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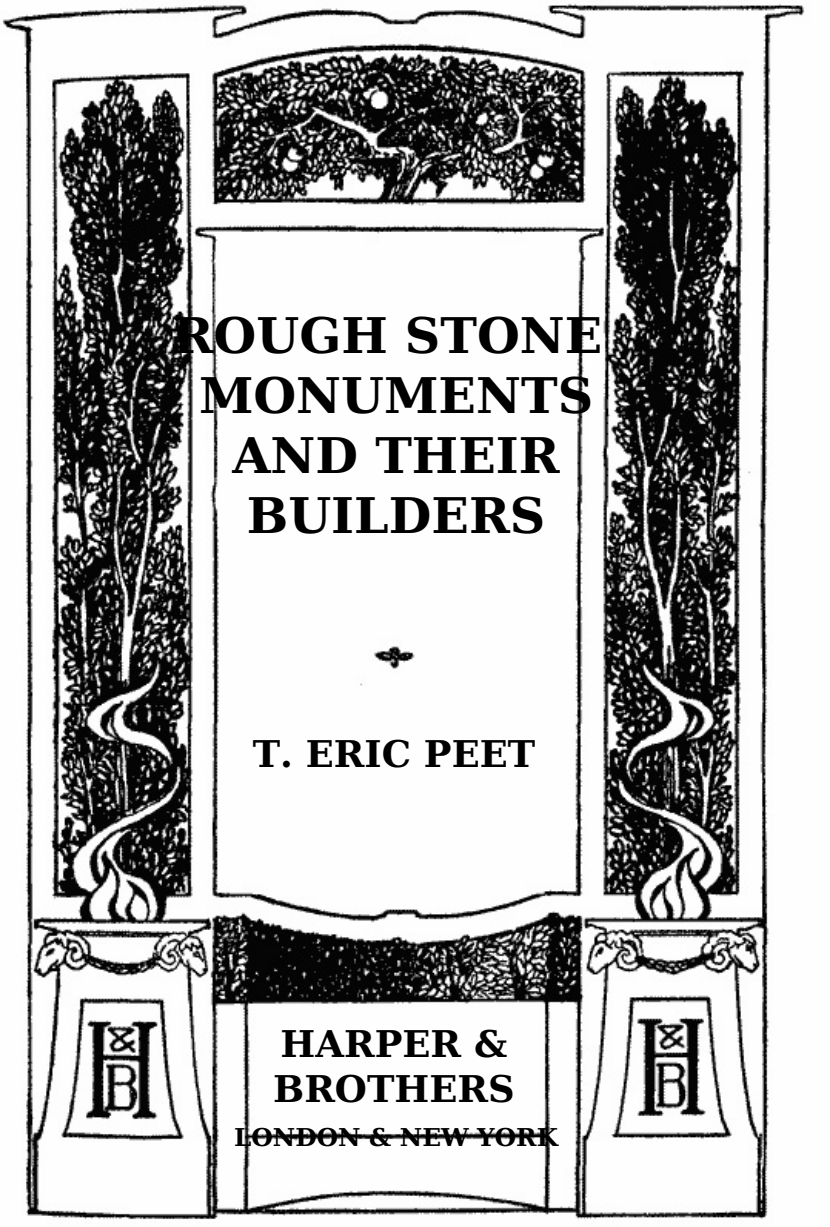

Photo Graphotone Co.

Stonehenge from the South-east

Frontispiece.

ROUGH STONE MONUMENTS AND THEIR BUILDERS

BY

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PREFACE

The aim of this volume is to enable those who are interested in Stonehenge and other great stone monuments of England to learn something of the similar buildings which exist in different parts of the world, of the men who constructed them, and of the great archæological system of which they form a part. It is hoped that to the archæologist it may be useful as a complete though brief sketch of our present knowledge of the megalithic monuments, and as a short treatment of the problems which arise in connection with them.

To British readers it is unnecessary to give any justification for the comparatively full treatment accorded to the monuments of Great Britain and Ireland. Malta and Sardinia may perhaps seem to occupy more than their due share of space, but the usurpation is justified by the magnificence

and the intrinsic interest of their megalithic buildings. Being of singularly complicated types and remarkably well preserved they naturally tell us much more of their builders than do the simpler monuments of other larger and now more important countries. In these two islands, moreover, research has in the last few years been extremely active, and it is felt that the accounts here given of them will contain some material new even to the archæologist.

In order to assist those readers who may wish to follow out the subject in greater detail a short bibliography has been added to the book.

For the figures and photographs with which this volume is illustrated I have to thank many archæological societies and individual scholars. Plate III and part of Plate II I owe to the kindness of Dr. Zammit, Director of the Museum of Valletta, while the other part of Plate II is from a photograph kindly lent to me by Dr. Ashby. I have to thank the Society of Antiquaries for Figures 1 and 3, the Reale Accademia dei Lincei for Figures 17 and 20, and the Société préhistorique de France, through Dr. Marcel Baudouin, for Figure 10. I am indebted to the Royal Irish Academy for Figure 8, to the Committee of the British School of Rome for Figure 18, and to Dr. Albert Mayr and the Akademie der Wissenschaften in Munich for the plan of Mnaidra. Professors Montelius, Siret and Cartailhac I have to thank not only for permission to reproduce illustrations from their works, but also for their kind interest in my volume. Figure 19 I owe to my friend Dr. Randall MacIver. The frontispiece and Plate I are fine photographs by Messrs. The Graphotone Co., Ltd.

In conclusion, I must not forget to thank Canon F. F. Grensted for much help with regard to the astronomical problems connected with Stonehenge.

T. Eric Peet.

Liverpool,
August 10*th*, 1912.

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ROUGH STONE MONUMENTS

CHAPTER I

INTRODUCTION

To the south of Salisbury Plain, about two miles west of the small country town of Amesbury, lies the great stone circle of Stonehenge. For centuries it has been an object of wonder and admiration, and even to-day it is one of the sights of our country. Perhaps, however, few of those who have heard of Stonehenge or even of those who have visited it are aware that it is but a unit in a vast crowd of megalithic monuments which, in space, extends from the west of Europe to India, and, in time, covers possibly more than a thousand years.

What exactly is a megalithic monument? Strictly speaking, it is a building made of very large stones. This definition would, of course, include numbers of buildings of the present day and of the medieval and classical periods, while many of the Egyptian pyramids and temples would at once suggest themselves as excellent examples of this type of building. The archæologist, [2] however, uses the term in a much more limited sense. He confines it to a series of tombs and buildings constructed in Western Asia, in North Africa, and in certain parts of Europe, towards the end of the neolithic period and during part of the copper and bronze ages which followed it. The structures are usually, though not quite invariably, made of large blocks of unworked or slightly worked stone, and they conform to certain definite types. The best known of these types are as follows: Firstly, the menhir, which is a tall, rough pillar of stone with its base fixed into the earth. Secondly, the trilithon, which consists of a pair of tall stones set at a short distance apart supporting a third stone laid across the top. Thirdly, the dolmen, which is a single slab of stone supported by several others arranged in such a way as to enclose a space or chamber beneath it. Some English writers apply the term cromlech to such a structure, quite incorrectly. Both menhir and dolmen are Breton words, these two types of megalithic monument being particularly frequent in Brittany. Menhir is derived from the Breton *men*, a stone, and *hir*, long; similarly dolmen is from *dol*, a table, and *men*, a stone. Some archæologists also apply the word dolmen to rectangular chambers roofed with more than one slab. We have carefully avoided this practice, always classing such chambers as corridor-tombs of an elementary type. Fourthly, we have the [3] corridor-tomb (*Ganggrab*), which usually consists of a chamber entered by a gallery or corridor. In cases where the chamber is no wider than, and hence indistinguishable from the corridor, the tomb becomes a long rectangular gallery, and answers to the French *allée couverte* in the strict sense. Fifthly, we come to the *alignement*, in which a series of menhirs is arranged in open lines

on some definite system. We shall find a famous example of this at Morbihan in Brittany. Sixthly, there is the cromlech (from *crom*, curve, and *lec'h*, a stone), which consists of a number of menhirs arranged to enclose a space, circular, elliptical or, in rare cases, rectangular.

These are the chief types of megalithic monument, but there are others which, though clearly belonging to the same class of structure, show special forms and are more complicated. They are in many cases developments of one or more of the simple types, and will be treated specially in their proper places. Such monuments are the *nuraghi* of Sardinia and the 'temples' of Malta and Gozo.

Finally, the rock-hewn sepulchre is often classed with the megalithic monuments, and it is therefore frequently mentioned in the following pages. This is justified by the fact that it generally occurs in connection with megalithic structures. The exact relation in which it stands to [4] them will be fully discussed in the last chapter.

We have now to consider what may be called the architectural methods of the megalithic builders, for although in dealing with such primitive monuments it would perhaps be exaggeration to speak of a style, yet there were certain principles which were as carefully and as invariably observed as were in later days those of the Doric or the Gothic styles in the countries where they took root.

The first and most important principle, that on which the whole of the megalithic construction may be said to be based, is the use of the orthostatic block, i.e. the block set up on its edge. It is clear that in this way each block or slab is made to provide the maximum of wall area at the expense of the thickness of the wall. Naturally, in districts where the rock is of a slabby nature blocks of a more or less uniform thickness lay ready to the builders' hand, and the appearance of the structure was much more finished than it would be in places where the rock had a less regular fracture or where shapeless boulders had to be relied on. The orthostatic slabs were often deeply sunk into the ground where this consisted of earth or soft rock; of the latter case there are good examples at Stonehenge, where the rock is a soft chalk. When the ground had an uneven surface of hard rock, the slabs were set upright on it and small stones wedged in beneath [5] them to make them stand firm. Occasionally, as at Mnaidra and Hagiar Kim, a course of horizontal blocks set at the foot of the uprights served to keep them more securely in position. With the upright block technique went hand in hand the roofing of narrow spaces by means of horizontal slabs laid across the top of the uprights.

The second principle of megalithic architecture was the use of more or less coursed masonry set without mortar, each block lying on its side and not on its edge. It is quite possible that this principle is less ancient in origin than that of the orthostatic slab, for it usually occurs in structures of a more advanced type. Thus in simple and primitive types of building such as the dolmen it is most rare to find dry masonry, but in the advanced corridor-tombs of Ireland, the Giants' Graves and *nuraghi* of Sardinia, and in the 'temples' of Malta this technique is largely used, often in combination with the upright slab system. Indeed, this combination is quite typical of the best megalithic work: a series of uprights is first set in position, and over this are laid several horizontal courses of rather smaller stones. We must note that the dry masonry which we are describing is still strictly megalithic, as the blocks used are never small and often of enormous size.

Buildings in which this system is used are occasionally roofed with slabs, but more often [6] corbelling is employed. At a certain height each succeeding course in the wall begins to project inwards over the last, so that the walls, as it were, lean together and finally meet to form a false barrel-vault or a false dome, according as the structure is rectangular or round. Occasionally, when the building was wide, it was impossible to corbel the walls sufficiently to make them meet. In this case they were corbelled as far as possible and the open space still left was covered with long flat slabs.

It has often been commented on as a matter of wonder that a people living in the stone age, or at the best possessing a few simple tools of metal, should have been able to move and place in position such enormous blocks of stone. With modern cranes and traction engines all would be simple, but it might have been thought that in the stone age such building would be impossible. Thus, for instance, in the 'temple' of Hagiar Kim in Malta, there is one block of stone which measures 21 feet by 9, and must weigh many tons. In reality there is little that is marvellous in the moving and setting up of these blocks, for the tools needed are ready to the hand of every savage; but there is something to wonder at and to admire in the patience displayed and in the organization necessary to carry out such vast pieces of labour. Great, indeed, must have been the [7] power of the cult which could combine the force of hundreds and even thousands of individuals for long periods of time in the construction of the great megalithic temples. Perhaps slave labour played a part in the work, but in any case it is clear that we are in the presence of strongly organized governments backed by a powerful religion which required the building of temples for the gods and vast tombs for the dead.

Let us consider for a moment what was the procedure in building a simple megalithic monument. It was fourfold, for it involved the finding and possibly the quarrying of the stones, the moving of them to the desired spot, the erection of the uprights in their places, and the placing of the cover-slab or slabs on top of them.

With regard to the first step it is probable that in most cases the place chosen for a tomb or cemetery was one in which numbers of great stones lay on the surface ready to hand. By this means labour was greatly economized. On the other hand, there are certainly cases where the stones were brought long distances in order to be used. Thus, in Charente in France there is at La Perotte a block weighing nearly 40 tons which must have travelled over 18 miles. We have no evidence as to whether stones were ever actually quarried. If they were, the means used must have been the stone axe, fire, and water. It was not usual in the older and simpler dolmens to [8] dress the stones in any way, though in the later and more complicated structures well-worked blocks were often used.

The required stones having been found it was now necessary to move them to the spot. This could be done in two ways. The first and simpler is that which we see pictured on Egyptian monuments, such as the tomb of Tahutihotep at El Bersheh. A rough road of beams is laid in the required direction, and wooden rollers are placed under the stone on this road. Large numbers of men or oxen then drag the stone along by means of ropes attached to it. Other labourers assist the work from behind with levers, and replace the rollers in front of the stone as fast as they pass out behind. Those who have seen the modern Arabs in excavation work move huge blocks with wooden levers and palm-leaf rope will realize that for the building of the dolmens little was needed except numbers and time.

The other method of moving the stones is as follows: a gentle slope of hard earth covered with wet clay is built with its higher extremity close beside the block to be moved. As many men as there is room for stand on each side of the block, and with levers resting on beams or stones as fulcra, raise the stone vertically as far as possible. Other men then fill up the space beneath it with earth and stones. The process is next repeated with higher fulcra, until the stone is level [9] with the top of the clay slope, on to which it is then slipped. With a little help it now slides down the inclined plane to the bottom. Here a fresh slope is built, and the whole procedure is gone through again. The method can even be used on a slight uphill gradient. It requires less dragging and more vertical raising than the other, and would thus be more useful where oxen were unobtainable.

When the stones were once on the spot it is not hard to imagine how they were set upright with levers and ropes. The placing of the cover-slab was, however, a more complicated matter. The method employed was probably to build a slope of earth leading up from one side to the already erected uprights and almost covering them. Up this the slab could be moved by means of rollers, ropes, and levers, until it was in position over the uprights. The slope could then be removed. If the dolmen was to be partly or wholly covered with a mound, as some certainly were, it would not even be necessary to remove the slope.

Roughly speaking, the extension of megalithic monuments is from Spain to Japan and from Sweden to Algeria. These are naturally merely limits, and it must not be supposed that the regions which lie between them all contain megalithic monuments. More exactly, we find them in Asia, in Japan, Corea, India, Persia, Syria, and Palestine. In Africa we have them along the whole [10] of the north coast, from Tripoli to Morocco; inland they are not recorded, except for one possible example in Egypt and several in the Soudan. In Europe the distribution of dolmens and other megalithic monuments is wide. They occur in the Caucasus and the Crimea, and quite lately examples have been recorded in Bulgaria. There are none in Greece, and only a few in Italy, in the extreme south-east corner. The islands, however, which lie around and to the south of Italy afford many examples: Corsica, Sardinia, Malta, Gozo, Pantelleria, and Lampedusa are strongholds of the megalithic civilization, and it is possible that Sicily should be included in the list. Moving westward we find innumerable examples in the Spanish Peninsula and in France. To the north we find them frequent in the British Isles, Sweden, Denmark, and North Germany; they are rarer in Holland and Belgium. Two examples have been reported from Switzerland.

It is only to be expected that these great megalithic monuments of a prehistoric age should excite the wonder and stimulate the imagination of those who see them. In all countries and at all times they have been centres of story and legend, and even at the present day many strange beliefs concerning them are to be found among the peasantry who live around them. Salomon Reinach [11] has written a remarkable essay on this question, and the following examples are mainly drawn from the collection he has there made. The names given to the monuments often show clearly the ideas with which they are associated in the minds of the peasants. Thus the Penrith circle is locally known as "Meg and her Daughters," a dolmen in Berkshire is called "Wayland the Smith's Cave," while in one of the Orkney Isles is a menhir named "Odin's Stone." In France many are connected with Gargantua, whose name, the origin of which is doubtful, stands clearly for a giant. Thus we find a rock called the "Chair of Gargantua," a menhir called "Gargantua's Little Finger," and an *allée couverte* called "Gargantua's Tomb." Names indicating connections with fairies, virgins, witches, dwarfs, devils, saints, druids, and even historical persons are frequent. Dolmens are often "houses of dwarfs," a name perhaps suggested or at least helped by the small holes cut in some of them; they are "huts" or "caves of fairies," they are "kitchens" or "forges of the devil," while menhirs are called his arrows, and cromlechs his cauldrons. In France we have stones of various saints, while in England many monuments are connected with King Arthur. A dolmen in Wales is his quoit; the circle at Penrith is his round table, and that of Caermarthen is his park. Both in England and France we find stones and altars "of the druids"; in the Pyrenees, [12] in Spain, and in Africa there are "graves of the Gentiles" or "tombs of idolaters"; in Arles (France) the *allées couvertes* are called "prisons" or "shops of the Saracens," and the dolmens of the Eastern Pyrenees are locally known as "huts of the Moors." Dolmens in India are often "stones of

the monkeys," and in France there are "wolves' altars," "wolves' houses," and "wolves' tables."

Passing now to more definite beliefs connected with megalithic monuments, we may notice that from quite early times they have been—as indeed they often are still—regarded with fear and respect, and even worshipped. In certain parts of France peasants are afraid to shelter under the dolmens, and never think of approaching them by night. In early Christian days there must have been a cult of the menhir, for the councils of Arles (A.D. 452), of Tours (A.D. 567), and of Nantes (A.D. 658) all condemn the cult of trees, springs, and *stones*. In A.D. 789 Charlemagne attempted to suppress stone-worship, and to destroy the stones themselves. In Spain, where, as in France, megalithic monuments are common, the councils of Toledo in A.D. 681 and 682 condemned the "Worshippers of Stones." Moreover there are many cases in which a monument itself bears traces of having been the centre of a cult in early or medieval times. The best example is perhaps the dolmen of Saint-Germain-sur-Vienne, which was transformed into a chapel about the twelfth century. Similar transformations have been made in Spain. In many cases, too, crosses have been placed or engraved on menhirs in order to "Christianize" them. [13]

Remarkable powers and virtues have been attributed to many of the monuments. One of the dolmens of Finistère is said to cure rheumatism in anyone who rubs against the loftiest of its stones, and another heals fever patients who sleep under it. Stones with holes pierced in them are believed to be peculiarly effective, and it suffices to pass the diseased limb or, when possible, the invalid himself through the hole.

Oaths sworn in or near a megalithic monument have a peculiar sanctity. In Scotland as late as the year A.D. 1438 "John off Erwyne and Will Bernardson swor on the Hirdmane Stein before oure Lorde ye Erie off Orknay and the gentiless off the cuntre."

Many of the monuments are endowed by the credulous with life. The menhir du Champ Dolent sinks an inch every hundred years. Others say that a piece of it is eaten by the moon each night, and that when it is completely devoured the Last Judgment will take place. The stones of Carnac bathe in the sea once a year, and many of those of the Périgord leap three times each day at noon.

We have already remarked on the connection of the monuments with dwarfs, giants, and mythical personages. There is an excellent example in our own country in Berkshire. Here when a horse has cast a shoe the rider must leave it in front of the dolmen called "The Cave of Wayland the Smith," placing at the same time a coin on the cover-stone. He must then retire for a suitable period, after which he returns to find the horse shod and the money gone. [14]

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CHAPTER II

STONEHENGE AND OTHER GREAT STONE MONUMENTS IN ENGLAND AND WALES

Stonehenge, the most famous of our English megalithic monuments, has excited the attention of the historian and the legend-lover since early times. According to some of the medieval historians it was erected by Aurelius Ambrosius to the memory of a number of British chiefs whom Hengist and his Saxons treacherously murdered in A.D. 462. Others add that Ambrosius himself was buried there. Giraldus Cambrensis, who wrote in the twelfth century, mingles these accounts with myth. He says, "There was in Ireland, in ancient times, a pile of stones worthy of admiration called the Giants' Dance, because giants from the remotest part of Africa brought them to Ireland, and in the plains of Kildare, not far from the castle of Naas, miraculously set them up.... These stones (according to the British history) Aurelius Ambrosius, King of the Britons, procured Merlin by supernatural means to bring from Ireland to Britain."

From the present ruined state of Stonehenge it is not possible to state with certainty what was the original arrangement, but it is probable that it was approximately as follows (see frontispiece): [16]

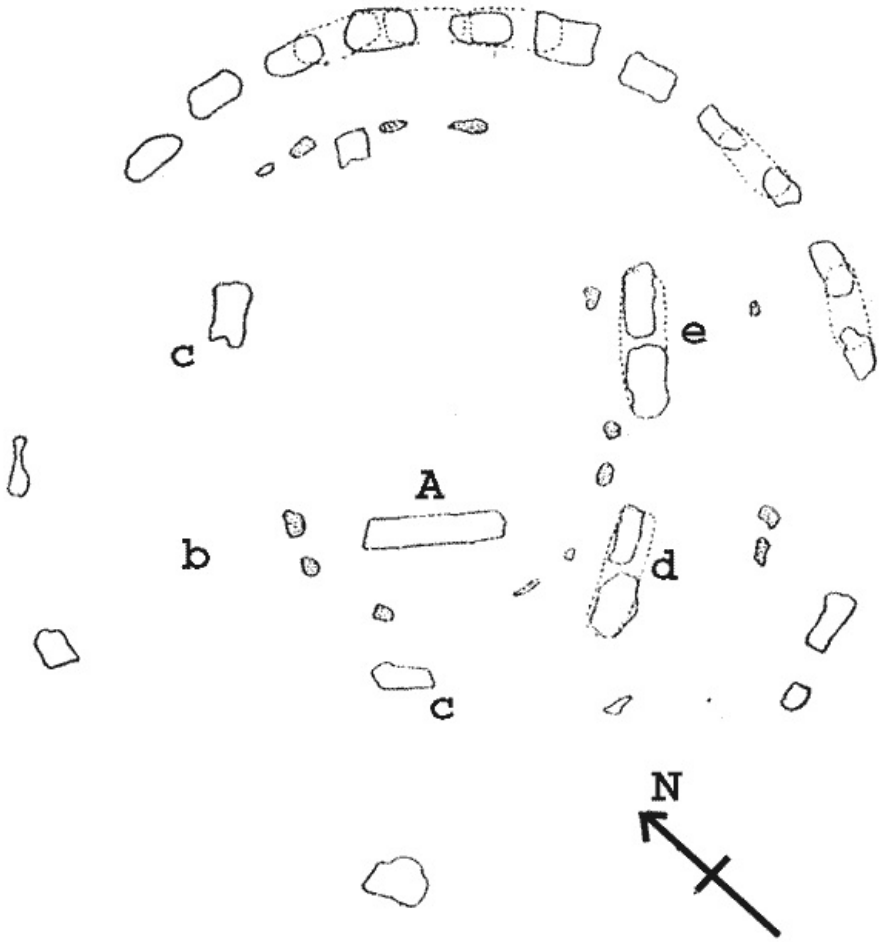

Fig. 1. Plan of Stonehenge in 1901. (After *Archæologia*.)
The dotted stones are of porphyritic diabase.

