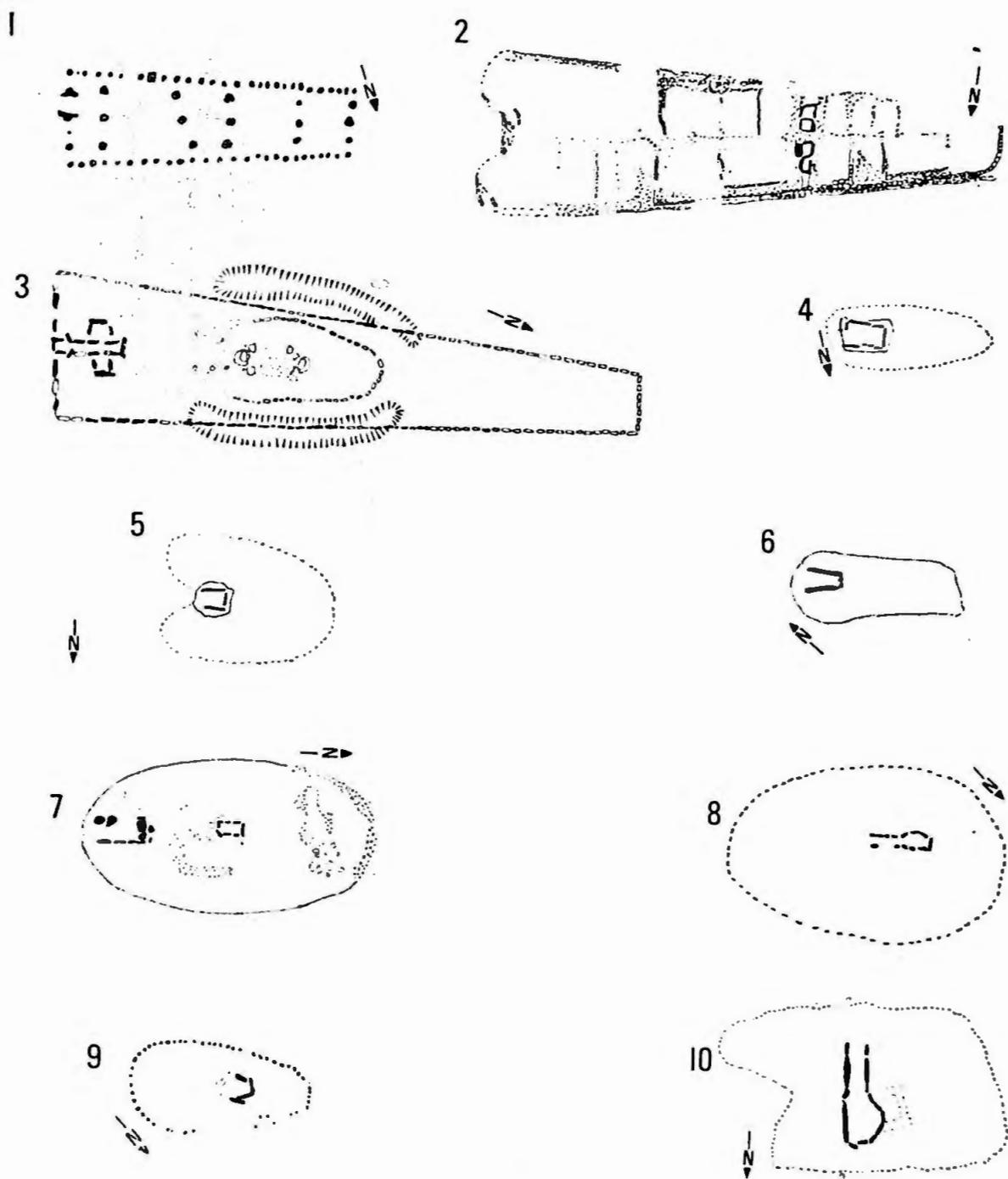


Fig. 3.—Long Cairns: 1. Charmoy (Yonne), long house (after C. & D. Mordant); 2. Ascott-under-Wychwood (Oxon.) (after Benson); 3. Wayland's Smithy (Berksh.re) (after Atkinson); 4. Champ Pourri (Charente) (after Daniel); 5. Chez Vinaigre (Charente) (after Daniel); 6. Vitarelle (Aveyron) (after Daniel); 7. Bernet (Gironde) (after Arnal); 8. Layaza (Alava); 9. Huesera (Alava) (after De Barandiarán); 10. S. Martín (Alava) (after De Barandiarán).

arrowheads and the characteristic artefacts of the Beaker Culture, the latter. In view of the possibility of some delay in the appearance of bifacial arrowheads or rectangular section axe-heads in this part of the peninsula one would not dare solely on the strength of this stratification to assert that the earliest megalithic burial chambers in the upper basin of the Ebro could be as early as the beginning of the 4th millennium, but it is perhaps significant that the closest parallel to the remarkable carved bone objects from the early level at S. Martín is the bone pin found by G. Eógan in one of the satellite tombs associated with the great mound covering two passage graves at Knowth (Co. Meath), Ireland (61°. Eógan, 1974, 45-7, fig. 16). This pin was associated with a cremated burial, characteristic of the Boyne group of Irish passage graves; at present it could hardly be dated earlier than the first half of the 3rd millennium. On the other hand one can see indications that the «reflux» elements from France, which we have noted in the structure of Alavese megalithic tombs, may belong mainly to its late Copper Age phase. Not only do the flint barbed and tanged arrowheads point this way, but the bone examples which not only occur at the passage grave of El Sotillo, Laguardia (62. De Barandiarán *et al.*, 1969, 140, fig. 6) but in Navarrese megaliths —Sakulo and Mina de Farangortea (63. Maluquer de Motes, 1964, 20, fig. 13 and 33, fig. 20)— and in the late communal tomb, with Beaker ware, at La Atalayuela (Logroño) (64. I. Barandiarán Maestu, 1971, 85, fig. 7). Such bone arrowheads are characteristic of southern France in the Early Bronze Age (64. Costantini and Fages, 1971, 436). The bone pin with perforated ear found at Atalayuela (65. *ib.*, fig. 7 a) and the well-known stone battle-axe from Balenkaleku no doubt reflect trans-Pyrenean influence at a somewhat earlier date.

One must admit that it is not yet possible to demonstrate from grave goods or radiocarbon samples that links between the earliest communal burials of southern Spain and Portugal and those of western France exist in the region of the Upper Duero and Ebro basins, but the interest of this area to the student of megalithic diffusion lies not so much in its exploration so far, as in its potential. It is greatly to be hoped that further excavations will be carried out in the megalithic tombs of the area, and that due regard will be paid to the structure of the covering mounds as well as the chambers themselves.

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