There was an outer circle of about thirty worked upright stones of square section (Fig. I). On each pair of these rested a horizontal block, but only five now remain in position. These 'lintels' [17] probably formed a continuous architrave (Pl. I). The diameter of this outer circle is about 97½ feet, inner measurement. The stones used are sarsens or blocks of sandstone, such as are to be found lying about in many parts of the district round Stonehenge.

Photo Graphotone Co.

Stonehenge from the South-west

Plate I To face p. 17

Well within this circle stood the five huge trilithons (*a*-*e*), arranged in the form of a horseshoe with its open side to the north-east. Each trilithon, as the name implies, consists of three stones, two of which are uprights, the third being laid horizontally across the top. The height of the trilithons varies from 16 to 21½ feet, the lowest being the two that stand at the open end of the horseshoe, and the highest that which is at the apex. Here again all the stones are sarsens and all

are carefully worked. On the top end of each upright of the trilithons is an accurately cut tenon which dovetails into two mortices cut one at each end of the lower surface of the horizontal block. Each upright of the outer circle had a double tenon, and the lintels, besides being morticed to take these tenons, were also dovetailed each into its two neighbours.

Within the horseshoe and close up to it stand the famous blue-stones, now twelve in number, but originally perhaps more. These stones are not so high as the trilithons, the tallest reaching only 7½ feet. They are nearly all of porphyritic diabase. It has often been asserted that these blue- [18] stones must have been brought to Stonehenge from a distance, as they do not occur anywhere in the district. Some have suggested that they came from Wales or Cornwall, or even by sea from Ireland. Now, the recent excavations have shown that the blue-stones were brought to Stonehenge in a rough state, and that all the trimming was done on the spot where they were erected. It seems unlikely that if they had been brought from a distance the rough trimming should not have been done on the spot where they were found, in order to decrease their weight for transport. It is therefore possible that the stones were erratic blocks found near Stonehenge.

Within the horseshoe, and near its apex, lies the famous "Altar Stone" (A), a block measuring about 16 feet by 4. Between the horseshoe and the outer circle another circle of diabase stones is sometimes said to have existed, but very little of it now remains.

The whole building is surrounded by a rampart of earth several feet high, forming a circle about 300 feet in diameter. An avenue still 1200 feet in length, bordered by two walls of earth, leads up to the rampart from the north-east. On the axis of this avenue and nearly at its extremity stands the upright stone known as the Friar's Heel.

In 1901, in the course of repairing the central trilithon, careful excavations were carried out over a small area at Stonehenge. More than a hundred stone implements were found, of which the [19] majority were flint axes, probably used for dressing the softer of the sandstone blocks, and also for excavating the chalk into which the uprights were set. About thirty hammer-stones suitable for holding in the hand were found. These were doubtless used for dressing the surface of the blocks. Most remarkable of all were the 'mauls,' large boulders weighing from 36 to 64 pounds, used for smashing blocks and also for removing large chips from the surfaces. Several antlers of deer were found, one of which had been worn down by use as a pickaxe.

These excavations made it clear that the blue-stones had been shaped on the spot, whereas the sarsens had been roughly prepared at the place where they were found, and only finished off on the spot where they were erected.

What is the date of the erection of Stonehenge? The finding of so many implements of flint in the excavations of 1901 shows that the structure belongs to a period when flint was still largely used. The occurrence of a stain of oxide of copper on a worked block of stone at a depth of 7 feet does not necessarily prove that the stones were erected in the bronze age, for the stain may have been caused by the disintegration of malachite and not of metallic copper. At the same time, we must [20] not infer from the frequency of the flint implements that metal was unknown, for flint continued to be used far on into the early metal age. Moreover, flint tools when worn out were simply thrown aside on the spot, while those of metal were carefully set apart for sharpening or re-casting, and are thus seldom found in large numbers in an excavation. We have, therefore, no means of accurately determining the date of Stonehenge; all that can be said is that the occurrence of flint in such large quantities points either to the neolithic age or to a comparatively early date in the copper or bronze period. It is unlikely that stone tools would play such a considerable rôle in the late bronze or the iron age.

At the same time it must not be forgotten that Sir Arthur Evans has spoken in favour of a date in the first half of the third century B.C. He believes that the great circles are religious monuments which in form developed out of the round barrows, and that Stonehenge is therefore much later than some at least of the round barrows around it. That it is earlier than others is clear from the occurrence in some of them of chips from the sarsen stones. He therefore places its building late in the round barrow period, and sees confirmation of this in the fact that the round barrows which surround the monument are not grouped in regular fashion around it, as they should have [21] been had they been later in date.

Many attempts have been made to date the monuments by means of astronomy. All these start from the assumption that it was erected in connection with the worship of the sun, or at least in order to take certain observations with regard to the sun. Sir Norman Lockyer noticed that the avenue at Stonehenge pointed approximately to the spot where the sun rises at the midsummer solstice, and therefore thought that Stonehenge was erected to observe this midsummer rising. If he could find the exact direction of the avenue he would know where the sun rose at midsummer in the year when the circle was built. From this he could easily fix the date, for, owing to the precession of the equinoxes, the point of the midsummer rising is continually altering, and the position for any year being known the date of that year can be found astronomically. But how was the precise direction of this very irregular avenue to be fixed? The line from the altar stone to the Friar's Heel, which is popularly supposed to point to the midsummer rising, has certainly never done so in the last ten thousand years, and therefore could not be used as the direction of the avenue. Eventually Sir Norman decided to use a line from the centre of the circle to a modern benchmark on Sidbury Hill, eight miles north-east of Stonehenge. On this line the sun rose in

1680 B.C. with a possible error of two hundred years each way: this Sir Norman takes to be the [22]
date of Stonehenge.

Sir Norman's reasoning has been severely handled by his fellow-astronomer Mr. Hinks, who points out that the direction chosen for the avenue is purely arbitrary, since Sidbury Hill has no connection with Stonehenge at all. Moreover, Sir Norman determines sunrise for Stonehenge as being the instant when the edge of the sun's disk first appears, while in his attempts to date the Egyptian temple of Karnak he defined it as the moment when the sun's centre reached the horizon. We cannot say which alternative the builders would have chosen, and therefore we cannot determine the date of building.

Sir Norman Lockyer has since modified his views. He now argues that the trilithons and outer circle are later additions to an earlier temple to which the blue-stones belong. This earlier temple was made to observe "primarily but not exclusively the May year," while the later temple "represented a change of cult, and was dedicated primarily to the solstitial year." This view seems to be disproved by the excavations of 1901, which made it clear that the trilithons were erected before and not after the blue-stones.

Nothing is more likely than that the builders of the megaliths had some knowledge of the movements of the sun in connection with the seasons, and that their priests or wise men [23]
determined for them, by observing the sun, the times of sowing, reaping, etc., as they do among many savage tribes at the present day. They may have been worshippers of the sun, and their temples may have contained 'observation lines' for determining certain of his movements. But the attempt to date the monuments from such lines involves so many assumptions and is affected by so many disturbing elements that it can never have a serious value for the archæologist. The uncertainty is even greater in the case of temples supposed to be oriented by some star, for in this case there is almost always a choice of two or more bright stars, giving the most divergent results.

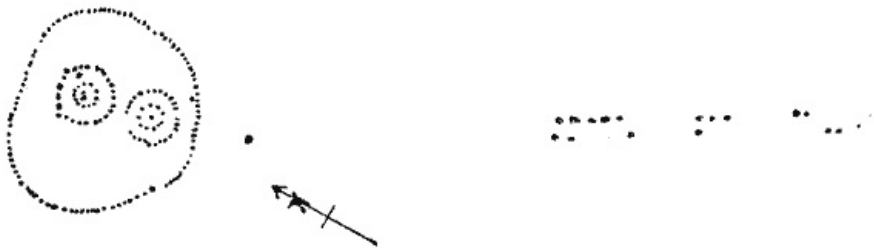

Fig. 2. Avebury and the Kennet Avenue. (After Sir R. Colt Hoare.)

Next in importance to Stonehenge comes the huge but now almost destroyed circle of Avebury (Fig. 2). Its area is five times as great as that of St. Peter's in Rome, and a quarter of a million people could stand within it. It consists in the first place of a rampart of earth roughly circular in [24]
form and with a diameter of about 1200 feet. Within this is a ditch, and close on the inner edge of this was a circle of about a hundred upright stones. Within this circle were two pairs of concentric circles with their centres slightly east of the north-and-south diameter of the great circle. The diameters of the outer circles of these two pairs are 350 and 325 feet respectively. In the centre of the northern pair was a cover-slab supported by three uprights, and in the centre of the southern a single menhir. All the stones used are sarsens, such as are strewn everywhere over the district.

An avenue flanked by two rows of stones ran in a south-easterly direction from the rampart towards the village of Kennet for a distance of about 1430 yards in a straight line.

At a distance of 1200 yards due south from Avebury Circle stands the famous artificial mound called Silbury Hill. It is 552 feet in diameter, 130 in height, and has a flat top 102 feet across. A pit was driven down into its centre in 1777, and in 1849 a trench was cut into it from the south side to the centre, but neither gave any result. It is quite possible that there are burials in the mound, whether in megalithic chambers or not.

South-west of Avebury is Hakpen Hill, where there once stood two concentric ellipses of stones. A straight avenue is said to have run from these in a north-westerly direction. Whether these three monuments near Avebury have any connection with one another and, if so, what this [25]
connection is, is unknown.

There are many other circles in England, but we have only space to mention briefly some of the more important. At Rollright, in Oxfordshire, there is a circle 100 feet in diameter with a tall menhir 50 yards to the north-east. Derbyshire possesses a famous monument, that of Arbor Low, where a circle is surrounded by a rampart and ditch, while that of Stanton Drew in Somerset consists of a great circle A and two smaller circles B and C. The line joining the centres of B and A passes through a menhir called Hauptville's Quoit away to the north-east, while that which joins the centres of C and A cuts a group of three menhirs called The Cove, lying to the south-

west.

In Cumberland there are several circles. One of these, 330 feet in diameter with an outstanding menhir, is known as "Long Meg and her Daughters." Another, the Mayborough Circle, is of much the same size, but consists of a tall monolith in the centre of a rampart formed entirely of rather small water-worn stones. A similar circle not far from this is known as King Arthur's Round Table; here, however, there is no monolith. Near Keswick there is a finely preserved circle, and at Shap there seems to have existed a large circle with an avenue of stones running for over a mile to the north.

Cornwall possesses a number of fine monuments. The most celebrated is the Dance Maen Circle, [26] which is 76 feet in diameter and has two monoliths to the north-east, out of sight of the circle, but stated to be in a straight line with its centre. Local tradition calls the circle "The Merry Maidens," and has it that the stones are girls turned into stones for dancing on Sunday: the two monoliths are called the Pipers. The three circles known as the Hurlers lie close together with their centres nearly in a straight line in the direction N.N.E. by S.S.W. At Boscawen-un, near Penzance, is a circle called the Nine Maidens, and two circles near Tregeseal have the same name. Another well-known circle in Cornwall is called the Stripple Stones: the circle stands on a platform of earth surrounded by a ditch, outside which is a rampart. In the centre is a menhir 12 feet in height.

At Merivale, in Somersetshire, there are the remains of a small circle, to the north of which lie two almost parallel double lines of menhirs, running about E.N.E. by W.S.W., the more southerly of the two lines overlapping the other at both extremities.

With what purpose were these great circles erected? We have already mentioned the curious belief of Geoffrey of Monmouth with regard to Stonehenge, and we may pass on to more modern theories. James I was once taken to see Stonehenge when on a visit to the Earl of Pembroke at [27] Wilton. He was so interested that he ordered his architect Inigo Jones to enquire into its date and purpose. The architect's conclusion was that it was a Roman temple "dedicated to the god Caelus and built after the Tuscan order."

Many years later Dr. Stukeley started a theory which has not entirely been abandoned at the present day. For him Stonehenge and other stone circles were temples of the druids. This was in itself by no means a ridiculous theory, but Stukeley went further than this. Relying on a quaint story in Pliny wherein the druids of Gaul are said to use as a charm a certain magic egg manufactured by snakes, he imagined that the druids were serpent-worshippers, and essayed to see serpents even in the forms of their temples. Thus in the Avebury group the circle on Hakpen Hill was for him the head of a snake and its avenue part of the body. The Avebury circles were coils in the body, which was completed by the addition of imaginary stones and avenues. He also attempted with even less success to see the form of a serpent in other British circle groups.

The druids, as we gather from the rather scanty references in Cæsar and other Roman authors, were priests of the Celts in Gaul. Suetonius further speaks of druids in Anglesey, and tradition has it that in Wales and Ireland there were druids in pre-Christian times. But that druids ever [28] existed in England or in a tithe of the places in which megalithic circles and other monuments occur is unlikely. At the same time, it is not impossible that some of the circles of Ireland, Wales, and France were afterwards used by the druids as suitable places for meeting and preaching.

Fergusson in his great work *Rude Stone Monuments* held a remarkable view as to the purpose of the British stone circles. He believed that they were partly Roman in date, and that some of them at least marked the scene of battles fought by King Arthur against the Saxons. Thus, for example, he says with regard to Avebury, "I feel it will come eventually to be acknowledged that those who fell in Arthur's twelfth and greatest battle were buried in the ring at Avebury, and that those who survived raised these stones and the mound of Silbury in the vain hope that they would convey to their latest posterity the memory of their prowess." It is hardly necessary to take this view seriously nowadays. Stonehenge, which Fergusson attributes to the same late era, has been proved by excavation to be prehistoric in origin, and with it naturally go the rest of the megalithic circles of England, except where there is any certain proof to the contrary.

The most probable theory is that the circles are religious monuments of some kind. What the nature of the worship carried on in them was it is quite impossible to determine. It may be that [29] some at least were built near the graves of deified heroes to whose worship they were consecrated. On the other hand, it is possible that they were temples dedicated to the sun or to others of the heavenly bodies. Whether they served for the taking of astronomical observations or not is a question which cannot be decided with certainty, though the frequency with which menhirs occur in directions roughly north-east of the circles is considered by some as a sign of connection with the watching of solar phenomena.

Dolmens of simple type are not common in England, though they occur with comparative frequency in Wales, where the best known are the so-called Arthur's Quoit near Swansea, the dolmen of Pentre Ifan in Pembrokeshire, and that of Plas Newydd on the Menai Strait: in

Anglesey they are quite common. In England we have numerous examples in Cornwall, especially west of Falmouth, among which are Chun Quoit and Lanyon Quoit. There are dolmens at Chagford and Drewsteignton in Devonshire, and there is one near the Rollright Circle in Oxfordshire.

Many of the so-called cromlechs of England are not true dolmens, but the remains of tombs of more complicated types. Thus the famous Kit's Coty House in Kent was certainly not a dolmen, though it is now impossible to say what its form was. Wayland the Smith's Cave was probably a [30] three-chambered corridor-tomb covered with a mound. The famous Men-an-tol in Cornwall may well be all that is left of a chamber-tomb of some kind. It is a slab about 3½ feet square, in which is a hole 1½ feet in diameter. There are other stones standing or lying around it. It is known to the peasants as the Crickstone, for it was said to cure sufferers from rickets or crick in the back if they passed nine times through the hole in a direction against the sun. The Isle of Man possesses a fine sepulchral monument on Meayll Hill. It consist of six T-shaped chamber-tombs arranged in a circle with entrances to the north and south. There is also a corridor-tomb, known as King Orry's Grave, at Laxey, and another with a semicircular façade at Maughold.

Among the megalithic monuments of our islands the chambered barrows hold an important place. It is well known that in the neolithic period the dead in certain parts of England were buried under mounds of not circular but elongated shape. These graves are commonest in Wiltshire and the surrounding counties of Dorsetshire, Somersetshire, and Gloucestershire. A few exist in other counties. Some contain no chamber, while others contain a structure of the megalithic type. It is with these latter that we have here to deal. Chambered long barrows are most frequent in Wiltshire, though they do occur in other counties, as, for example, Buckinghamshire, where the famous Cave of Wayland the Smith is certainly the remains of a barrow of this kind. In Derbyshire and Staffordshire a type of chambered mound does occur, but it seems uncertain from the description given whether it is round or elongated.

[31]

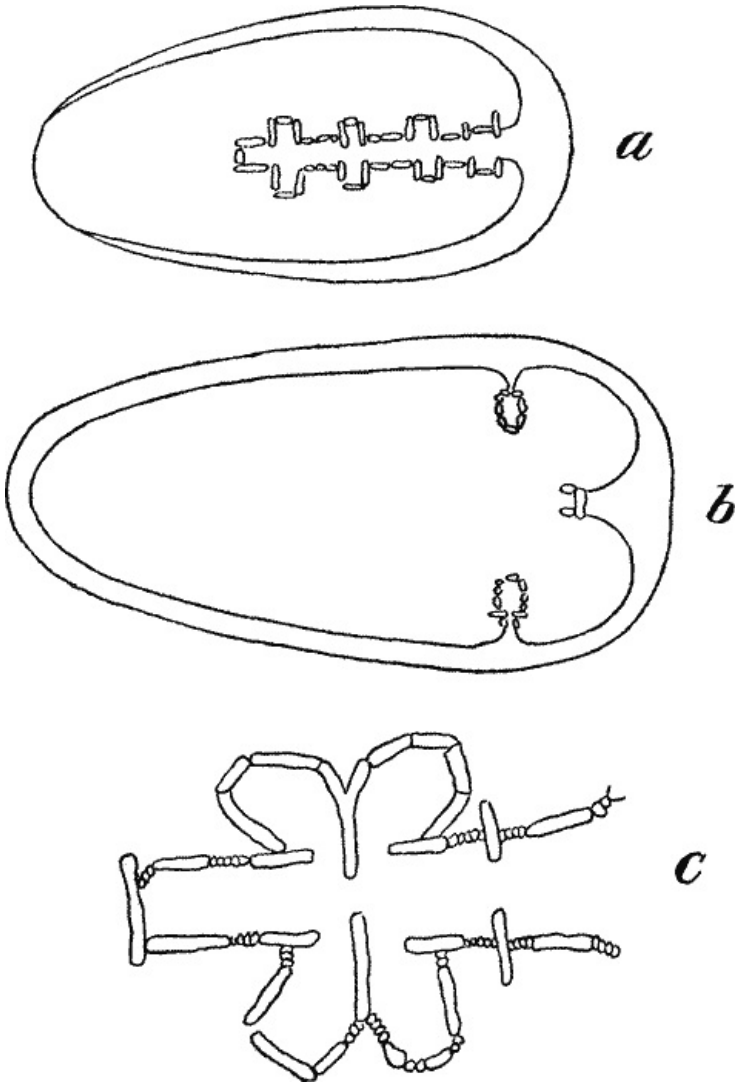

Fig. 3. (*a*)—Barrow at Stoney Littleton, Somersetshire. (*b*)—Barrow at Rodmarton, Gloucestershire. (*c*)—Chambers of barrow at Uley, Gloucestershire. (After Thurnam, *Archæologia,* XLII.)

[32]

Turning first to the Wiltshire and Gloucestershire group of barrows we find that they are usually from 120 to 200 feet in length and from 30 to 60 in breadth. In some cases there is a wall of dry stone-masonry around the foot of the mound and outside this a ditch. The megalithic chambers within the mound are of three types. In the first there is a central gallery entering the mound at its thicker end and leading to a chamber or series of chambers (Fig. 3, *a* and *c*). Where this gallery enters the mound there is a cusp-shaped break in the outline of the mound as marked by the dry walling, and the entrance is closed by a stone block. The chambers are formed of large slabs set up on edge. Occasionally there are spaces between successive slabs, and these are filled up with dry masonry. The roof is made either by laying large slabs across the tops of the sides or by corbelling with smaller slabs as at Stoney Littleton.

In the second type of chambered barrow there is no central corridor, but chambers are built in opposite pairs on the outside edge of the mound and opening outwards (Fig. 3, *b*). The two best known examples of this are the tumuli of Avening and of Rodmarton. [33]

In the third type of barrow there is no chamber connected with the outside, but its place is taken by several dolmens—so small as to be mere cists—within the mound.

The burials in these barrows seem to have been without exception inhumations. The body was placed in the crouched position, either sitting up or reclining. In an untouched chamber at Rodmarton were found as many as thirteen bodies, and in the eastern chamber at Charlton's Abbott there were twelve. With the bodies lay pottery, vases, and implements of flint and bone.

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CHAPTER III

MEGALITHIC MONUMENTS IN SCOTLAND AND IRELAND

The stone circles of Scotland have been divided into three types—the Western Scottish, consisting of a rather irregular ring or pair of concentric rings; the Inverness type, in which a chamber entered by a straight passage is covered by a round tumulus with a retaining wall of stone, the whole being surrounded by a regular stone circle; and the Aberdeen type, which is similar to the last, but has a 'recumbent' stone between two of the uprights of its outer circle.

The first type occurs in the southern counties, in the islands of the west and north coasts, and also extends into Argyll and Perthshire. The most famous example is the Callernish Circle in the Isle of Lewis. The circle is formed by thirteen stones from 12 to 15 feet high, and its centre is marked by an upright 17 feet high. From the circle extends a line of four stones to the east and another to the west. To the south runs a line of five uprights and several fallen stones, and to the N.N.E. runs a double line, forming as it were an avenue with nine stones on one side and ten on the other, but having no entrance to the circle. Inside the circle, between the central stone and the east side of the ring, is what is described as a cruciform grave with three cells under a low tumulus. In this tomb were found fragments of human bone apparently burnt. It has been suggested that the tomb is not part of the original structure, but was added later. [35]

The native tradition about this circle as repeated by Martin in 1700 was that it was a druidical place of worship, and that the chief druid stood near the central stone to address the assembled people. This tradition seems to have now disappeared.

In the island of Arran, between Brodick and Lamlash, is a damaged circle 21 feet in diameter. At a distance of 60 feet from its circumference in a direction 35° east of south is a stone 4 feet high. In the centre of the circle was found a cist cut in the underlying rock containing bluish earth and pieces of bone. Above were an implement and some fragments of flint.

On the other side of the island there were still in 1860 remains of eight circles, five of sandstone and three of granite, quite close to one another. The diameter of the largest was 63 feet, and the highest stone reached 18 feet. One of them was a double ring. In four of them were found cists containing pottery, flint arrow-heads, a piece of a bronze pin, and some fragments of bone. Others appear to contain no cists. [36]

In the other islands of the west coast few circles seem to remain; there are, however, one at Kirkabrost in Skye, and another at Kingarth in Bute.

At Stromness in Orkney is the famous circle called the Ring of Brogar. It originally consisted of sixty stones forming a circle 340 feet in diameter, outside which was a ditch 29 feet wide. In a direction 60° east of south from the centre, and at a distance of 63 chains, is a standing stone called the Watchstone, 18 feet high, and 42 or 43 chains further on in the same line is a second stone, the Barnstone, 15 feet high. To the left of this line are two stones apparently placed at random, and to the right are the few remaining blocks of the Ring of Stenness, somewhere to the north of which was the celebrated pierced block called the "Stone of Odin," destroyed early in the last century. At a distance of 42 or 43 chains to the north-east of the Barnstone lies the tumulus

of Maeshowe. This tumulus conceals a long gallery leading into a rectangular chamber. The walls of this latter are built of horizontal courses of stones, except at the corners, where there are tall, vertically-placed slabs. The chamber has three niches or recesses, one on each of its closed sides. The roof is formed by corbelling the walls and finishing off with slabs laid across. If one sits [37] within the chamber and looks in a direct line along the passage one sees the Barnstone.

A series of measurements and alignments have been taken to connect the Maeshowe tumulus with the Ring of Brogar. Thus we have already seen that the distance from the Barnstone to the Watchstone is the same as from the Barnstone to the tumulus. Moreover, the Watchstone is equidistant from the ring and from the tumulus. Again, a line from the Barnstone to the tumulus passes through the point of the midsummer sunrise and also, on the other horizon, through the point of the setting sun ten days before the winter solstice; the line from the Watchstone to the Brogar Ring marks the setting of the sun at the Beltane festival in May and its rising ten days before the winter solstice, while the line from Maeshowe to the Watchstone is in the line of the equinoctial rising and setting. These alignments are the work of Mr. Magnus Spence; readers must choose what importance they will assign to them.

The Inverness type of circle is entirely different from that of which we have been speaking. The finest examples were at Clava, seven miles from Inverness, where fifty years ago there were eight still in existence. One of these is still partly preserved. It consists of a circle 100 feet in diameter consisting of twelve stones. Within this is a cairn of stones with a circular retaining wall [38] of stone blocks 2 or 3 feet high. The cairn originally covered a circular stone chamber 12½ feet in diameter entered by a straight passage on its south-west side. In other words, the Inverness monuments are simply chamber-tombs covered with a cairn and surrounded by a circle.

Around Aberdeen we find the third type of circle. It consists of a cist-tomb covered by a low mound, often with a retaining wall of small blocks, but there is no entrance passage leading into the cist. Outside the whole is a circle of large upright blocks with this peculiarity, that between the two highest—generally to the south or slightly east of south—lies a long block on its side, occupying the whole interval between them. The uprights nearest this 'recumbent' block are the tallest in the circle, and the size of the rest decreases towards the north. Of thirty circles known near Aberdeen twenty-six still possess the 'recumbent' stone, and in others it may originally have existed.

Passing now to monuments of more definitely sepulchral type we find that the dolmen is not frequent in Scotland, though several are known in the lowlands and in part of Argyllshire.

To the long barrows of England answer in part at least the chambered cairns of Caithness and the Orkneys. The best known type is a long rectangular horned cairn (Fig. 4), of which there are [39] two fine examples near Yarhouse. The largest is 240 feet in length. The chamber is circular, and roofed partly by corbelling and partly by a large slab. In the cairn of Get we have a shorter and wider example of the horned type. Another type is circular or elliptical. In a cairn of this sort at Canister an iron knife was found. On the Holm of Papa-Westra in the Orkneys there is an elliptical cairn of this kind containing a long rectangular chamber running along its major axis with seven small circular niches opening off it. The entrance passage lies on the minor axis of the barrow.

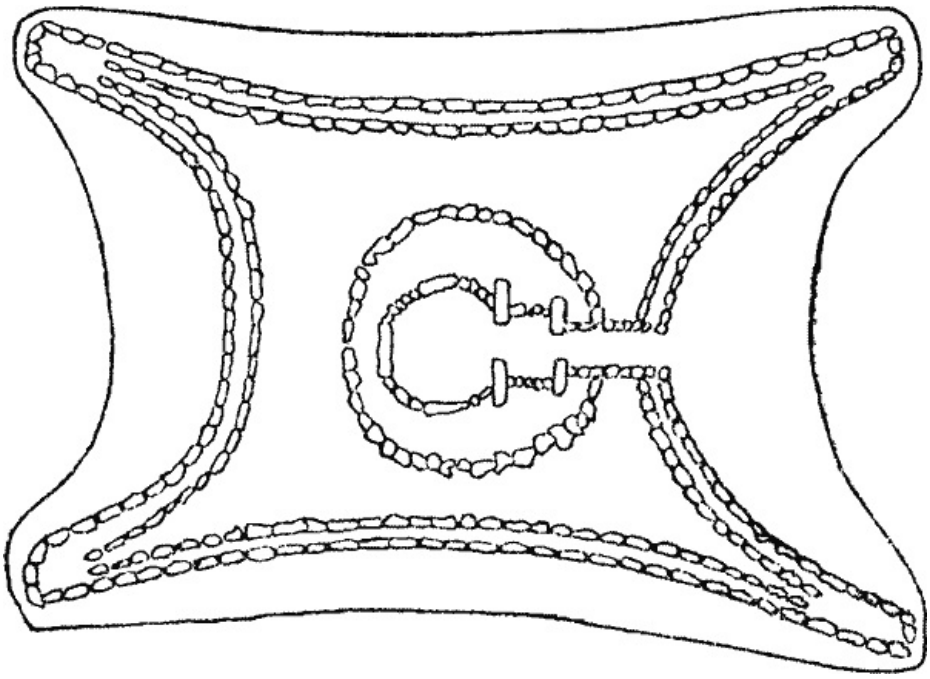

FIG. 4. Horned tumulus at Garrywhin, Caithness. (After Montelius.)

The megalithic monuments of Ireland are extremely numerous, and are found in almost every part of the country. They offer a particular interest from the fact that though they are of few different types they display all the stages by which the more complex were developed from the more simple. It must be remembered that most if not all the monuments we shall describe were originally covered by mounds of earth, though in most cases these have disappeared. [40]

The simple dolmen is found in almost all parts of the country. Its single cover-slab is supported by a varying number of uprights, sometimes as few as three, oftener four or more. It is of great importance to notice the fact that here in Ireland, as elsewhere in the megalithic area, e.g. Sardinia, we have the round and rectangular dolmens in juxtaposition (Fig. 5, *a* and *c*).

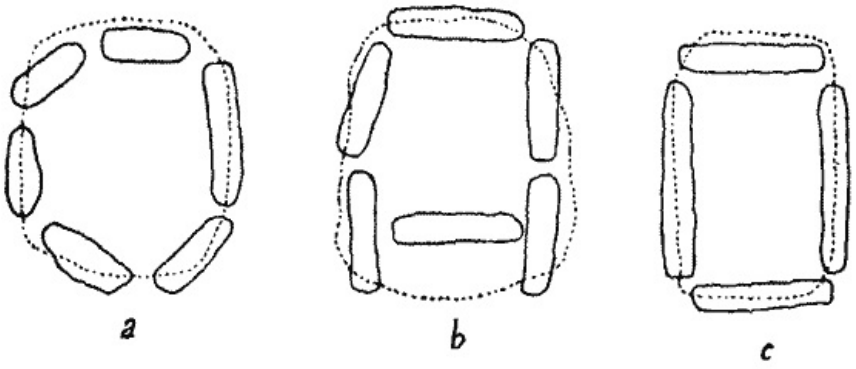

Fig. 5. Type-plans of *(a)* the round dolmen; *(b)* the dolmen with portico; *(c)* the rectangular dolmen.

Occasionally one of the end-blocks of the dolmen instead of just closing up the space between the two nearest side-blocks is pushed back between them so as to form with them a small three-sided portico outside the chamber, but still under the shelter of the cover-slab (Fig. 5, *b*). A good example of this exists at Gaulstown, Waterford, where a table-stone weighing 6 tons rests on six uprights, three of which form the little portico just described. The famous dolmen of Carrickglass, Sligo, is a still more developed example of this type. Here the chamber is an accurate rectangle, and the portico is formed by adding two side-slabs outside one of the end-slabs, but still under the cover. This last is a remarkable block of limestone weighing about 70 tons. This form of tomb is without doubt a link between the simple dolmen and the corridor-tomb. The portico was at first built under the slab by pushing an end-stone inwards. Then external side-stones formed the portico, though still under the slab. The next move was to construct the portico outside the slab. The portico then needed a roof, and the addition of a second cover to provide it completed the transition to the simpler corridor-tomb. In many cases the Irish simple dolmens were surrounded by a circle of upright stones. At Carrowmore, Sligo, there seems to have been a veritable cemetery of dolmen-tombs, each of which has one or more circles around it, the outermost being 120 feet in diameter. The tombs in these Carrowmore circles were not always simple dolmens, but often corridor-tombs of more or less complicated types. Their excavation has not given very definite results. In many cases human bones have been found in considerable quantities, sometimes in a calcined condition; but there is no real evidence to show that cremation was the burial rite practised. The calcination of human bones may well have been caused by the lighting of fires in the tomb, either at some funeral ceremony, or in even later days, when the place was used as a shelter for peasants. A few poor flints were found and a little pottery, together with many bones of animals and some pins and borers of bone. The most important find made, however, was a small conical button made of bone with two holes pierced in its flat side and meeting in the middle. It is a type which occurs in Europe only at the period of transition from the age of stone to that of bronze, and usually in connection with megalithic monuments. [41] [42]

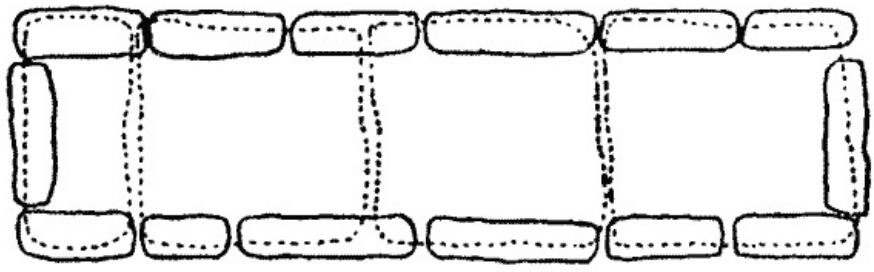

Fig. 6. Type-plan of the simple rectangular corridor-tomb or *allée couverte*.

We pass on now to consider the simplest form of corridor-tomb, that in which there are several cover-slabs, but no separate chamber (Fig. 6). These tombs occur in most parts of Ireland. At Carrick-a-Dhirra, County Waterford, there is a perfect example of the most simple type. The tomb is exactly rectangular and lies east and west, with a length of 19 feet and a breadth of 7½. At each end is a single upright, and each long side consists of seven. The chamber thus formed is [43]

roofed by five slabs. The whole was surrounded by a circle of about twenty-six stones, and no doubt the chamber was originally covered by a mound. In a somewhat similar example at Coolback, Fermanagh, the remains of the elliptical cairn are still visible.

But in most cases the plan of the corridor-tomb is complicated by a kind of outer lining of blocks which was added to it. Most of the monuments are so damaged that it is difficult to see what the exact form of this lining was. Whether it merely consisted of a line of upright blocks close around the sides of the chamber or whether these supported some further structure which covered up the whole chamber it is difficult to say. In some cases the roof-slab actually covers the outer line of blocks, and here it seems certain that this outer line served simply to reinforce the chamber walls, the space between being filled with earth or rubble. However, at Labbamologa, County Cork, is a tomb called Leaba Callighe, in which this was certainly not the case. The length of the [44] whole monument is about 42 feet. The slabs cover the inner walls of the chamber, but not the outer lining: this last forms a kind of outer shell to the whole monument. It is shaped roughly like a ship, and runs to a point at the east end, thus representing the bow. The west end is damaged, but may have been pointed like the east. The whole reminds one very forcibly of the *naus* of the Balearic Isles and the Giants' Graves of Sardinia. Occasionally the corridor-tomb has a kind of portico at its west end.

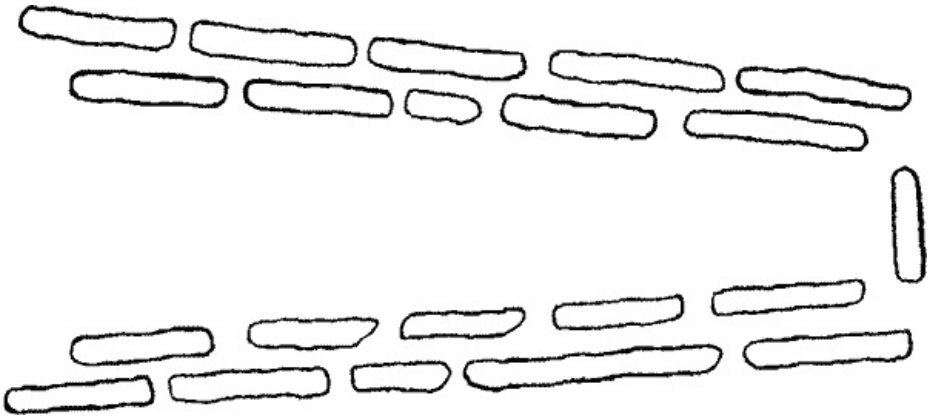

Fig. 7. Type-plan of wedge-shaped tomb. The roof slabs are two or more in number.

In Munster the corridor-tomb takes a peculiar form (Fig. 7). It lies roughly east and west, and its two long sides are placed at a slight angle to one another in such a way that the west end is broader than the east. In a good example of this at Keamcorravooly, County Cork, there are two large capstones and the walls consist of double rows of slabs, the outer being still beneath the [45] cover-slabs. On the upper surface of the covers are several small cup-shaped hollows, some of which at least have been produced artificially.

These wedge-shaped structures are of remarkable interest, for exactly the same broadening of the west end is found in Scandinavia, in the *Hünenbetter* of Holland, in the corridor-tombs of Portugal, and in the dolmens of the Deccan in India.

In some Irish tombs the corridor leads to a well-defined chamber. In a curious tomb at Carrickard, Sligo, the chamber was rectangular and lay across the end of the corridor in such a way as to form a T. The whole seems to have been covered with an oval mound. In another at Highwood in the same county a long corridor joins two small circular chambers, the total length being 44 feet. The corridor was once divided into four sections by cross-slabs. The cairn which covered this tomb was triangular in form.

In the county of Meath, in the parish of Lough Crew, is a remarkable series of stone cairns extending for three miles along the Slieve-na-Callighe Hills. These cairns conceal chamber-tombs. The cairns themselves are roughly circular, and the largest have a circle of upright blocks round the base. The chambers are built of upright slabs and are roofed by corbelling. Cairn H covered a corridor leading to a chamber and opening off on each side into a side-chamber, the whole group [46] thus being cruciform. In these chambers were found human remains and objects of flint, bone, earthenware, amber, glass, bronze, and iron. Cairn L had a central corridor from which opened off seven chambers in a very irregular fashion. Cairn T consisted of a corridor leading to a fine octagonal chamber with small chambers off it on three sides.

The chief interest of these tombs lies in the remarkable designs engraved on some of the stones of the passages and chambers. They are fairly deeply cut with a rather sharp implement, probably a metal chisel. They are arranged in the most arbitrary way on the stones and are often crowded together in masses. There is no attempt to depict scenes of any kind, nor is there, indeed, any example of animal life. In fact, the designs seem to be purely ornamental. The most frequent elements of design are cup-shaped hollows, concentric circles or ovals, star-shaped figures, circles with emanating rays, spirals, chevrons, reticulated figures, parallel straight or curved lines. There seems to be no clue as to the meaning of these designs. They may have been merely ornamental, though this is hardly likely.

At New Grange, near Drogheda, there is a similar series of tumuli, one of which has become

famous (Fig. 8). It consists of a huge mound of stones 280 feet in diameter surrounded by a circle of upright blocks. Access to the corridor is gained [47]

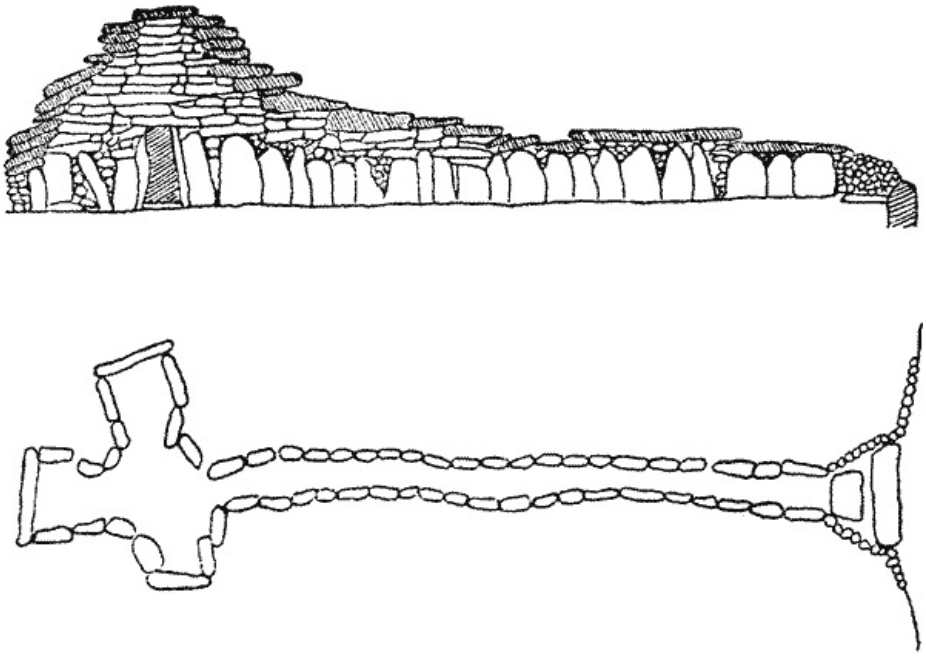

Fig. 8. Corridor-tomb at New Grange, Ireland.
(Coffey, *Transactions of the Royal Irish Academy*, 1892.)

from the south-east side. This corridor leads to a chamber with three divisions, so that corridor and chambers together form a cross with a long shaft. The walls are formed of rough slabs set upright. In the passage the roof is of slabs laid right across, but the roof of the chamber is formed by corbelling. On the floor of each division of the chamber was found a stone basin. [48]

Around the edge of the mound runs an enclosure wall of stones lying on the ground edge to edge. A few of these are sculptured. The finest is a great stone which lies in front of the entrance and shows a well-arranged design of spirals and lozenges. There are also engravings on one of the stones of the chambers. These designs are in general more skilful than those of Lough Crew. They consist mainly of chevrons, lozenges, spirals, and triangles.

The monuments we have so far described are all tombs. Ireland also possesses several stone circles. The largest are situated round Lough Gur, 10 or 12 miles south of Limerick. There was at one time a fine circle west of Lough Gur at Rockbarton, but it is now destroyed. On the eastern edge of the lough is a double concentric ring of stones, the diameter of the inner circle being about 100 feet. The rings are 6 feet apart, and the space between them is filled up with earth. In 1869 an excavation was made within the circle and revealed some human remains, mostly those of children from six to eight years old.

Further north is a remarkable group of monuments known as the Carrigalla circles. The first is a plain circle (L) 33 or 34 feet in diameter, composed of twenty-eight stones. The space within them is filled up with earth to form a raised platform. At a distance of 75 feet are two concentric circles, diameters 155 and 184 feet respectively, made of stones 5 or 6 feet high. The space between the two circles is filled with earth. Within these is a third concentric circle about 48 feet in diameter made of stones of the same size. This group of three concentric circles we will call M. The line joining the centres of L and M runs in a direction of 29° or 30° west of north and passes through a stone (N) 8 feet high standing on the top of a ridge 2500 feet away. There are two other stones more to the west (O and P) in such a position that the line joining them (41° west of north) passes through the centre of M, from which they are distant 860 and 1450 feet respectively. Further, a line through the centre of L and a great standing stone (Q) 2480 feet from it in a direction 10° east of south passes through the highest point in the district, 1615 feet away and 492 feet in height. [49]

Mr. Lewis compares this group of monuments with that of Stanton Drew in Somersetshire. In both a line joining the centre of two circles passes through a single stone in a northerly direction, and there is in both a fixed line from the centre of the larger circle. Captain Boyle Somerville, R.N., finds that the line 29° or 30° west of north would mark the setting of Capella in B.C. 1600, or Arcturus 500 B.C.; he adds that the direction 41° west of north would suit Capella in 2500 B.C. or Castor in 2000 B.C. [50]

On the west side of Lough Gur is another group of monuments. There is in the first place a circle

55 feet in diameter. On a line 35° east of north from this is a stone 10 feet high, and the same line produced strikes a prominent hill-top. Somewhere to the south-west of this circle, perhaps with its centre in the line just described, lay a second circle between 150 and 170 feet in diameter, destroyed in 1870. Three other stones mentioned by early writers as being near the circles have now disappeared. The direction 35° east of north is the same as that of the King-stone with regard to the Rollright Circle in Oxfordshire. This line, allowing a height of 3° for the horizon, would, according to Sir Norman Lockyer, have struck the rising points of Capella in 1700 B.C. and Arcturus in 500 B.C.

To the south of the destroyed circle is another about 150 to 155 feet in diameter, with stones of over 5 feet in height set close together. Earth is piled up outside them to form a bank 30 feet wide. There is an entrance 3 feet wide in a direction 59° east of north from the centre of the circle. There is said to have been at one time a cromlech 100 feet wide due south of the circle [51] and connected with it by a paved way. Sir Norman Lockyer thinks that the position of the doorway is connected with observation of the sun's rising in May. Moreover, the tallest stone of the circle, 9 feet high, is 30° east of north from the centre, a direction which according to him points to the rising of Capella in 1950 B.C. and Arcturus in 280 B.C.

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CHAPTER IV

THE SCANDINAVIAN MEGALITHIC AREA

In Scandinavia megalithic monuments abound. They have been studied with unusual care from quite an early date in the history of archæology, and classified in the order of their development. The earliest type appears to be the simple dolmen with either four or five sides and a very rough cover-slab. This and the upper part of the sides remained uncovered by the mound of earth which was always heaped round the tomb. In later times the dolmen became more regularly rectangular in shape, and only its roof-block appeared above the mound. Contemporary with this later form of dolmen were several other types of tomb. One was simply the earlier dolmen with one side open and in front of it a sort of portico or elementary corridor formed by two upright slabs with no roofing (cf. the Irish type, Fig. 5, *b*). This quickly developed into the true corridor-tomb, which had at first a small round chamber with one or two cover-slabs, a short corridor, and a round or rectangular mound. Later types have an oval chamber (Fig. 9) with from one to four cover-slabs or a rectangular chamber with a long corridor and a circular mound. Finally we reach a type [53] where thin slabs are used in the construction, and the mound completely covers the cap-stones: here the corridor leads out from one of the short ends of the rectangular chamber.

The earliest of these types in point of view of development, the true dolmen, is common both in Denmark and in South Sweden; only one example exists in Norway. In Sweden it is never found far from the sea-coast.

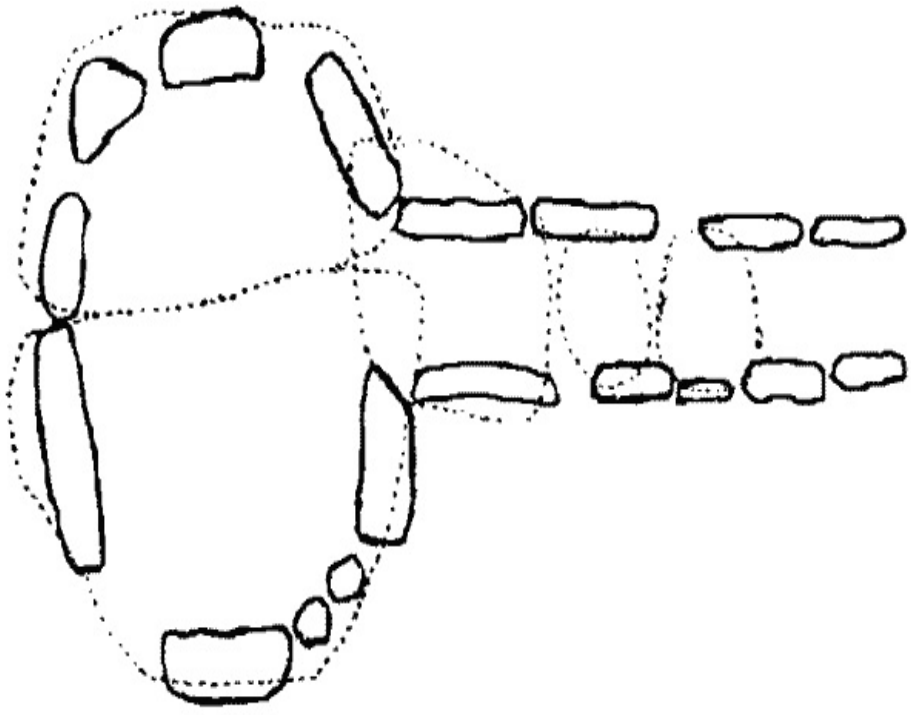

Fig. 9. Corridor-tomb, Ottagården, Sweden.

The corridor-tomb is also frequent in Denmark and Sweden, though it is unknown in Norway. In Sweden it is, like all megalithic monuments, confined to the south of the country. Of the early transition type with elementary corridor there are fine examples at Herrestrup in Denmark and Torebo in Sweden. A tomb at Sjöbol in Sweden where the corridor, consisting of only two uprights, is covered in with two roof-slabs instead of being left open, shows very clearly the transition to the corridor-tomb proper, in which the entrance passage consists of at least four [54] uprights, two on each side. Of this there are numerous fine examples. A tomb of this type at Broholm in Denmark has a roughly circular chamber separated from the corridor by a kind of threshold-stone. Another at Tyfta in Sweden is remarkable for its curious construction, the uprights being set rather apart from one another and the spaces between filled up with dry masonry of small stones. Possibly there were not sufficient large blocks at hand to construct a tomb of the required size.

The still later type consisting of a rectangular chamber with a long corridor leading out of one of its long sides often attains to very imposing dimensions. In Westgothland, a province of Sweden, there are fine examples with walls of limestone and often roofs of granite visible above the surface of the mound. The largest of these tombs is that of Karleby near Falköping. In another at Axevalla Heath were found nineteen bodies seated round the wall of the chamber, each in a separate small cist of stone slabs. The position of the bodies in the Scandinavian graves is rather variable, both the outstretched and the contracted posture being used. It is usual to find many bodies in the same tomb, often as many as twenty or thirty: in that of Borreby on the island of Seeland were found seventy skeletons, all of children of from two to eighteen years of age. [55]

In Denmark these rectangular tombs occasionally have one or more small round niches. In 1837 a large tomb was excavated at Lundhöj on Jütland, which had a circular niche opposite to the entrance. The niche had a threshold-stone, and the two uprights of the main chamber which lay on either side of this had been crudely engraved with designs, among which were a man, an animal, and a circle with a pair of diameters marked. Little was found in the chamber, and only some bones and a pot in the niche.

In Denmark often occur mounds which contain two or more tombs, usually of the same form, each with its separate entrance passage. At the entrance of the chamber there is sometimes a well-worked framework into which fitted a door of stone or wood.

The late type in which the corridor leads out of one of the narrow ends of the chamber is represented in both Sweden and Denmark. From this may be derived the rather unusual types in which the corridor has become indistinguishable from the chamber or forms a sort of antechamber to it. An example of the former type at Knyttkärr in Sweden is wider at one end than at the other, and has an outer coating of stone slabs. It resembles very closely the wedge-shaped tombs of Munster (cf. Fig. 7):

In Germany megalithic monuments are not infrequent, but they are practically confined to the [56] northern part of the country. They extend as far east as Königsberg and as far west as the borders of Holland. They are very frequent in Holstein, Mecklenburg, and Hanover. There are even examples in Prussian Saxony, but in South Germany they cease entirely. Keller in one edition of his *Lake Dwellings* figures two supposed dolmens north of Lake Pfäffikon in Switzerland, but we have no details with regard to them.

The true dolmen is extremely rare in Germany, and only occurs in small groups in particular localities. The corridor-tomb with a distinct chamber is also very exceptional, especially east of the Elbe. The most usual type of megalithic tomb is that known as the *Hünenbett* or *Riesenbett*. The latter name means Giants' Bed, and it seems probable that the former should be similarly translated, despite the suggested connection with the Huns, for a word *Hünen* has been in use in North Germany for several centuries with the meaning of giants. A *Hünenbett* consists of a rectangular (rarely oval or round) hill of earth covering a megalithic tomb. This is a simple elongated rectangle in shape, made of upright blocks and roofed with two or more cover-slabs. The great *Hünenbett* or Grewismühlen in Mecklenburg has a mound measuring 150 feet by 36 with a height of 5 feet. On the edge of the mound are arranged forty-eight tall upright blocks of [57] stone.

The *Hünenbetter* of the Altmark are among the best known and explored. Here the corridors are usually about 20 feet long, though in rare cases they reach a length of 40 feet. Each is filled with clean sand up to two-thirds of its height, and on this lie the bodies and their funeral deposit. The bodies must have been laid flat, though not necessarily in an extended position, as there was not room above the sand for them to have been seated upright. Various implements of flint have been found in the tombs together with stone hammers and vases of pottery. There is no certain instance of the finding of metal.

A book printed by John Picardt at Amsterdam in 1660 contains quaint pictures of giants and dwarfs engaged in the building of a megalithic monument which is clearly a *Hünenbett*. According to tradition the giants, after employing the labour of the dwarfs, proceeded to devour them. *Hünenbetter* similar to those shown in Picardt's illustrations are still to be seen in Holland,

but only in the north, where over fifty are known. They are of elongated rectangular form, built of upright blocks, and roofed with from two to ten cover-slabs. They all widen slightly towards the west end. The most perfect example still remaining is that of Tinaarloo, and the largest is that of Borger, which contains forty-five blocks, of which ten are cap-stones. Several *Hünenbetter* have [58] been excavated. In them are found pottery vases, flint celts, axes and hammers of grey granite, basalt, and jade.

Belgium possesses several true dolmens, of which the best known is that called La Pierre du Diable on the right bank of the Meuse. Near Lüttich are two simple corridor-tombs, each with a round hole in one of the end-slabs and a small portico outside it.

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CHAPTER V

FRANCE, SPAIN, AND PORTUGAL

France contains large numbers of megalithic monuments. Of dolmens and corridor-tombs no less than 4458 have been recorded. In the east and south-east they are rare, but they abound over a wide strip running from the Breton coasts of the English Channel to the Mediterranean shores of Hérault and Card. In 1901 Mortillef counted 6192 menhirs, including those which formed parts of *alignements* and cromlechs. Several of these attain to a great size. That to Locmariaquer (Morbihan), now unfortunately fallen and broken, measured over 60 feet in height, being thus not much shorter than the Egyptian obelisk which stands in the Place de la Concorde in Paris.

Passing now to combinations of menhirs in groups, we must first mention the remarkable *alignements* of Brittany, of which the most famous are those of Carnac. They run east and west over a distance of 3300 yards, but the line is broken at two points in such a way that the whole forms three groups. The most westerly, that of Ménec, consists of eleven lines of menhirs and a cromlech, the total number of stones standing being 1169, the tallest of which is 13 feet in [60] height. The central group, that of Kermario, consists of 982 stones arranged in ten straight lines, while the most easterly, that of Kerlescan, is formed by 579 menhirs, 39 of which form a rectangular enclosure.

There are other *alignements* in Brittany, of which the most important is that of Erdeven, comprising 1129 stones arranged in ten lines. Outside Brittany *alignements* are unusual, but a fine example, now ruined, is said to have existed at Saint Pantaléon north of Autun. In the fields around it are found large quantities of polished stone axes with knives, scrapers, and arrow-heads of flint.

We have already noticed the cromlechs which form part of the *alignements* of Brittany. There are other examples in France. At Er-Lanic are two circles touching one another, the lower of which is covered by the sea even at low tide. Excavations carried out within the circles brought to light rough pottery and axes of polished stone. Two fine circles at Can de Ceyrac (Gard) have diameters of about 100 yards, and are formed of stones about 3 feet high. Each has a short entrance avenue which narrows as it approaches the circle, and in the centre of each rises a trilithon of rough stones.

Of the definitely sepulchral monuments the dolmen is common in all parts of the French [61] megalithic area. It will suffice to mention the magnificent example known as the Table des Marchands at Locmariaquer. Perhaps the most typical structure in France is the corridor-tomb in which the chamber is indistinguishable from the passage, and the whole forms a long rectangular area. This is the *allée couverte* in the narrower sense. In the department of Oise occurs a special type of this in which one of the end-slabs has a hole pierced in its centre and is preceded by a small portico consisting of two uprights supporting a roof-slab (Fig 10). A remarkable example in Brittany known as Les Pierres Plates turns at a sharp angle in the middle, and is thus elbow-shaped.

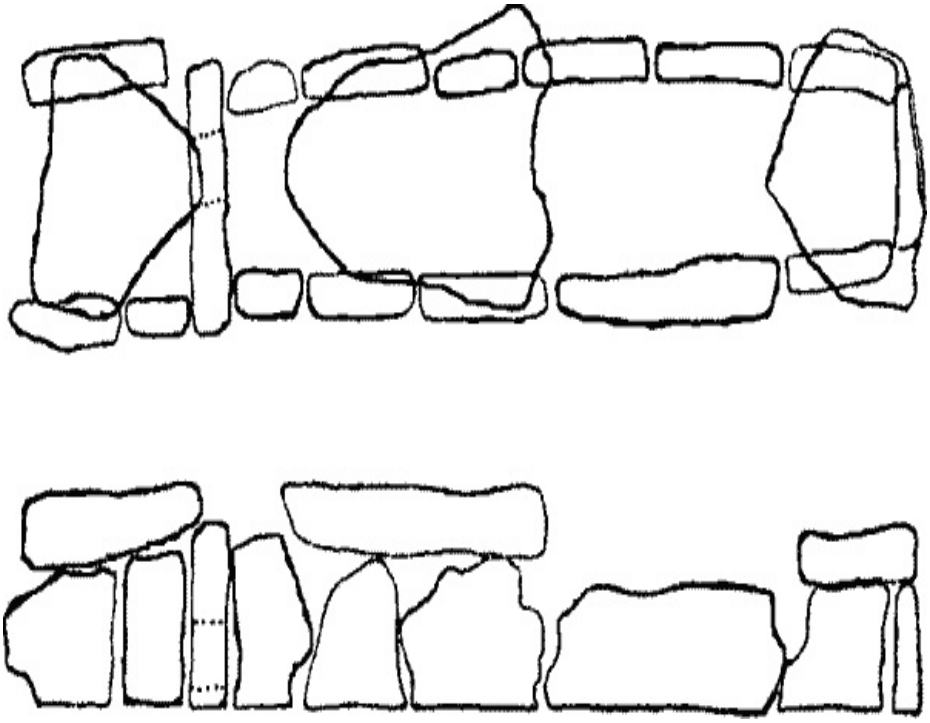

FIG. 10. *Allée couverte*, called La Pierre aux Fées, Oise, France.
(*Compte rendu du Congrès Préhistorique de France*.)

In the north of France the *allée* is often merely cut out in the surface of the ground and has no roof at all. It is sometimes paved with slabs and divided into two partitions by an upright with a [62] hole in its centre. Tombs of this kind often contain from forty to eighty skeletons, some of which are in the contracted position. The skulls are in some cases trepanned, i.e. small round pieces of the bone have been cut out of them; such pieces are sometimes found separate in the graves. No objects of metal occur in these North French tombs.

There are many fine examples in Brittany of the corridor-tomb with distinct chamber. The best known lies on the island of Gavr'inis (Morbihan). It is covered by a tumulus nearly 200 feet in diameter. The circular chamber, 6 feet in height, is roofed by a huge block measuring 13 feet by 10. The corridor which leads out to the edge of the mound is 40 feet in length. Twenty-two of the upright blocks used in this tomb are almost entirely covered with engraved designs. These are massed together with very little order, the main object having been apparently to cover the whole surface of the stone with ornament. The designs consist of spirals, concentric circles and semicircles, chevrons, rows of strokes, and triangles, and bear a considerable resemblance to those of Lough Crew and New Grange in Ireland.

Another tomb in the same district, that of Mané-er-Hroeck, was intact when discovered in 1863. It contained within its chamber a hoard of 101 axes of fibrolite and jadeite, 50 pebbles of a kind [63] of turquoise known as *callaïs*, pieces of pottery, flints, and a peculiarly fine celt of jadeite together with a flat ring-shaped club-head of the same stone. The tomb was concealed by a huge oval mound more than 100 yards in length. The famous Mont S. Michel is an artificial mound containing a central megalithic chamber and several smaller cists, some of which held cremated bodies.

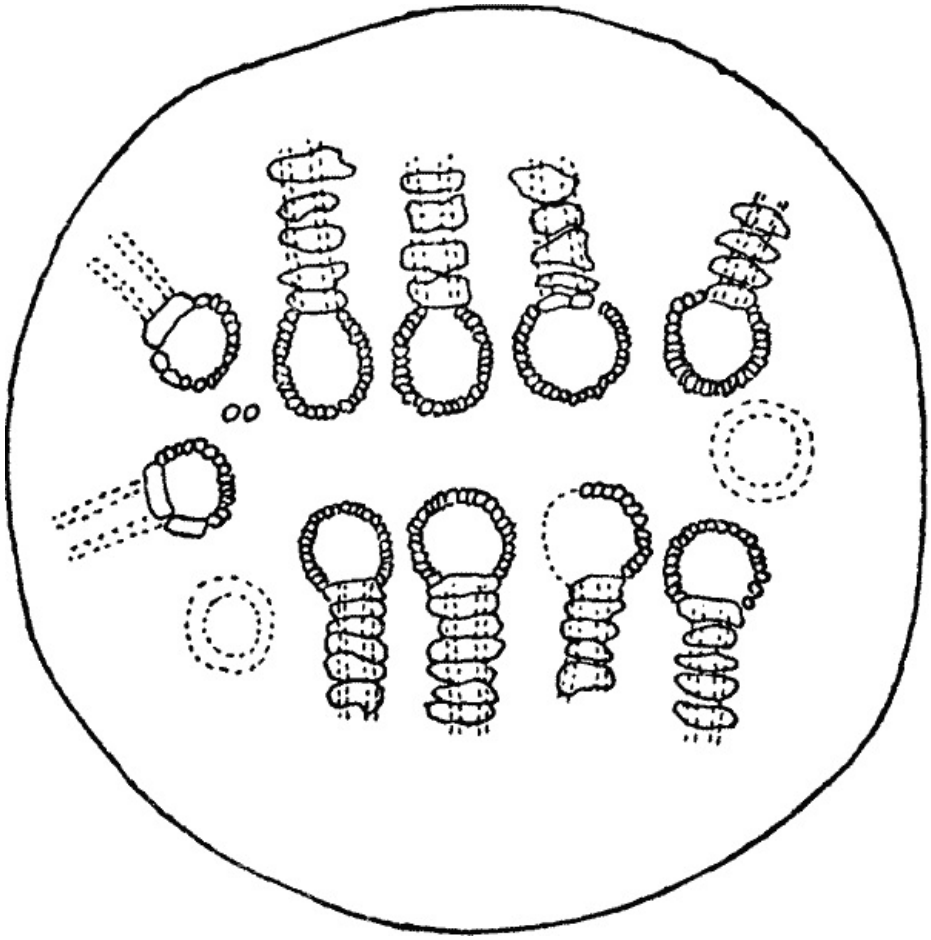

Fig. 11. Chambered mound at Fontenay-le-Marmion, Normandy. (After Montelius, *Orientund Europa*.)

A very remarkable mound in Calvados (Fig. 11) was found to contain no less than twelve circular corbelled chambers, each with a separate entrance passage. The megalithic tombs of Brittany all belong to the late neolithic period, and contain tools and arrow-heads of flint, small ornaments of gold, *callaïs*, and pottery which includes among its forms the bell-shaped cup. [64]

In Central and South France the *allées couvertes* are mostly of a semi-subterranean type, i.e. they are cut in the ground and merely roofed with slabs of stone. The most famous is that of the Grotte des Fées near Arles (Fig. 12), in which a passage (*a*) with a staircase at one end and two niches (*b b*) in its sides leads into a narrow rectangular chamber (*c*). The total length is nearly 80 feet. Another tomb of the same type, La Grotte du Castellet, contained over a hundred skeletons, together with thirty-three flint arrow or spear-heads, one of which was stuck fast in a human vertebra, a bell-shaped cup, axes of polished stone, beads and pendants of various materials, 114 pieces of *callaïs*, and a small plaque of gold.

[65]

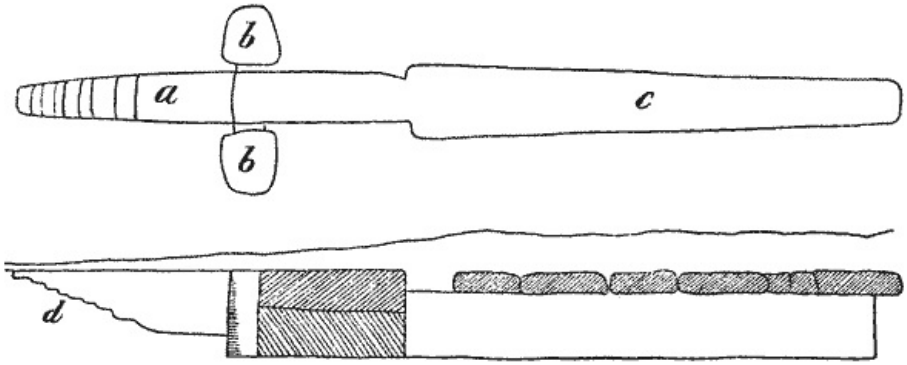

Fig. 12. Plan and section of La Grotte des Fées, Arles, France (*Matériaux pour l'histoire de l'homme*, 1873).

On the plateau of Ger near the town of Dax are large numbers of mounds, some of which contain cremated bodies in urns and others megalithic tombs. Bertrand saw in this a cemetery of two different peoples living side by side. But it has since been shown that the cremation mounds belong to a much later period than those which contain megalithic graves. In these last the skeletons were found seated around the walls of the chamber accompanied by objects of flint and other stone, beads of *callaïs*, and small gold ornaments. [66]

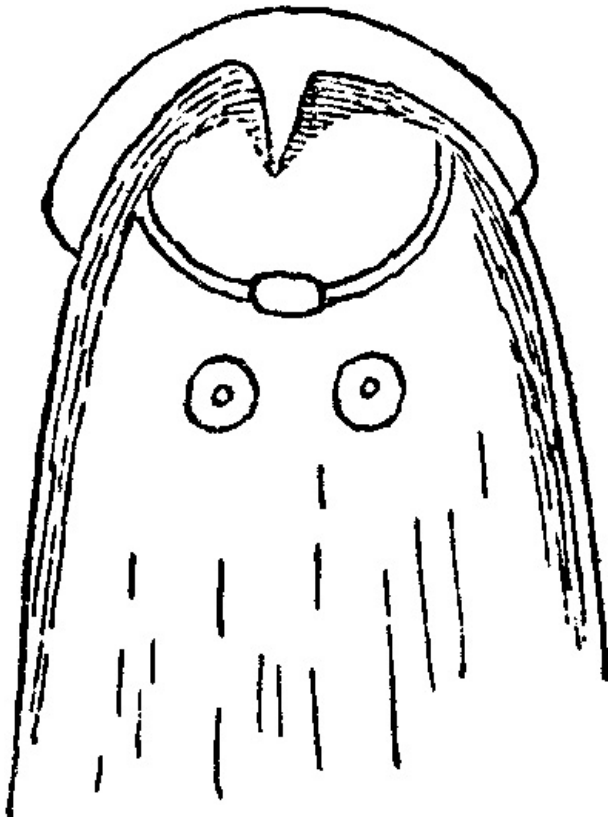

Fig. 13. The so-called dolmen-deity, from the tombs of the Petit Morin. (After de Baye.)

France has also its rock-hewn tombs, for in the valley of the Petit-Morin is a series of such graves. A trench leads down to the entrance, which is closed by a slab. The chamber itself is completely underground. In the shallower tombs were either two rows of bodies with a passage between or separate layers parted by slabs or strata of sand. In the deeper were seldom more than eight bodies, in the extended or contracted position, with tools and weapons of flint, pots, [67] and beads of amber and of *callaïs*. On the walls were rough sculptures of human figures (Fig. 13), to which we shall have to return later.

The Channel Islands possess megalithic monuments not unlike those of Brittany. They are corridor-tombs covered with a mound and often surrounded by a circle of stones. Within the chamber, which is usually round, lies, under a layer of shells, a mass of mingled human and animal bones. The bodies had been buried in the sitting position, and with them lay objects of stone and bone, but none of metal.

The Spanish Peninsula abounds in megalithic monuments. With the exception of a few menhirs, whose purpose is uncertain, all are sepulchral. Dolmens and corridor-tombs are numerous in many parts, especially in the north-east provinces, in Galicia, in Andalusia, and, above all, in Portugal. There is a fine dolmen in the Vall Gorguina in North-East Spain. The cover-slab, measuring 10 feet by 8, is supported by seven rough uprights with considerable spaces between them. In the same region is a ruined dolmen surrounded by a circle nearly 90 feet in circumference, consisting of seven large stones, some of which appear to be partly worked. Circles are also found round dolmens in Andalusia. Portugal abounds in fine dolmens both of the round and rectangular types. At Fonte Coberta on the Douro stands a magnificent dolmen known [68] locally as the Moors' House. In the name of the field, Fonte Coberta, there is doubtless an allusion to the belief that the dolmens conceal springs of water, a belief also held in parts of Ireland.

At Eguilaz in the Basque provinces is a fine corridor-tomb, in which a passage 20 feet long, roofed with flat slabs, leads to a rectangular chamber 13 feet by 15 with an immense cover-slab nearly 20 feet in length: the whole was covered with a mound of earth. The chamber contained human bones and "lanceheads of stone and bronze." A famous tomb of a similar type exists at Marcella in Algarve. The chamber is a fine circle of upright slabs. It is paved with stones, and part of its area is divided into two or perhaps three rectangular compartments. A couple of orthostatic slabs form a sort of neck joining the circle to the passage, which narrows as it leads away from the circle, and was probably divided into two sections by a doorway whose side-posts still remain.

In South-East Spain the brothers Siret have found corridor-tombs in which the chamber is cut in the rock surface and roofed with slabs; the entrance passage becomes a slope or a staircase.

Here we have a parallel to the Giants' Graves of Sardinia, which are built usually of stone blocks on the surface, but occasionally are cut in the solid rock. Other tombs in the same district show [69] the common megalithic construction consisting of a base course of upright slabs surmounted by several courses of horizontal masonry (Fig. 14). The chamber is usually round, and may have two or more niches in its circumference. It is roofed by the successive overlapping or corbelling of the upper courses. The vault thus formed is further supported by a pillar of wood

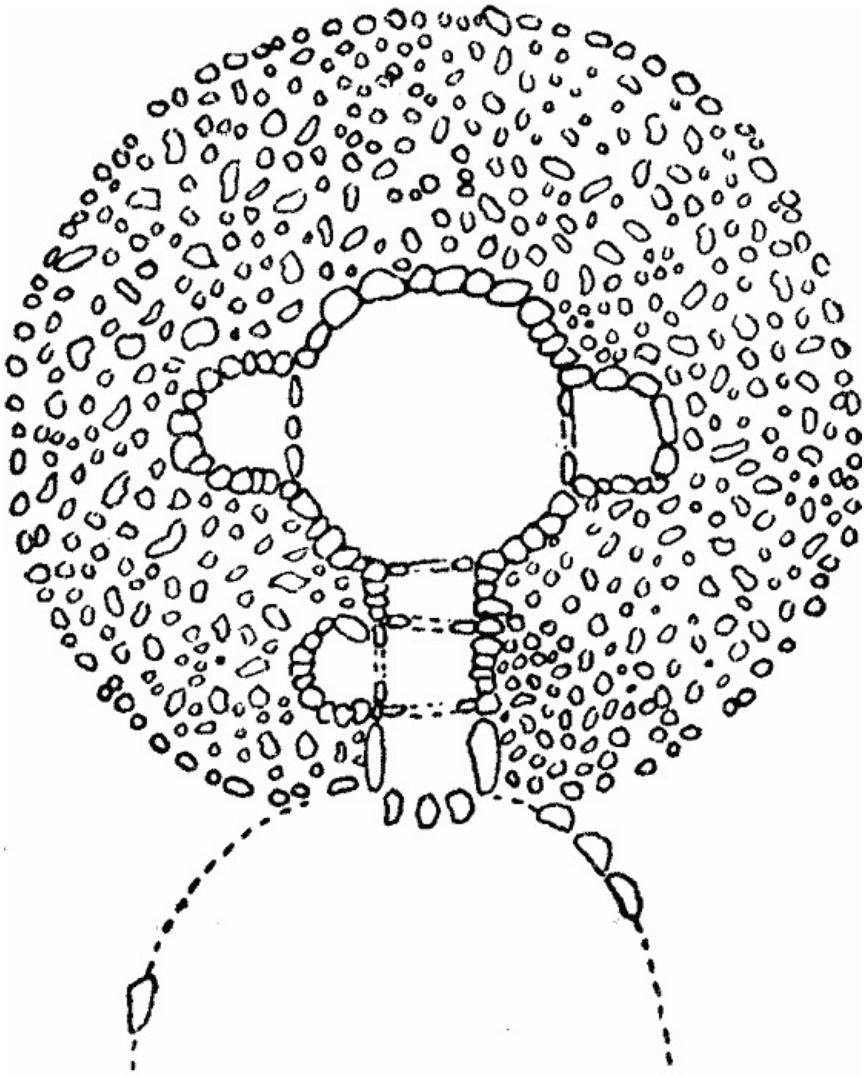

Fig. 14. Corridor-tomb at Los Millares, Spain. (After Siret.)

or stone set in the centre of the chamber. On the walls of some of the chambers there are traces [70] of rough painting in red. The whole tomb is covered with a circular mound. In the best known example at Los Millares there are remains of a semicircular façade in front of the entrance, as in many other megalithic monuments.

The finest, however, of all the Spanish monuments is the corridor-tomb of Antequera in Andalusia. It consists of a short passage leading into a long rectangular chamber roofed with four slabs. Within it on its axial line are three stone pillars placed directly under the three meeting-points of the four slabs, but quite unnecessary for their support. The whole tomb is covered with a low mound of earth. In the great upright slab which forms the inner end of the chamber is a circular hole rather above the centre.

It is not the plan of this tomb, but the size, that compels the admiration of the beholder. He stands, as it were, within a vast cave lighted only from its narrow end, the roof far above his head. The rough surface of the blocks lends colour to the feeling that this is the work of Nature and not of man. Here, even if not in Stonehenge, he will pause to marvel at the patient energy of the men of old who put together such colossal masses of stone.

Among the corridor-tombs of Spain must be mentioned a wedge-shaped type which bears a close [71] resemblance to those of Munster in Ireland (cf. Fig. 7). In Alemtejo, south of Cape de Sines, are several of these, usually about 6 feet in length, with a slight portico at one end.

A further point of similarity with the Irish monuments is seen in the corridor-tombs of Monte Abrahaõ in Portugal, where the chamber walls seem to have been reinforced by an outer lining of slabs. Remains of eighty human bodies were found in this tomb, together with objects of stone and bone, including a small conical button similar to that of Carrowmore in Ireland.

The Spanish Peninsula also possesses rock-hewn tombs. At Palmella, near Lisbon, is a circular example about 12 feet in diameter preceded by a bell-shaped passage which slopes slightly

downwards. Another circular chamber in the same group has a much longer passage, which bulges out into two small rounded antechambers. These tombs have been excavated and yielded some pottery vases, together with objects of copper and beads of a peculiar precious stone called *callaïs*. All the finds made in the megalithic remains of Spain and Portugal point to the period of transition from the age of stone to that of metal.

The Balearic Islands contain remarkable megalithic monuments. Those known as the *talayots* are towers having a circular or rarely a square base and sloping slightly inwards as they rise. The [72] largest is 50 feet in diameter. The stones, which are rather large and occasionally trimmed,

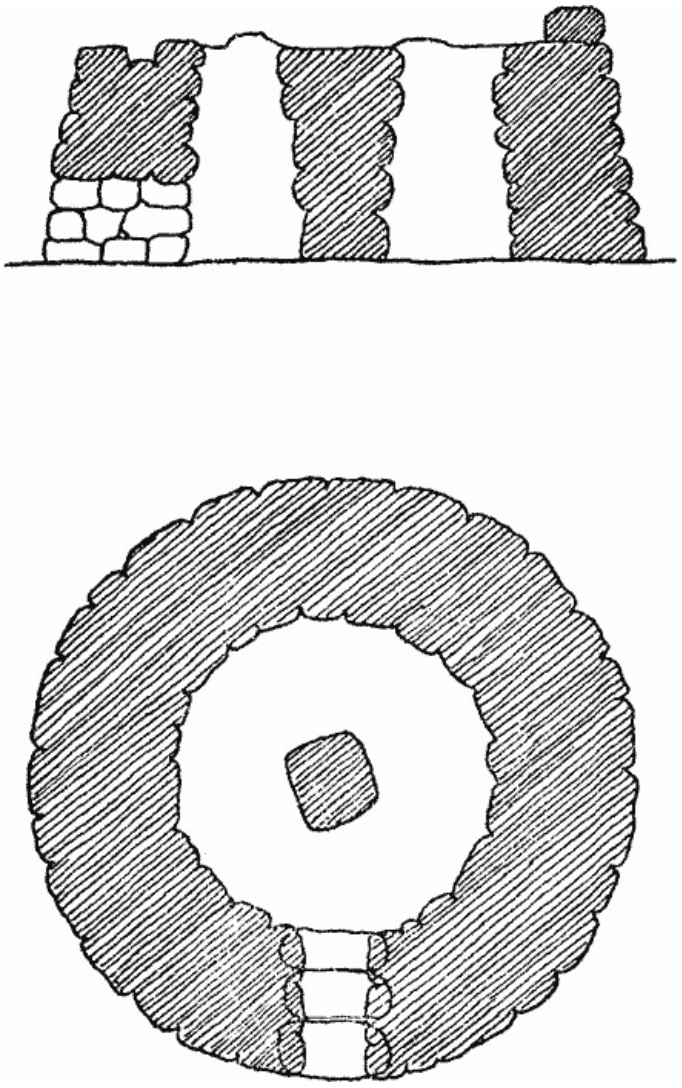

FIG. 15. Section and plan of the Talayot of Sa Aquila, Majorca. (After Cartailhac.)

are laid flat, not on edge. A doorway just large enough to be entered with comfort leads through [73] the thickness of the wall into a round chamber roofed by corbelling, with the assistance sometimes of one or more pillars. From analogy with the *nuraghi* of Sardinia, which they resemble rather closely, it seems probable that the *talayots* are fortified dwellings, perhaps only used in time of danger (Fig. 15).

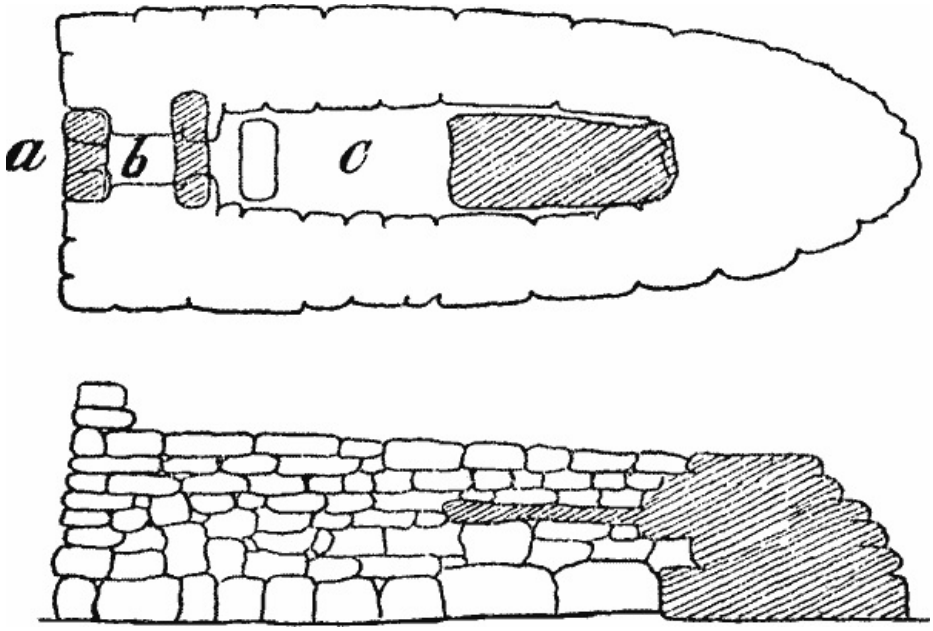

Fig. 16. Nau d'Es Tudons, plan and section.
(After Cartailhac.)

The *naus* or *navetas* are so named from their resemblance to ships. The construction is similar to that of the *talayots*. The outer wall has a considerable batter. The famous Nau d'Es Tudons is [74] about 36 feet in length. The façade is slightly concave. A low door (*a*) gives access through a narrow slab-roofed passage (*b*) to a long rectangular chamber (*c*), the method of whose roofing is uncertain. All the *naus* are built with their façades to the south or south-east, with the exception of that of Benigaus Nou, the inner end of which is cut in the rock, while the outer part is built up of blocks as usual. The abnormal orientation was here clearly determined by the desire to make use of the face of rock in the construction. The *naus* seem to have been tombs, as human remains have been found in them.

Rock-tombs also occur in the islands. The most remarkable are those of S. Vincent in Majorca. One of these has a kind of open antechamber cut in the rock, and is exactly similar in plan to the Grotte des Fées in France (cf. Fig. 12).

Prehistoric villages surrounded by great stone walls can still be traced in the Balearic Isles. The houses were of two types, built either above ground or below. The first are square or rectangular with rounded corners, the base course occasionally consisting of orthostatic slabs. The subterranean dwellings are faced with stone and roofed with flat slabs supported by columns. In each village was one building of a different type. It stood above ground and was semicircular in plan. In its centre stood a horizontal slab laid across the top of an upright, forming a T-shaped [75] structure which helped to support the roof-slabs, but which may also have had some religious significance. The stones which composed it were always carefully worked, and the lower was let into a socket on the under side of the upper.

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CHAPTER VI

ITALY AND ITS ISLANDS

Italy cannot be called a country of megalithic monuments. In the centre and north they do not occur, the supposed examples mentioned by Dennis in his *Cities and Cemeteries of Etruria* having been proved non-existent by the Italian Ministry of Education. It is only in the extreme south-west that megalithic structures appear. They are dolmens of ordinary type, except that in some cases the walls are formed not of upright slabs, but of stones roughly superposed one upon another. On the farm of the Grassi, near Lecce, are what appear to be two small dolmens at a distance of only 4 feet apart; they are perhaps parts of a single corridor-tomb. In the neighbourhood of Tarentum there is a dolmen-tomb approached by a short passage, and at Bisceglie, near Ruvo, there is an even finer example, the discovery of which is one of the most important events which have occurred in Italian prehistoric archæology during the last few years. The tomb is a simple rectangular corridor 36 feet in length, lying east and west. Only one cover-slab, that at the west end, remains, and the exact disposition of the rest of the tomb is [77] uncertain. In one of the side uprights which supports this slab is a circular hole, which, however,

seems to be the work of Nature, though its presence may have led to the choice of the stone. The tomb was carefully excavated, and the remains of several skeletons were found, one of which lay in the contracted position on the right side. Three of the skulls were observed by an expert to be dolichocephalic, but their fragile condition prevented the taking of actual measurements. Burnt bones of animals, fragments of pottery, a terra-cotta bead, and a stone pendant were also found, together with flint knives and a fragment of obsidian.

These discoveries show that the heel of Italy fell under the influence which caused the spread of the megalithic monuments, whatever that influence may have been. The same influence may also have been responsible for the bronze age rock-hewn tombs of Matera in the Basilicata, each of which is surrounded by a circle of fairly large stones.

Geographical considerations would lead one to suppose that the same conditions existed in Sicily, and it is possible that this was the case. Yet it is an affirmation which must be made with great reserve. Megalithic monuments in the ordinary sense of the term are unknown in Sicily. There are, however, four tombs in the south-east of the island which show some affinity to megalithic [78] work. Two of these were found by Orsi at Monteracello. They were rectangular chambers built of squared slabs of limestone set on edge. At one end of the finer of the two was a small opening or window cut in the upright slab. This same grave contained a skeleton lying on the right side with the legs slightly contracted. These two tombs can hardly be described as dolmens; they seem to have had no cover-slabs, and the blocks, which were small, were let into the earth, scarcely appearing above the surface. Taken by themselves the Monteracello tombs would hardly prove the presence of the megalithic civilization in Sicily. However, in the valley called Cava Lazzaro there is a rock-hewn tomb where the vertical face of the rock in which the tomb is cut has been shaped into a curved façade, a very usual feature of megalithic architecture. This is ornamented on each side of the entrance of the tomb with four pilasters cut in relief in the solid rock, each pair being connected by a semicircular arch also in relief. On the pilasters is incised a pattern of circles and V-shaped signs. A somewhat similar arrangement of pilasters is seen in two rock-tombs at Cava Lavinaro in the same district. This work forcibly recalls the work of the megalithic builders in the hypogeum of Halsaflieni in Malta (see Chap. VII), and on the façades of the Giants' Tombs in Sardinia (see below). It affords, at any rate, a presumption that in all three islands we [79] have to deal with the same civilization if not the same people.

Such a presumption is not weakened by the fact that in Sicily the usual form of tomb was the rock-hewn sepulchre, which, as will be seen later, is very often a concomitant of the megalithic monument, and in many cases is proved to be the work of the same people. In the early neolithic period in Sicily, called by Orsi the Sicanian Period, rock-hewn tombs seem not to have been used. It is only at the beginning of the metal age that they begin to appear. In this period, the so-called First Siculan, the tomb-chamber was almost always circular or elliptical, entered by a small door or window in the face of the rock. The dead were often seated round the wall of the chamber, evidently engaged in a funerary feast, as is clear from the great vase set in their midst with small cups for ladling out the liquid. A single tomb often contained many bodies, especially in cases where the banquet arrangement was not observed; one chamber held more than a hundred skeletons, and it has been suggested that the bodies were only laid in the tomb after the flesh had been removed from the bones, either artificially or as the result of a temporary burial elsewhere. Such a custom is not unknown in other parts of the megalithic area. With these bodies were found large quantities of painted pottery, a few implements of copper and many of flint. [80] Among the ornaments which the dead carried—for they seem to have been buried in complete costume—were several axe-shaped pendants of polished stone, precisely similar to those of Sardinia, Malta, and France. The most important cemeteries of this period are those of Castelluccio, Melilli, and Monteracello. Near this last site was also found a round hut based on a course of orthostatic slabs of typically megalithic appearance.

In the full bronze age, called the Second Siculan Period, burial in rock-tombs still remained the rule. The tomb-form had developed considerably. The circular type was still usual, though beside it a rectangular form was fast coming into favour. The main chamber often had side-niches, and was usually preceded by a corridor which sometimes passed through an antechamber. Occasionally we find an elaborate open-air court outside the façade of the tomb, built very much after the megalithic style. Large vertical surfaces of rock were carefully sought after for tombs, and the almost inaccessible cliffs of Pantalica and Cassibile are literally honeycombed with them. Where such surfaces of rock were unobtainable a vertical shaft was sunk in the level rock and a chamber was opened off the bottom of it. The tradition of the banquet of the dead is still kept up, but the number of the skeletons in each tomb steadily decreases. The sitting posture is still [81] frequent, though occasionally the body lies flat on one side with the legs slightly contracted. Flint is now rare, but objects of bronze are plentiful. The local painted pottery has almost entirely given place to simpler yet better wares with occasional Mycenean importations.

It is impossible to decide whether this Sicilian civilization ought to be included under the term megalithic. If, as seems probable, the idea of megalithic building was brought to Europe by the immigration of a new race it is possible that a branch of this race entered Sicily. In that case I should prefer to think that they came not at the beginning of the First Siculan Period as we know it, but rather earlier. Certain vases found with neolithic burials in a cave at Villafrati and elsewhere in Sicily resemble the pottery usually found in megalithic tombs; one of them is in fact a bell-shaped cup, a form typical of megalithic pottery. It is thus possible that an immigration of megalithic people into Sicily took place during the stone age, definitely later than the period of the earliest neolithic remains on the island, but earlier than that of such sites as the Castelluccio

cemetery. This, however, is and will perhaps remain a mere conjecture, though it is quite possible that there are in the interior of Sicily dolmens which have not yet come to the notice of the archæologist; in this connection it is worth while to remember that up to five years ago the existence of dolmens in both Sardinia and Malta passed unnoticed. [82]

If the inclusion of Sicily in the megalithic area is doubtful there is fortunately no question about the island of Sardinia. Here we have one of the chief strongholds of the megalithic civilization, where the architecture displays its greatest variety and flexibility. The simplest manifestation of megalithic building, the dolmen, was up till lately thought to be absent from Sardinia, but the researches of the last few years have brought to light several examples, of which the best known are those of Birori, where the chamber is approximately circular in plan.

The monuments, however, for which Sardinia is most famous are the *nuraghi.* A *nuraghe* is a tower-like structure of truncated conical form, built of large stones laid in comparatively regular courses (Pl. II, Fig. 2). The stones are often artificially squared, and set with a clay mortar. The plan and arrangement of a simple *nuraghe* are usually as follows (Fig. 17): The diameter of the building is generally under 30 feet. A door of barely comfortable height even for an average man and surmounted by a single lintel-block gives access to a narrow passage cut through the thickness of the wall. In this passage are, to the right, a small niche (*c*) just large enough to hold

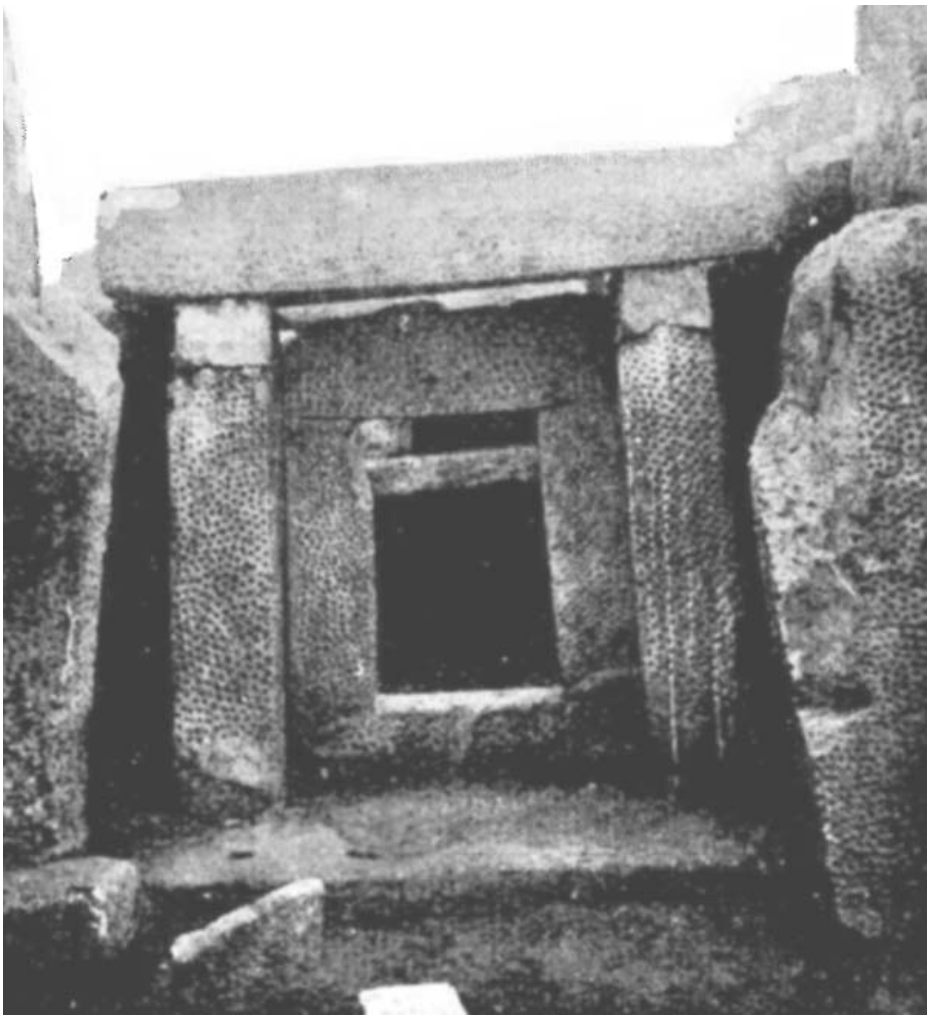

Plate II, Fig. 1. Mnaidra, Doorway of Room H

Plate II, Fig. 2. The Nuraghe of Madrone in Sardinia

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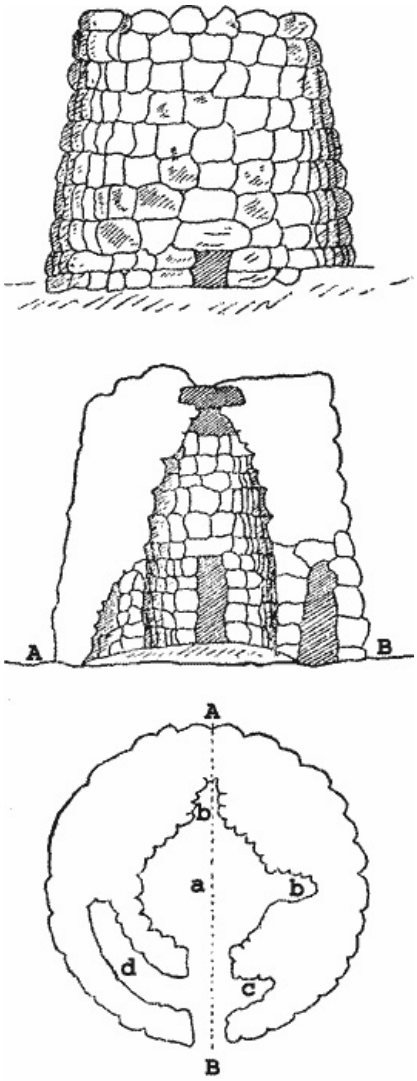

Fig. 17. Elevation, section

and plan of a *nuraghe*.
(Pinza, *Monumenti Antichi*.)

a man, and, on the left, a winding staircase in the wall (*d*) leading to an upper storey. The [84] passage itself leads into the chamber (*a*), which is circular, often with two or three side-niches (*b b*), and roofed by corbelling, i.e. by making each of the upper courses of stones in its wall project inwards over the last. The upper chamber, which is rarely preserved, is similar in form to the lower.

Considerable speculation has been indulged in concerning the purpose of the *nuraghi*. For many years they were regarded as tombs, a view which was first combated by Nissardi at the International Congress in Rome in 1903. Further exploration since that time has placed it beyond all doubt that the *nuraghi* were fortified dwellings. The form of the building itself is almost conclusive. The lowness of the door would at once put an enemy at a disadvantage in attempting to enter; it is significant that in the *nuraghe* of Su Cadalanu, where the doorway was over 6 feet in height, its breadth was so much reduced that it was necessary to enter sideways. Arrangements were made for the closing of the entrance from inside by a heavy slab of stone, often fitted into grooves. The niche on the right of the passage clearly served to hold a man, who would command the passage itself and the staircase to the upper floor; he would, moreover, be able to attack the undefended flank of an enemy entering with his shield on his left arm. To the [85] same effort at impregnability we may safely ascribe the fact that the staircase leading to the upper room did not begin on the floor-level of the passage, but was reached through a hole high up in the wall. Many of the *nuraghi* are surrounded by elaborate fortifications consisting of walls, towers, and bastions, sometimes built at the same time as the dwelling itself, sometimes added later. Those of Aiga, Losa, and s'Aspru are among the most famous of this type. All the *nuraghi* stand in commanding situations overlooking large tracts of country, and the more important a position is from the strategical point of view the stronger will be the *nuraghe* which defends it. All are situated close to streams and springs of good water, and some, as for instance that of Abbameiga, are actually built over a natural spring. At Nossiu is a building which can only be described as a fortress. It consists of a rhomboidal enclosure with *nuraghe*-like towers at its corners and four narrow gateways in its walls. It is surrounded by the ruins of a village of stone huts. There cannot be the least doubt that in time of danger the inhabitants drove their cattle into the fortified enclosure, entered it themselves, and then closed the gates.

Each *nuraghe* formed the centre of a group of stone huts. Mackenzie has described such a village at Serucci, where the circular plan of the huts was still visible. The walls in one case stood high [86] enough to show, from the corbelling of their upper courses, that the huts were roofed in the same fashion as the *nuraghi* themselves. Another village, that which surrounds the *nuraghe* of Su Chiai, was protected by a wall of huge stones.

It is thus clear that the *nuraghi* were the fortified centres of the various villages of Sardinia. Probably each formed the residence of the local chieftain; that they were actually inhabited is clear from the remains of everyday life found in them, and from the polish which continual use has set on the side-walls of some of the staircases. In general appearance and design the *nuraghi* recall the modern *truddhi*, hundreds of which dot the surface of Apulia and help to beguile the tedium of the railway journey from Brindisi to Foggia. The *truddhi*, however, are built in steps or terraces and have no upper chamber.

Who were the foes against whom such elaborate preparations for defence were made? Two alternatives are possible. Either Sardinia was a continual prey to some piratical Mediterranean people, or she was divided against herself through the rivalry of the local chieftains.

The second explanation is perhaps the more probable. Mackenzie seems to adopt it, and fancies that in the growth of the largest *nuraghi* we may trace the rise to power of some of these local dynasts at the expense of their neighbours. He suggests that the existence of the fortified [87] enclosure of Nossiu, where there is no sign of a true *nuraghe*, may mean that there were certain communities which succeeded in maintaining their independence in the face of these powerful rulers. But here, as he himself is the first to admit, we are in the realm of pure conjecture.

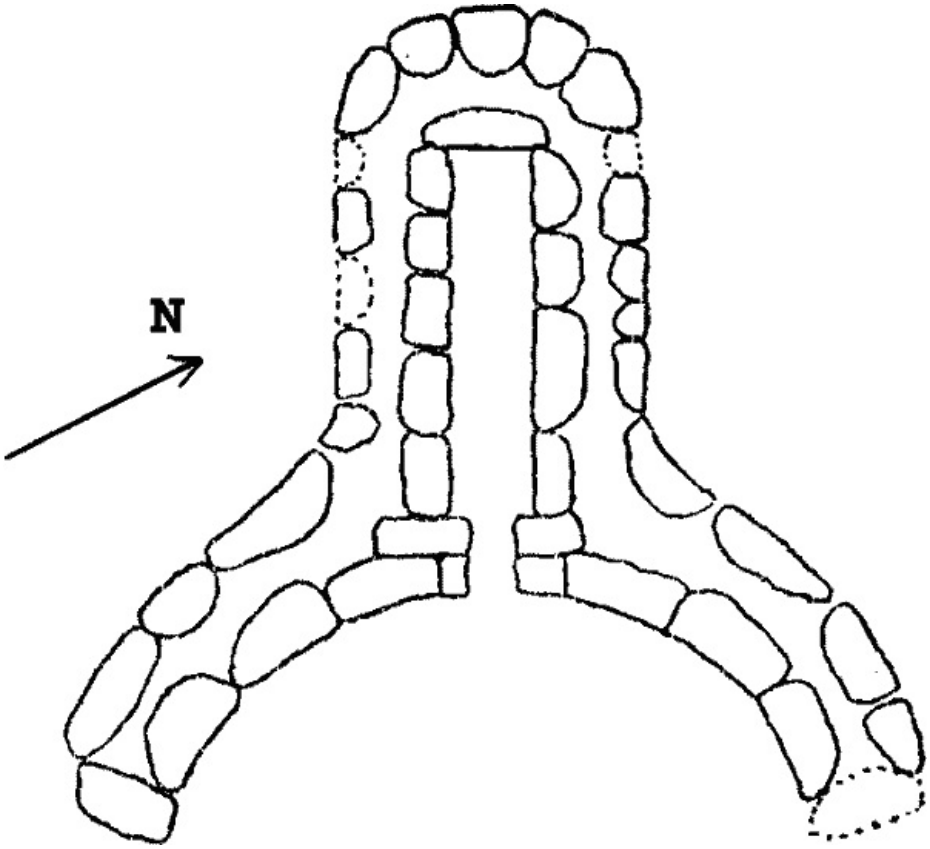

FIG. 18. Giant's Tomb at Muraguada, Sardinia.
(Mackenzie, *Papers of the British School of Rome*, V.)

It is now established that in the Giants' Tombs of Sardinia we are to see the graves of the inhabitants of the *nuraghe* villages. Every Giant's Tomb lies close to such a village, and almost every village has its Giants' Tombs, one or more in number according to its size. A Giant's Tomb consists of a long rectangular chamber of upright slabs roofed by corbelled masonry (Fig. 18). The slab which closes one end of the tomb is of great size, and consists of a lower rectangular [88] half with a small hole at the base and an upper part shaped like a rounded gable. There is a raised border to the whole slab, and a similar band in relief marks out the two halves. This front slab forms the centre-piece in a curved façade of upright slabs. The chamber is covered with a coating of ashlar masonry, which is shaped into an apsidal form at the end opposite to the façade. Occasionally more than 50 feet in length, the Giants' Tombs served as graves for whole families, or even for whole villages. Mackenzie has shown that the form is derived from the simple dolmen, and has pointed out several of the intermediate stages.

The inhabitants of Sardinia in the megalithic period also buried their dead in rock-hewn sepulchres, of which there are numerous examples at Anghelu Ruju. The contents of these graves make it clear that they are the work of the same people as the Giants' Graves. Were further proof needed it could be afforded by a grave at Molafà, where a Giant's Grave with its façade and gabled slab has been faithfully imitated in the solid rock. There is a similar tomb at St. George. Two natural caves in Cape Sant' Elia on the south of the island contain burials of this same period.

The neighbouring island of Corsica also contains important megalithic remains. They consist of [89] thirteen dolmens, forty-one menhirs, two *alignements*, and a cromlech. They fall geographically into two groups, one in the extreme north and the other in the extreme south of the island.

The stones used are chiefly granite and gneiss. The dolmens, which are of carefully chosen flat blocks showing no trace of work, are all rectangular in plan, and usually consist of four side-walls and a cover-slab. The finest of all, however, the dolmen of Fontanaccia, has seven blocks supporting the cover, one at each short end, three in one of the long sides, and two in the other. None of the dolmens are covered by mounds.

Of the *alignements*, that of Caouria seems to consist, in part at least, of two parallel lines of menhirs, the rest of the plan being uncertain. There are still thirty-two blocks, of which six have fallen. The other *alignement*, that of Rinaiou, consists of seven menhirs set in a straight line. The cromlech is circular and stands on Cape Corse.

On the small island of Pianosa, near Elba, are several rock-hewn tombs of the æneolithic period which ought perhaps to be classed with the megalithic monuments of Sardinia and Corsica.

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CHAPTER VII

AFRICA, MALTA, AND THE SMALLER MEDITERRANEAN ISLANDS

North Africa is a great stronghold of the megalithic civilization, indeed it is thought by some that it is the area in which megalithic building originated. Morocco, Tunis, Algeria, and Tripoli all abound in dolmens and other monuments. Even in the Nile Valley they occur, for what looks like a dolmen surrounded by a circle was discovered by de Morgan in the desert near Edfu, and Wilson and Felkin describe a number of simple dolmens which exist near Ladò in the Sudan. Tripoli remains as yet comparatively unexplored. The traveller Barth speaks of stone circles near Mourzouk and near the town of Tripoli. The great trilithons (*senams*) with holes pierced in their uprights and 'altar tables' at their base, which Barth, followed by Cooper in his *Hill of the Graces*, described as megalithic monuments, have been shown to be nothing more than olive-presses, the 'altar tables' being the slabs over which the oil ran off as it descended. True dolmens do, however, occur in Tripoli, and Cooper figures a fine monument at Messa in the Cyrenaica, which [91] appears to consist of a single straight line of tall uprights with a continuous entablature of blocks similar to that of the outer circle at Stonehenge.

Algeria has been far more completely explored, and possesses a remarkable number of megalithic monuments. Many of the finest are situated near the town of Constantine. Thus at Bou Nouara there is a hill about a mile in length which is a regular necropolis of dolmen-tombs. Each grave consists of a dolmen within a circle of stones. The blocks are all natural and completely unworked. The circle consists of a wall of stone blocks so built as to neutralize the slope of the hill and to form a level platform for the dolmen. Thus on the lower side there are three courses of carefully laid stones rising to about five feet, while on the upper side there is only one course. The diameter of the circles varies from 22 to 33 feet. In the centre of the circle lies the dolmen with its single long cover-slab. This usually rests on two entire side-slabs, the ends being filled up either with entire slabs or with masonry of small stones. In rare cases the side-slabs are replaced by masonry walls. The average size of the cover-slab is 6½ by 5 feet. The dolmen itself is, of course, built directly on to the platform, and the space between it and the circle is filled up with rough stones. The orientation of the dolmens varied considerably, but the cover-slab was never [92] placed in such a way that its length ran up the hill-slope, probably because in moving the slab into place this would have been an awkward position.

Another equally fine site is that of Bou Merzoug, near Oulad Rahmoun, about an hour's railway journey from Constantine. The place is naturally adapted for a settlement as there is a spring of water there. This spring was later utilized by the Romans to provide water for the city of Cirta. The dolmen-graves lie in great numbers on the hill at the foot of which the spring rises, and extend down into the valley. Each dolmen lies in the centre of a stone circle. This last is in some cases formed by very large slabs set on edge, but more often by two or three courses of rough oblong blocks. Many of the graves are badly damaged. One of the finest had an outer circle about 27 feet in diameter, and an inner circle 14 feet in diameter. Between these two a third circle, much more irregular and of small stones, could just be distinguished. But in most cases it was impossible to make out clearly more than the one outer circle and the dolmen within it. The dolmen itself consisted of a large slab resting on walls formed of several large blocks, the spaces between which were filled up with smaller stones. None of the stones used were worked. The dolmens were not oriented according to any fixed system. M. Féraud states that the separate graves were united together by open corridors formed by double or triple rows of large stones, [93] but no traces of such a system could be found by the later visitors to the site, Messrs. MacIver and Wilkin.

Fortunately we have some record of what these graves contained, for thirteen were opened by Mr. Christy and M. Féraud. One contained a human skeleton in good condition, buried in the contracted position with the knees to chin and arms crossed. With this were two whole vases, fragments of others, and pieces of cedar wood. At the feet of the skeleton were two human heads, and as the graves would not have accommodated more than one whole body M. Féraud suggests that these belong to decapitated victims. Another grave contained, in addition to human bones, those of a horse, together with three objects of copper, viz. a ring, an earring, and a buckle. In another were found the teeth and bones of a horse and an iron bit.

An entirely different type of monument is found near Msila, south-west of Algiers. Here is a long low hill called the Senâm, covered with large numbers of stone circles. These consist of large slabs of natural limestone set up on edge and not very closely fitted. The height of the slabs varies from 2 to 3 feet, and the diameters of the three still perfect circles are 23½, 26¾, and 34⅓ feet respectively. At a point roughly south-east there is a break in the circumference, filled by a [94] rectangular niche (Fig. 19) consisting of three large slabs, and varying in width from 2 ft. 6 in. to 6 feet. There is a possibility that the niches were originally roofed, but the evidence on this point is far from conclusive. The interior of the circle is filled with blocks of stone, apparently heaped up without any definite plan. There seems to be no clue as to the meaning of these circles, as none have as yet been explored. MacIver and Wilkin are probably right in classing them as graves.

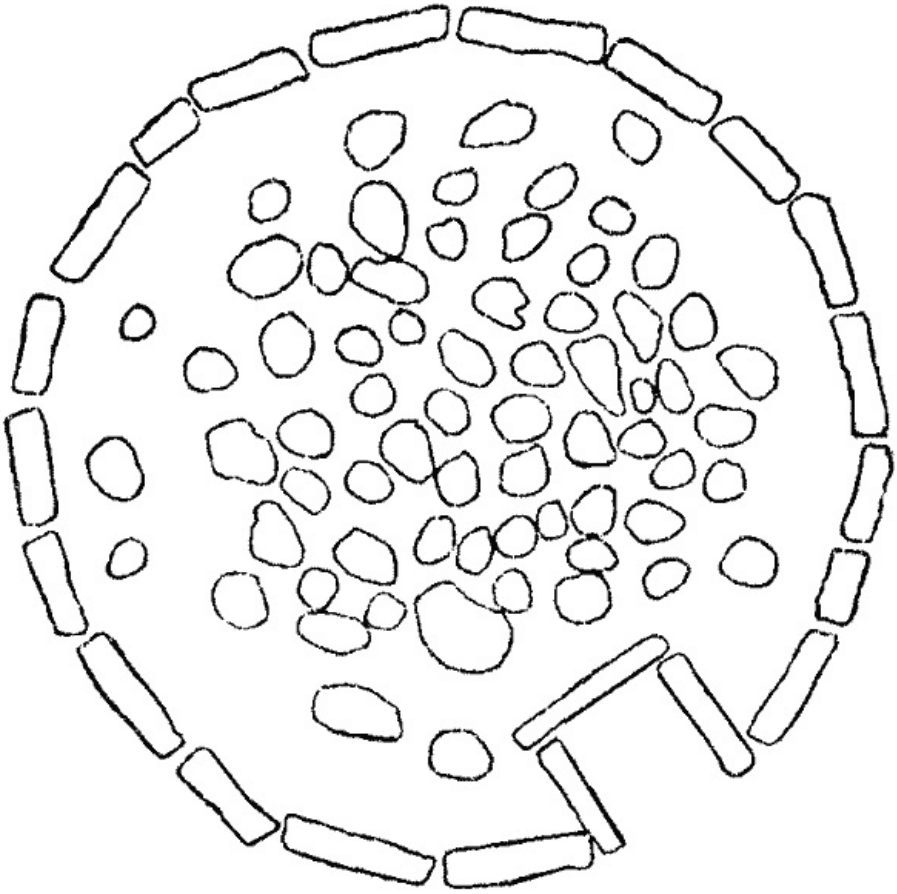

**Fig. 19. Stone circle at the Senâm, Algeria.
(After MacIver and Wilkin).**

The most famous, however, of the Algerian sites is unquestionably that of Roknia. Here the tombs lie on the side of a steep hill. They consist of dolmens often surrounded by stone circles from 25 [95] to 33 feet in diameter. The cover-slabs of the dolmens usually rest on single uprights, and never on built walls. Several of the graves excavated contained more than one body, one yielding as many as seven. It is remarkable that three of the skulls showed wounds, the dead having been apparently killed in battle. Several vases have been found and a few pieces of bronze.

We have seen that in some of the tombs of Bou Merzoug objects of iron were found. This makes it clear that some at least of the Algerian tombs belong to the iron age, i.e. that they are probably later than 1000 B.C., but beyond this we cannot go. The medal of Faustina sometimes quoted as evidence for a very late date proves nothing, as it is not stated to have been found in a tomb. There is no evidence to show how far back the graves go. It may be that, as MacIver and Wilkin suggest, the parts of the cemeteries excavated chance to be the latest. At Bou Merzoug the excavators worked chiefly among the graves on the plain and at the bottom of the hill. The more closely crowded graves which lie on the hill itself may well be older than these. In fact, all that may be said of the Algerian graves is that some are of the iron age, while others may be and probably are earlier.

In Tunis the dolmen is not uncommon, and several groups or cemeteries have been reported. [96] Near Ellez occurs a type of corridor-tomb in which three dolmen-like chambers lie on either side of a central passage, and a seventh at the end opposite to the entrance. The whole is constructed of upright slabs of stone, and is surrounded by a circle formed in the same way.

Morocco, too, has its dolmens, especially in the district of Kabylia, while near Tangier there is a stone circle.

Off the north coast of Africa, and thus on the highway which leads from Africa to Europe, lie the Italian islands of Lampedusa and Linosa. The latter is volcanic in origin, and its surface presents no opportunity for the building of megalithic monuments. Lampedusa, on the other hand, consists of limestone, which lies about in great blocks on its surface. On the slopes of the south coast there are several remains of megalithic construction, but they are too damaged to show much of their original form. However, on the north side of the island there are megalithic huts in a very fair state of preservation. They are oval in form and have in many cases a base course of orthostatic slabs.

Some miles to the north of Linosa lies the much larger volcanic island of Pantelleria, also a possession of Italy. Here megalithic remains both of dwellings and of tombs have been found. On [97]

the plateau of the Mursia are the remains of rectangular huts made of rough blocks of stone. These huts seemed to have formed a village, which was surrounded by a wall for purposes of defence. In the huts were found implements of obsidian and flat stones used for grinding.

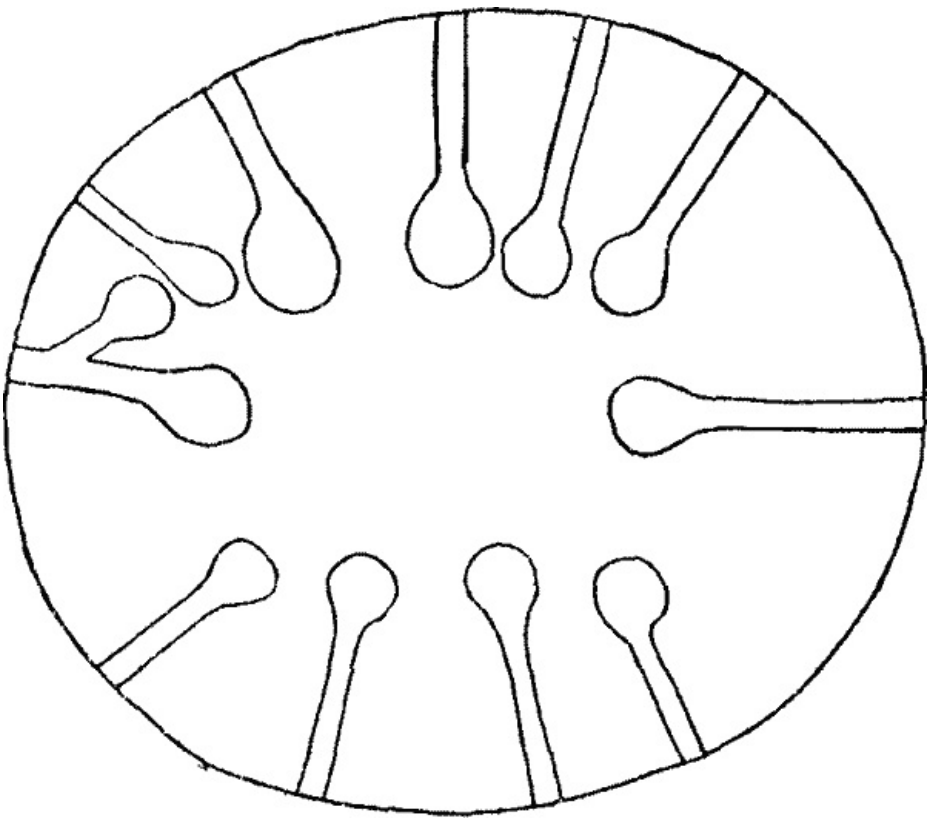

Fig. 20. Plan of the Sese Grande, Pantelleria.
(Orsi, *Monumenti Antichi*, IX.)

The tombs of the people who inhabited this village are, unlike the houses, circular or elliptical in form. They are locally known as *sesi.* The smaller are of truncated conical shape, the circular chamber being entered by a low door and having a corbelled roof. In one of the *sesi* a skeleton was found buried in the contracted position. The finest of the tombs, known as the Sese Grande, [98] elliptical in form (Fig. 20), has a major diameter of more than 60 feet, and rises in ridges, being domed at the top. It contains not one chamber, but twelve, each of which has a separate entrance from the outside of the *sese.* To judge by the remains found in the *sesi* they belong entirely to the neolithic period.

The island of Malta as seen to-day is an almost treeless, though not unfertile, stretch of rock, with a harbour on the north coast which must always make the place a necessary possession to the first sea power of Europe. Much of its soil is of comparatively modern creation, and four thousand years ago the island may well have had a forbidding aspect. This is perhaps the reason why the first great inroads of neolithic man into the Mediterranean left it quite untouched, although it lay directly in the path of tribes immigrating into Europe from Africa. The earliest neolithic remains of Italy, Crete, and the Ægean seem to have no parallel in Malta, and the first inhabitants of whom we find traces in the island were builders of megalithic monuments. Small as Malta is it contains some of the grandest and most important structures of this kind ever erected. The two greatest of these, the so-called "Phoenician temples" of Hagiar Kim and Mnaidra, were constructed on opposite sides of one of the southern

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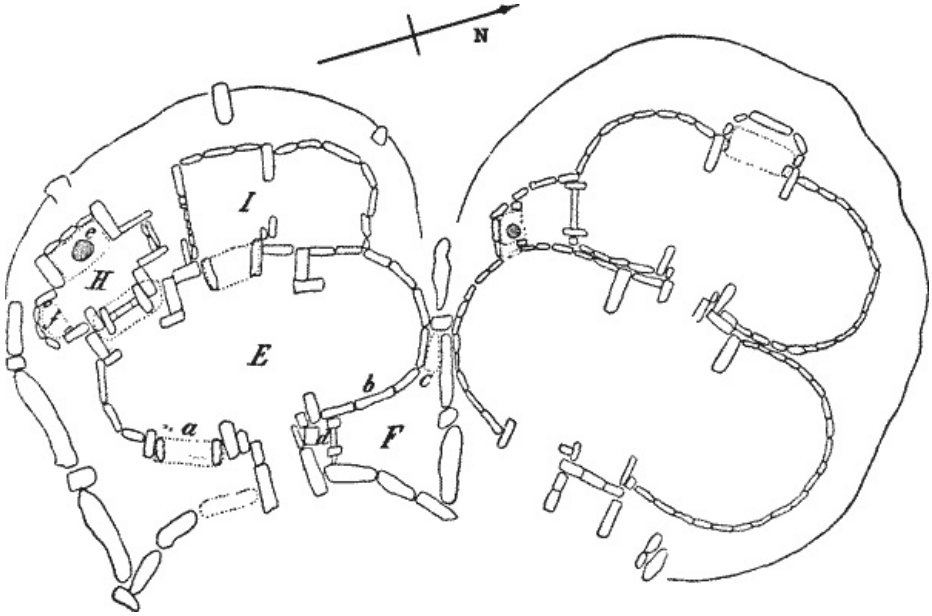

Fig. 21. Plan of the megalithic sanctuary of Mnaidra, Malta.
(After Albert Mayr's plan.)

valleys, each within sight of the other and of the little rocky island of Filfla. [100]

The temple of Mnaidra is the simpler of the two in plan (Fig. 21). It consists of two halves, the more northerly of which was almost certainly built later than the other. Each half consists of two elliptical chambers set one behind the other. The south half is the better preserved. It has a concave façade of large orthostatic slabs with horizontal blocks set in front of them to keep them in position. In the centre of this opens a short paved passage formed of fine upright slabs of stone, one of which is 13 feet in height. The first elliptical chamber (*E*) into which this passage leads us has a length of 45 feet. Its walls (Pl. III) consist of roughly squared orthostatic slabs over 6 feet in height, above which are several courses of horizontal blocks which carry the walls in places up to a height of nearly 14 feet. This combination of vertical and horizontal masonry is typical of all the Maltese temples. To the left of the entrance is a rectangular niche in the wall containing one of the remarkable trilithons (*a*) which form so striking a feature of Mnaidra and Hagiar Kim. It consists of a horizontal slab of stone nearly 10 feet in length, supported at its ends by two vertical slabs about 5 feet high. To the right of the entrance is a window-like opening (*b*, behind the seated figure in Pl. III) in one of the slabs of the wall, preceded by two steps and giving access to an irregular triangular space (*F*). In the north-west angle of this triangle is fixed [101] a trilithon table (*c*) of the usual type, 32 inches high; at a like height above the table is fixed another horizontal slab which serves as a roof to the corner. The south corner of the triangle is shut off by a vertical slab, in which is cut a window 29 inches by 17. Through this is seen a shrine (?) consisting of a box (*d*) made of five well-cut slabs of stone, the front being open. The aperture by which *F* is entered was evidently intended to be closed with a slab of stone from the inside of *F*, for it was rebated on that side, and there are holes to be used in securing the slab. When the entrance was thus blocked *F* still communicated with *E* by means of a small rectangular window 16 inches by 12 in one of the adjacent slabs (visible in Pl. III).

Temple of Mnaidra, Malta. Apse of Chief Room

Plate III To face p. 100

Returning to the area *E* we find in the south-west wall an elaborate doorway (Pl. II, Fig. I, p. 82) leading to a rectangular room *H*. The doorway consists of two tall pillars with a great lintel laid across the top. The space between the pillars is closed by a fixed vertical slab in which is a window-like aperture similar to that which gives access to Room *F*. All the stones in this doorway are ornamented with pit-marks. The rectangular room *H* has niches in its walls to the north, south, and west. Each niche is formed by a pair of uprights with a block laid across the top. The [102] west niche is occupied by a horizontal table or slab (*e*) supported at its centre by a stone pillar 39 inches in height, of circular section narrowing in the centre (visible through the doorway in Pl. II, Fig. I). The southern niche contains an ordinary trilithon table (*f*): the northern niche is damaged, but apparently held a table like that of the western.

The area *I* consists of only half an ellipse, the southern half being replaced by the area *H*, which we have already described. It has a rectangular niche to the west containing a fine trilithon with a cover-slab nearly 10 feet long.

The whole of the southern half of the Mnaidra temple is surrounded by a wall of huge rough blocks of stone, presenting a great contrast to the dressed slabs of which the inner walls are formed. They are placed alternately with their broad faces and their narrow edges outwards. The roughness of this enclosure wall gives the structure a remarkably wild and craggy appearance from a distance. The northern half of Mnaidra is clearly a later addition.

There is no doubt as to the way in which the areas were roofed. In the apse-like ends of the elliptical rooms the horizontal courses are corbelled, i.e. each course projects slightly forward over the last. Thus the space narrows as the walls rise, until the aperture is small enough to be roofed by great slabs laid across. The corbelling of the apse is just perceptible in Pl. III. Whether [103] the roofing of the Mnaidra temple was ever complete it is impossible to say: in any case the system we have described could only be applied to the apsidal portions of the areas, and their centres must either have been open to the sky or roofed quite simply with slabs.

In the still more famous temple of Hagiar Kim we have a complicated building, in which the original plan has been much altered and enlarged. The main portion doubtless consisted originally of a curved façade and a pair of elliptical areas, the inner of which has been fitted with a second entrance to the north-west and completely remodelled at its south-west end. Four elliptical chambers, one of which is at a much higher level than the rest of the building, have been added. Here, too, as at Mnaidra, we find niches containing trilithon tables. In the first elliptical area, in which the apsidal ends are divided from the central space by means of walls of vertical slabs, a remarkable group of objects was found. In front of a well-cut vertical block stood what must be an altar, cut in one piece of stone. It is square in section except for the top, which is circular. On the four vertical edges are pilasters in relief, and in the front between these is cut in relief what looks like a plant growing out of a pot or box. To the left of the altar and the vertical slab behind were an upright stone with two hanging spirals cut on it in relief, and at its [104] foot a horizontal slab. Both the altar and the carved stone are covered with small pit-marks.

In the outside wall of the building, quite unconnected with the interior, is a niche partly restored on old foundations, in which stands a rough stone pillar 6½ feet high. In front of this pillar is a vertical slab nearly 3 feet high, narrowing towards the base, and covered with pit-markings. This pillar can hardly be anything but a baetyl, or sacred stone.

The temple called the Gigantia, on the island of Gozo, is no less remarkable than the two which we have already described; in one place its wall is preserved up to a height of over 20 feet. The plan is similar to that of Mnaidra, though here the two halves seem to have been built at one and the same time. Several of the blocks show a design of spirals in relief, while on others there are the usual pit-markings. Another bears a figure of a fish or serpent. At the foot of one of the trilithons was found a baetyl 51 inches in height, now in the museum at Valletta.

That these three buildings were sanctuaries of some kind seems almost certain from their form and arrangement. We do not, however, know what was the exact nature of the worship carried on in them, though there can be no doubt that the stone tables supported by single pillars and the [105] trilithons found in the niches played an important part in the ritual. Sir Arthur Evans in his famous article *Mycenæan Tree and Pillar Cult* has suggested that in Malta we have a cult similar to that seen in the Mycenæan world. This latter was an aneiconic worship developed out of the cult of the dead; in it the deity or hero was represented by a baetyl, i.e. a tree or pillar sometimes standing free, sometimes placed in a 'dolmen-like' cell or shrine, in which latter case the pillar often served to support the roof of the shrine. In Malta Sir Arthur Evans sees signs of a baetyl-worship very similar to this. Thus at Hagiar Kim we have a pillar still standing free in a niche, and another pillar, which, to judge from its shape, must have stood free, was found in the Gigantia. On the other hand, at Mnaidra we have pillars which support slabs in a cell or shrine, and at Cordin several small pillars were found which must originally have served a similar purpose.

There can hardly be any doubt that Sir Arthur Evans is right in seeing in the Maltese temples signs of a baetylic worship. But is he right in his further assertion that the cult was a cult of the dead? Albert Mayr assumes that he is, and endeavours to show that the 'dolmen-like' cells in the

niches are not altars, but stereotyped representations of the dolmen-tombs of the heroes worshipped. He thinks that the slabs which cover them are too large for altar-tables, and that the [106] niches in which they stand are too narrow and inaccessible to have been the scene of sacrificial rites. Neither of these arguments has much force, nor is it easy to see how the cells are derived from dolmens. The fact is that the word 'dolmen-like,' which has become current coin in archæological phraseology, is a question-begging epithet. The Maltese cells are not like dolmens at all, they are either trilithons or tables resting on a pillar. They are always open to the front, and instead of the rough unhewn block which should cover a dolmen they are roofed with a well-squared slab. If the pillar which supports the slab is, like the free-standing pillars, a baetyl, the slab is probably a mere roof to cover and protect it; if not, the slab is almost certainly a table.

At the same time, although we may not accept the hypothesis that the cell is derived from a dolmen, Sir Arthur Evans may still be right in supposing the worship to have originated in a cult of the dead. But he was almost certainly wrong, as recent excavation has shown, in supposing that the cells were the actual burial place of the deified heroes.

A number of statuettes were found at Hagiar Kim, two of which are of pottery and the rest of limestone. One figure represents a woman standing, but in the rest she is seated on a rather low [107] stool with her feet tucked under her. There is no sign of clothing, except on one figure which shows a long shirt and a plain bodice with very low neck. All these statuettes are characterized by what is known as steatopygy, that is, the over-development of the fat which lies on and behind the hips and thighs.

Steatopygous figures have been found in many places, viz. France, Malta, Crete, the Cyclades, Greece, Thessaly, Servia, Transylvania, Poland, Egypt, and the Italian colony of Eritrea on the Red Sea. The French examples are from caves of the palæolithic period; the rest mainly belong to the neolithic and bronze ages. Various reasons have been given for the abnormal appearance of these figures. In the first place it has been suggested that they represent women of a steatopygous type, like the modern Bushwomen, and that this race was in early days widely diffused in the Mediterranean and in South Europe. Another hypothesis is that they represent not a truly steatopygous type of women, but only an abnormally fat type. A third suggestion is that they portray the generative aspect of nature in the form of a pregnant goddess.

Naturally there are considerable local differences in the shapes of the figures from the various countries we have enumerated, and it may be that no single hypothesis will explain them all.

There are other megalithic buildings in Malta besides the three which we have discussed, but [108] none of them call for more than passing mention. On the heights of Cordin or Corradino, overlooking the Grand Harbour of Valletta, there are no less than three groups, all of which have been lately excavated. In all three we see signs of the typical arrangement of elliptical areas one behind another, and in the finest of the three the curved façade and the paved court which lies before it are still preserved.

It was for a long time believed that there were no dolmens in Malta. Professor Tagliaferro has been able to upset this belief by discovering two, one near Musta and the other near Siggewi. It is hardly credible that these are the only two dolmens which ever existed in Malta. More will no doubt yet be found, especially in the wild north-west corner of the isle.

The megalithic builders of Malta did not confine their achievements to structures above ground, they could also work with equal facility below. In the village of Casal Paula, which lies about a mile from the head of the Grand Harbour of Valletta, is a wonderful complex of subterranean chambers known as the Hypogeum of Halsaflieni, which may justly be considered as one of the wonders of the world.

The chambers, which seem to follow no definite plan, are excavated in the soft limestone and [109] arranged in two storeys connected by a staircase, part of which still remains in place. The finest rooms are in the upper storey. The largest is circular, and contains in its walls a series of false doors and windows. It is in this room that the remarkable nature of the work in the hypogeum is most apparent. On entering it one sees at once that the intention of the original excavator was to produce in solid rock underground a copy of a megalithic structure above ground. Thus the walls curve slightly inwards towards the top as do those of the apses of Mnaidra and Hagiar Kim, and the ceiling is cut to represent a roof of great blocks laid across from wall to wall with a space left open in the centre where the width would be too great for the length of the stones. The treatment of the doors and windows recalls at once that of the temples above ground. The mason was not content, when he needed a door, to cut a rectangular opening in the rock; he must represent in high relief the monolithic side-posts and lintel which were the great features of the megalithic 'temples' of Malta. Nor has he failed in his intention, for, as one moves from room to room in the hypogeum, one certainly has the feeling of being in a building constructed of separate blocks and not merely cut in the solid rock. No description can do justice to the grace of the curves and the flow of the line in the circular chamber and in the passage beyond it, and we have here the work [110] of an architect who felt the æsthetic effect of every line he traced.

Behind the circular chamber and across the passage just referred to lies a small room which, rightly or wrongly, has been called the 'Holy of Holies,' the idea being that it formed a kind of inner sanctuary to the chamber. It contains a rough shelf cut in the wall, and in the centre of this

a shallow circular pit. It has been suggested that this pit was made to hold the base of the cult-object, whether it was a baetyl or an idol. This, however, is a mere conjecture. In the passage just outside the door of this room are two small circular pits about 6 inches in diameter and the same distance apart. They connect with one another below, and are closed with tightly fitting limestone plugs. In one of them was found a cow's horn. Their purpose is unknown, but similar pairs of pits occur elsewhere at Halsaflieni.

In two of the largest chambers in the hypogeum the roof and walls are still decorated with designs in red paint. The patterns consist of graceful combinations of curved lines and spirals. Many other rooms, including the circular chamber, were originally painted with designs in red, which have now almost wholly disappeared.

Many of the chambers are extremely small, too small for an adult even to stand upright in them, and their entrances are merely windows, perhaps a foot square and well above the ground. [111]

What then was the purpose of this wonderful complex of rooms? Before attempting to answer this question we must consider what has been found in them. When the museum authorities first took over the hypogeum practically all the chambers were filled to within a short distance of their roofs with a mass of reddish soil, which proved to contain the remains of thousands of human skeletons. In other words, Halsaflieni was used as a burial place, though this may not have been its original purpose. The bones lay for the most part in disorder, and so thickly that in a space of about 4 cubic yards lay the remains of no less than 120 individuals. One skeleton, however, was found intact, lying on the right side in the crouched position, i.e. with arms and knees bent up.

With the bones were found enormous quantities of pottery and other objects, buried with the dead as provision for the next world. The pottery is rough in comparison with the fine painted wares of Crete, but it is extremely varied in its decoration. One particularly fine bowl shows a series of animals which have been identified by Professor Tagliaferro as the long-horned buffalo, an animal which once existed on the northern coasts of Africa. Ornaments of all kinds were common, and include beads, pendants, and conical buttons of stone and shell. The most remarkable of all are a large number of model celts made of jadeite and other hard stones. These [112] are of the same shape as the stone axes used by neolithic man, but they are far too small ever to have been used, and they must therefore have been models hung round the neck as amulets. Each is provided with a small hole for this purpose. The popularity of the axe-amulet makes it probable that the axe had some religious significance.

Finally Halsaflieni has yielded several steatopygous figurines. Some of these resemble those of Hagiar Kim, but two are of rather different type. Each of these represents a female lying on a rather low couch. In the better preserved of the two she lies on her right side, her head on a small uncomfortable-looking pillow. The upper part of her body is naked, but from the waist downwards she is clad in a flounced skirt which reaches to the ankles. The other figurine is very similar, but the woman here is face downwards on the couch.

The bodies themselves were so damaged with damp that only ten skulls could be saved whole. These, however, afford very valuable anthropological evidence. They have been carefully measured by Dr. Zammit, and they prove to belong to a long-headed (dolichocephalic) type usual among the neolithic races of the Mediterranean.

We have still to discuss the purpose of this great complex of underground chambers and [113] passages. It is quite clear that its eventual fate was to be used as a burial place for thousands of individuals, but it is far from certain that this was the purpose for which it was built. The existence of the central chamber, with its careful work and laborious imitation of an open-air 'temple,' is against this interpretation. It has therefore been suggested that the hypogeum was meant for a burial place, and that the central chamber was the chapel or sanctuary in which the funeral rites were performed, after which the body was buried in one of the smaller rooms. This, however, does not explain the presence of burials in the chapel itself, and it is far more likely that it was only after Halsaflieni had ceased to be used for its original purpose that it was seized upon as a convenient place for burial.

The question of the date of the Maltese megalithic buildings is a difficult one. It is true that no metal has been found in them, and that we can therefore speak of them as belonging to the neolithic age. But the neolithic age of Malta need not be parallel in date with that of Crete for example. It is extremely probable that Malta lay outside the main currents of civilization, and that flint continued to be used there long after copper had been adopted by her more fortunate neighbours.

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CHAPTER VIII

THE DOLMENS OF ASIA

In the south-east of Europe lie three groups of dolmens which are no doubt in origin more closely connected with those of Asia than with those of the rest of Europe. The first group lies in Bulgaria, where no less than sixty dolmens have been found north of Adrianople. The second consists of a few dolmens which still remain in the Crimea, and the third lies in the Caucasus in two divisions, one to the south-east and the other to the south-west of the town of Ekaterinodar. These last are made of slabby rock, and thus have a finished appearance. A dolmen near Tzarskaya has a small semicircular hole at the bottom of one of its end-slabs, while another in the valley of Pehada has sides consisting of single blocks, placed so as to slant inwards considerably, and a circular hole in the centre of the slab which closes one of its ends.

In Asia megalithic monuments are not infrequent. We first find them in Syria, they have been reported from Persia, and in Central and South India they exist in large numbers. Corridor-tombs occur in Japan, but they are late in date, and there is no evidence to show whether they are [115] connected with those of India or not.

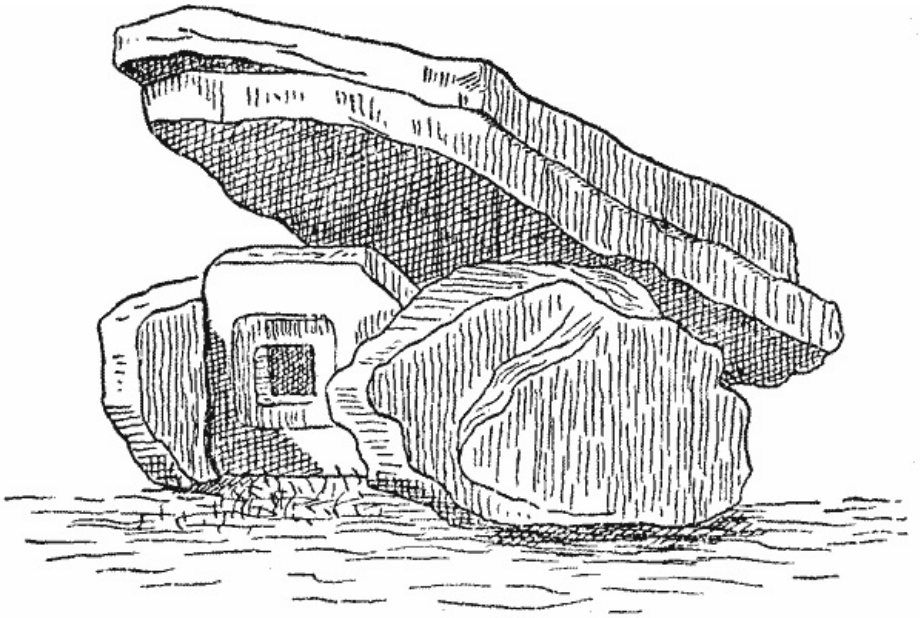

Fig. 22. Dolmen with holed stone at Ala Safat.
(After de Luynes.)

Syria is comparatively rich in megalithic monuments, but it is remarkable that almost all of them lie to the east of the Jordan. Thus while there are hundreds of dolmens in the country of Pera and in Ammon and Moab, very few have been found in Galilee, and only one in Judæa, despite careful search. There is, however, a circle of stones west of Tiberias, and an enclosure of menhirs between Tyre and Sidon. According to Perrot and Chipiez some of the Moabite monuments are very similar in type to the Giants' Tombs of Sardinia. Others are simple dolmens. In a good [116] example at Ala Safat (Fig. 22) the floor of the tomb is formed by a single flat slab of stone. The great cover-slab rests on two long blocks, one on either side, placed on edge. The narrow ends are closed up with smaller slabs, one of which, that which faces north, has a small hole pierced in it. A similar closure slab with a hole is also found in certain rock-tombs quite close to this dolmen. Apparently none of these dolmens have been systematically excavated, and nothing is known of their date.

Menhirs, too, are not wanting in Syria. Perrot and Chipiez figure an example from Gebel-Mousa in Moab which is quite unworked, except for a shallow furrow across the centre of the face. In many cases the menhir is surrounded by one or more rows of stones. Thus at Der Ghuzaleh a menhir about 3 feet in height is set in the centre of what when complete must have been a rectangle. In other cases the enclosure was elliptical or circular in form. In an example at Minieh the menhir stands in the centre of a double (in part triple) circle of stones, on which abuts an elliptical enclosure. In some cases the circle has no proper entrance, in others it has a door consisting of a large slab resting on two others. The largest of the circles attains a diameter of 600 feet, and has a double line of stones.

Within these circles and near them are found large numbers of monuments consisting each of a large flat slab resting on two others. On the upper surface of the top slab are often seen a [117] number of basin-shaped holes, sometimes connected by furrows. Many of the slabs are slightly slanting, and it has been suggested that the series of holes and furrows was intended for the pouring a libation of some kind. In a monument of this type at Ammân the cover-slab slopes considerably; the upper part of its surface is a network of small channels converging on a hole 11 inches deep about the centre of the slab. Here, again, no excavations have been carried out, and we do not even know what was the purpose of these structures. It is, however, probable that these trilithons were not, like the dolmens, tombs, but served some religious purpose, possibly connected with the worship of the menhirs.

In the Jaulân, where the rock consists of a slabby type of basalt, there are many dolmens of fine

appearance. They often lie east and west, and are often broader at the west end. Many are surrounded by a double circle of stones. In one of them two copper rings were found. At Ain Dakkar more than 160 dolmen-tombs are visible from a single spot. They are built on circular terraces of earth and stones about 3 feet high. The Arabs call them Graves of the Children of Israel. Most of them lie east and west, and are broader at the west. In the eastern slab there is often a hole about 2 feet in diameter. Near Tsîl are several corridor-tombs of simple type. Each [118] consists of a long rectangular chamber with only one cover-slab, that being at the west end. In a well-known example of this type at Kosseir there is a hole in one of the two uprights which support the cover.

These examples will serve to show the importance and variety of the Syrian monuments. They present analogies with those of many parts of the megalithic area, and we therefore await anxiously the publication of Mackenzie's promised article on his own explorations in this district.

The central and southern parts of India afford numerous examples of dolmens. They are to be found in almost all parts of Lower India from the Nerbudda River to Cape Comorin. In the Nilgiri hills there are stone circles and dolmens, and numbers of dolmens are said to exist in the Neermul jungle in Central India. In the collectorate of Bellary dolmens and other monuments to the number of 2129 have been recorded. Others occur in the principality of Sorapoor and near Vellore in the Madras presidency. These latter appear to be of two types, either with three supports only or with four supports, one of which is pierced with a circular hole. Of the 2200 dolmens known in the Deccan, half are of this pierced type. They are known to the natives as "dwarfs' houses." One only had a pair of uprights outside the pierced stone, thus forming a sort of [119] portico to the dolmen. Near Chittore in North Arcot there is said to be a square mile of ground covered with these monuments. In them were found human remains in sarcophagi, and fragments of black pottery. Several of the Indian dolmens are said to have contained objects of iron. Occasionally the dolmen is surrounded by a double circle of stones or covered with a cairn. The Deccan, in addition to its numerous dolmens, possesses also megalithic monuments of another type. They consist each of two rows, each of thirteen unworked stones set as close together as possible, in front of which is a row of three stones, each about 4 feet high, not let into the ground. The planted stones were whitewashed, and each was marked with a large spot of red paint with black in the centre. These stones seem to have been in use in modern times. Colonel Forbes Leslie thinks that a cock had been sacrificed on one of the three stones which lie in front of the double row, but there seems to be no certain evidence for this. It is, however, very probable that these *alignements* had some religious signification, and the same is no doubt true of certain small circles of small stones, also found in the Deccan.

The modern inhabitants of the Khasi Hills in India still make use of megalithic monuments. They set up a group of an odd number of menhirs, 3, 5, 7, 9, or 11, and in front of these two structures [120] of dolmen form. These are raised in honour of some important member of the tribe who has died, and whose spirit is thought to have done some good to the tribe. If the benefits continue it is usual to increase the number of menhirs.

The earliest burials in Japan are marked by simple mounds of earth. It was not until the beginning of the iron age that megalithic tombs came into use. The true dolmen is not found in Japan, and all the known graves are corridor-tombs covered with a mound. They are of four types. First, we have a simple corridor with no separate chamber; secondly, a corridor broadening out at one side near the end; thirdly, a true chamber with a corridor of access; and fourthly, a type in which the corridor is preceded by an antechamber. All four types occur in rough unworked stone, roofed with huge slabs, but a few examples of the third type are made of well-cut and dressed blocks. The mounds are usually conical, though some are of a complex form shortly to be described. Some of these contain stone sarcophagi. The bodies were never cremated, but the bones are so damaged that it is impossible to say what the most usual position was. Objects of bronze and iron together with pottery and ornaments were found in the tombs.

The more important tombs are of a more complicated type. They seem to have contained the [121] remains of emperors and their families. They consist each of a circular mound, to which is added on one side another mound of trapezoidal form. The megalithic tomb-chamber or the sarcophagus which sometimes replaces it lies in the circular part of the mound. The total axial length of the basis of the whole mound is in a typical case—that of Nara (Yamato)—674 feet, the diameter of the round end being 420 feet. The mounds have in most cases terraced sides, and are surrounded by a moat. In early times it seems to have been the custom to slay or bury alive the servants of the emperor on his mound, but this was given up about the beginning of the Christian era.

These imperial double mounds seem to begin about two centuries before the Christian era, and to continue for five or six centuries after it. Many of them can be definitely assigned to their owners, and others are attributed by tradition. Thus a rather small mound at the foot of Mount Unebi (Yamato) is considered to be the burial place of the Emperor Jimmu, the founder of the Imperial dynasty, and annual ceremonies are performed before it.

The Japanese Emperors are still buried in terraced mounds, and in the group of huge stone blocks which have been placed on the mound of the Emperor Komei, who died in 1866, we may be tempted to see a survival of the ancient megalithic chamber. [122]

These early corridor-tombs are evidently not the work of the Ainu, the aborigines of Japan, but of the Japanese invaders who conquered them. These latter do not seem to have brought the idea of megalithic building with them, as their earlier tombs are simple mounds. As no dolmen has yet been found in Japan we cannot at present derive the corridor-tomb there from it. It is, however, worthy of mention that true dolmens occur as near as Corea, though none have been reported from China.

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CHAPTER IX

THE BUILDERS OF THE MEGALITHIC MONUMENTS, THEIR HABITS, CUSTOMS, RELIGION, ETC.

With regard to the date of the megalithic monuments it only remains to sum up the evidence given in the previous chapters. It may be said that in Europe they never belong to the beginning of the neolithic age, but either to its end or to the period which followed it, i.e. to the age of copper and bronze. The majority date from the dawn of this latter period, though some of the chambered cairns of Ireland seem to belong to the iron age. Outside Europe there are certainly megalithic tombs which are late. In North Africa, for example, we know that the erection of dolmens continued into the early iron age; many of the Indian tombs are clearly late, and the corridor-tombs of Japan can be safely attributed in part at least to the Christian era.

With what purpose were the megalithic monuments erected? The most simple example, the menhir or upright stone, may have served many purposes. In discussing the temples of Malta we [124] saw reason for believing that the megalithic peoples were in the habit of worshipping great stones as such. Other stones, not actually worshipped, may mark the scene of some great event. Jacob commemorated a dream by setting up the stone which had served him as a pillow, and Samuel, victorious over the Philistines, set up twelve stones, and called the place "Stones of Deliverance." Others again perhaps stood in a spot devoted to some particular national or religious ceremony. Thus the Angami of the present day in Assam set up stones in commemoration of their village feasts. It seems clear from the excavations that the menhirs do not mark the place of burials, though they may in some cases have been raised in honour of the dead.

The question of the purpose of stone circles has already been dealt with in connection with those of Great Britain. *Alignements* are more difficult to explain, for, from their form, they cannot have served as temples in the sense of meeting-places for worship. Yet they must surely have been connected with religion in some way or other. Possibly they were not constructed once and for all, but the stones were added gradually, each marking some event or the performance of some periodic ceremony, or even the death of some great chief. The so-called "Canaanite High Place" recently found at Gezer consists of a line of ten menhirs running north and south, together with a [125] large block in which was a socket for an idol or other object of worship. Several bodies of children found near it have suggested that the monument was a place of sacrifice.

Other megalithic structures can be definitely classed as dwellings or tombs, as we have seen in our separate treatment of them. It is not improbable that, if we are right in considering the dolmen as the most primitive form of megalithic monument, megalithic architecture was funerary in origin. Yet, as we find it in its great diffusion, it provides homes for the living as well as for the dead. In their original home, perhaps in Africa, the megalithic race may have lived in huts of wattle or skins, but after their migration the need of protection in a hostile country and the exigencies of a colder climate may have forced them to employ stone for their dwellings. In any case, in megalithic architecture as seen in Europe the tomb and the dwelling types are considerably intermixed, and may have reacted on one another. This, however, does not justify the assertion so often made that the megalithic tomb was a conscious imitation of the hut. It is true that some peoples make the home of their dead to resemble that of the living. Among certain tribes of Greenland it is usual to leave the dead man seated in his hut by way of burial. But such a conception does not exist among all peoples, and to say that the dolmen is an imitation in stone of [126] a hut is the purest conjecture. Still more improbable is Montelius's idea that the corridor-tomb imitates a dwelling. It is true that the Eskimos have a type of hut which is entered by a low passage often 30 feet in length, but for one who believes as Montelius does that the corridor-tomb is southern or eastern in origin such a derivation is impossible, for this type of house is essentially northern, its aim being to exclude the icy winds. In the south it would be intolerably close, and its low passage besides serving no purpose would be inconvenient.

There is really no reason to derive either the dolmen or the corridor-tomb from dwellings at all. Granted the use of huge stones, both are purely natural forms, and the presence of the corridor in the latter is dictated by necessity. The problem was how to cover a large tomb-chamber with a mound and to leave it still accessible for later interments, and the obvious solution was to add a covered passage leading out to the edge of the mound.

A remarkable feature of the megalithic tombs is the occurrence in many of them of a small round or rectangular hole in one of the walls, usually an end-wall, more rarely a partition-wall between two chambers. Occasionally the hole was formed by placing side by side two upright blocks each with a semicircular notch in its edge. Tombs with a holed block or blocks occur in England, [127] instances being the barrows of Avening and Rodmarton, King Orry's Grave in the Isle of Man, Lanyon Quoit in Cornwall, and Plas Newydd in Wales, which has two holes. There are also examples in Ireland, France, Belgium, Central Germany, and Scandinavia, where they are common. Passing further afield we find holes in the Giants' Graves of Sardinia, and in Syria, the Caucasus, and India, where half the dolmens in the Deccan are of this type. The holes are usually too small to allow of the passage of a human body. It has been suggested that they served as an outlet for the soul of the deceased, or in some cases as a means of passing in food to him.

Attention has been frequently drawn to curious round pits so often found on the stones of dolmens and usually known as cup-markings. They vary in diameter from about two to four inches, and are occasionally connected by a series of narrow grooves in the stone. They vary considerably in number, sometimes there are few, sometimes many. They occur nearly always on the upper surface of the cover-slab, very rarely on its under surface or on the side-walls.

Some have attempted to show that these pits are purely natural and not artificial. It has been suggested, for instance, that they are simply the casts of a species of fossil sea-urchin which has [128] weathered out from the surface of the stone. This explanation may be true in some cases, but it will not serve in all, for the 'cups' are sometimes arranged in such regular order that their artificial origin is palpable. These markings are found on dolmens and corridor-tombs in Palestine, North Africa, Corsica, France, Germany, Scandinavia, and Great Britain. In Wales there is a fine example of a dolmen with pits at Clynnog Fawr, while in Cornwall we may instance the monument called "The Three Brothers of Grugith" near Meneage.

There is no clue to the purpose of these pits. Some have thought that they were made to hold the blood of sacrifice which was poured over the slab, and from some such idea may have arisen some of the legends of human victims which still cling round the dolmens. Others have opposed to this the fact that the pits sometimes occur on vertical walls or under the cover-slabs, and have preferred to see in them some totemistic signification or some expression of star-worship. It is possible that we have to deal with a complex and not a simple phenomenon, and that the pits were not all made to serve a single purpose. Those which cover some of the finest stones at Mnaidra and Hagiar Kim are certainly meant to be ornamental, though there may be in them a reminiscence of some religious tradition. In any case, it is worth while to remember that cup- [129] markings also occur on natural rocks and boulders in Switzerland, Scandinavia, Great Britain (where there is a good example near Ilkley in Yorkshire), near Como in Italy, and in Germany, Russia, and India.

Of the builders of the megalithic monuments themselves we cannot expect to know very much, especially while their origin remains veiled in obscurity. Yet there are a few facts which stand out clearly. We even know something about their appearance, for the skulls found in the megalithic tombs have in many cases been subjected to careful examination and measurement. Into the detail of these measurements we cannot enter here; suffice it to say that the most important of them are the maximum length of the skull from front to back and its maximum breadth, both measures, of course, being taken in a straight line with a pair of callipers, and not round the contour of the skull. If we now divide the maximum breadth by the maximum length and multiply the result by 100 we get what is known as the cephalic index of the skull. Thus if a skull has a length of 180 millimetres and a breadth of 135, its cephalic index is 135/180 X 100, i.e. 75. It is clear that in a roundish type of head the breadth will be greater in proportion to the length than in a narrow elliptical type. Thus in a broad head the cephalic index is high, while in a narrow head it is low. The former is called brachycephalic (short-headed), and the latter dolichocephalic [130] (long-headed).

This index is now accepted by most anthropologists as a useful criterion of race, though, of course, there are other characteristics which must often be taken into account, such as the height and breadth of the face, the cubic capacity of the skull and its general contour. At any rate, if we can show that the skulls of the megalithic tombs conform to a single type in respect of their index we shall have a presumption, though not a certainty, that they belong to a single race.

For Africa the evidence consists in a group of twenty skulls from dolmen-tombs giving cephalic indices which range from 70.5 to 84.4. The average index is 75.27, and the majority of the indices lay within a few units of that number. Ten skulls from Halsaflieni in Malta have cephalic indices running from 66 to 75.1, the average being 71.84. Of a series of 44 skulls from the rock-tombs of the Petit Morin in France, 12 had an index of over 80, 22 were between 75 and 80, and 10 were below 75. But in the dolmens of Lozère distinctly broad skulls were frequent. A series of British neolithic skulls, mostly from barrows, ran from 67 to 77.

The builders of the megalithic monuments thus belonged in the main to a fairly dolichocephalic race or races, for the large majority of the skulls measured are of a long-headed type. There are, [131] however, in various localities, especially in France, occasional anomalous types of skull which are distinctly brachycephalic, and show that contamination of some kind was taking or had taken place.

Of the state of civilization to which the builders of the megalithic monuments had attained, and of the social condition in which they lived, there is something to be gathered. It is clear in the first place from the evidence of the Maltese buildings that they were a pastoral people who domesticated the ox, the sheep, the pig, and the goat, upon whose flesh they partly lived. Shellfish also formed a part of their diet, and the shells when emptied of their contents were occasionally pierced to be used as pendants or to form necklaces or bracelets.

Whether these people were agricultural is a question more difficult to answer. It is true that flat stones have been found, on which some kind of cereal was ground up with the aid of round pebbles, but the grain for which these primitive mills were used may have been wild and not cultivated. No grain of any kind has been found in the Maltese settlements.

The megalithic race do not seem to have been great traders. This is remarkably exemplified in Malta, where there is not a trace of connection with the wonderful civilization which must have [132] been flourishing so near at hand in Crete and the Ægean at the time when the megalithic temples were built. The island seems to have been entirely self-sufficing, except for the importation of obsidian, probably from the neighbouring island of Linosa. Of copper, which wide trade would have introduced, there is no sign.

Some writers, however, have argued the existence of extensive trade-relations from the occurrence of a peculiar kind of turquoise called *callaïs* in some of the megalithic monuments of France and Portugal. The rarity of this stone has inclined some archæologists to attribute it to a single source, while some have gone so far as to consider it eastern in origin. For the last theory there is no evidence whatsoever. No natural deposit of *callaïs* is known, but it is highly probable that the sources of the megalithic examples lay in France or Portugal.

It would of course be foolish to suppose that the megalithic people received none of the products of other countries, especially at a time when the discovery of copper was giving a great impetus to trade. No doubt they enjoyed the benefits of that kind of slow filtering trade which a primitive tribe, even if it had wished, could hardly have avoided, but they were not a great trading nation as were the Cretans of the Middle and Late Minoan Periods, or the Egyptians of the XIIth and [133] XVIIIth Dynasties. We know nothing of their political conditions, of the groups into which they were divided, or the centres from which they were governed. That there were strong centres of government is, however, clear from the very existence of such huge monuments, many of which must have required the combined and organized labour of large armies of workers, in the gathering of which the state was doubtless strongly backed by religion.

We have seen that the megalithic peoples frequently dwelt in huts of great stones. Yet in the majority of cases their huts must have been, like those of most primitive races, of perishable material, such as wood, wattle, skins, turf, and clay. As for their form there was probably a continual conflict between the round and the rectangular plan, just as there was in the stone examples. Which form prevailed in any particular district was probably determined almost by accident. Thus in Sardinia the round type was mostly kept for the huts and *nuraghi*, while the rectangular was reserved for the dolmens and Giants' Graves. Even here the confusion between the two types is shown by the fact that near Birori there are two dolmens with a round plan. Again, in Pantelleria the huts of the Mursia are rectangular, while the *sesi*, which are tombs, are roughly circular. It is therefore probable that the round and rectangular types of building were both in use among the megalithic people before they spread over Europe. [134]

Within their huts these people led a life of the simplest description. Their weapons and tools, though occasionally of copper, were for the most part of stone. Flint was the most usual material. In Scandinavia it was often polished, but elsewhere it was merely flaked. The implements made from it were of simple types, knives, borers, scrapers, lanceheads, and more rarely arrowheads. Many of these were quite roughly made, no more flaking being done than was absolutely necessary to produce the essential form, and the work being, when possible, confined to one face of the flint.

In the Mediterranean obsidian, a volcanic rock, occasionally took the place of flint, especially in Sardinia and Pantelleria. Axes or celts were often made of flint in Scandinavia and North Germany, but elsewhere other stones, such as jade, jadeite, and diorite were commonly used.

We can only guess at the way in which the megalithic people were clothed. No doubt the skins of the animals they domesticated and of those they hunted provided them with some form of covering, at any rate in countries where it was needed. Possibly they spun wool or flax into a thread, for at Halsaflieni two objects were found which look like spindle-whorls, and others occur on sites which are almost certainly to be attributed to the megalithic people. There is, however, nothing to show that they wove the thread into stuffs. [135]

The love of personal decoration was highly developed among them, and all branches of nature were called upon to minister to their desire for ornament. Shells, pierced and strung separately or in masses, were perhaps their favourite adornment, but close on these follow beads and pendants of almost every conceivable substance, bone, horn, stone, clay, nuts, beans, copper, and occasionally gold.

One small object assumes a great importance on account of its wide distribution. This is the conical button with two converging holes in its base to pass the thread through. This little object,

which may have served exactly the purpose of the modern button, occurs in several parts of the megalithic area. There are examples in Malta made of stone and shell. Elsewhere it is most usually of bone. It occurs in Sardinia, in France, in the rock-tombs of Gard, and in the corridor and rock-tombs of Lozère and Ardèche, in Portugal in the *allée couverte* of Monte Abrahaõ, in Bohuslän (Sweden), and at Carrowmore in Ireland. Outside the megalithic area it has been found in two of the Swiss lake-dwellings and in Italy.

The pottery of the megalithic people was of a simple type. It was all made by hand, the potter's wheel being still unknown to the makers. Pottery with painted designs does not occur outside Sicily, except for a few poor and late examples in Malta. The best vases were of fairly purified [136] clay, moderately well fired, and having a polished surface, usually of a darkish colour. On this surface were often incised ornamental designs, varying both in type and in the skill with which they were engraved. As a rule the schemes were rectilinear, more rarely they were carried out in curves. Sardinia furnishes some fine examples of rectilinear work, while the best of the curved designs are found in Malta, where elaborate conventional and even naturalistic patterns are traced out with wonderful freedom and steadiness of hand.

The pottery of the megalithic area is not all alike; it would be surprising if it were. Even supposing that the invaders brought with them a single definite style of pottery-making this would rapidly become modified by local conditions and by the already existing pottery industry of the country, often, no doubt, superior to that of the new-comers. Nevertheless, there are a few points of similarity between the pottery of various parts of the megalithic area. The most remarkable example is the bell-shaped cup, which occurs in Denmark, England, France, Spain, Sardinia, and possibly Malta (the specimen is too broken for certainty). Outside the area it is found in Bohemia, Hungary, and North Italy. Here, as in the case of the conical button, we cannot argue that the form was actually introduced by the megalithic race, though there is a certain [137] possibility in favour of such a hypothesis.

That the megalithic people possessed a religion of some kind will hardly be doubted. Their careful observance of the rites due to the dead, and their construction of buildings which can hardly have been anything but places of worship, is a strong testimony to this. We have seen that in the Maltese temples the worship of baetyls or pillars of stone seems to have been carried on. Several stone objects which can scarcely have been anything but baetyls were found in the megalithic structures of Los Millares in Spain, but none are known elsewhere in the megalithic area.

There is some reason for thinking that among the megalithic race there existed a cult of the axe. In France, for instance, the sculptured rock-tombs of the valley of the Petit Morin show, some a human figure, some an axe, and some a combination of the two. This same juxtaposition of the two also occurs on a slab which closed the top of a corbelled chamber at Collorgues in Gard. A simple *allée couverte* at Göhlitzsch in Saxony has on one of its blocks an axe and handle engraved and coloured red. There are further examples in the *allée couverte* of Gavr'inis and the dolmen called La Table des Marchands at Locmariaquer.

These sculptured axes call to mind at once the numerous axe-shaped pendants of fine polished [138] stone (jade, jadeite, etc.) found in Malta, Sicily, Sardinia, and France, and apparently used as amulets. The excavation of Crete has brought to light a remarkable worship of the double axe, and it has been argued with great probability that one of the early boat signs figured on the pre-dynastic painted vases of Egypt is a double axe, and that this was a cult object. It seems very probable that in the megalithic area, or at least in part of it, there was a somewhat similar worship, the object of cult, however, being not a double but a single axe, usually represented as fitted with a handle. It need not be assumed that the axe itself was worshipped, though this is not impossible; it is more likely that it was an attribute of some god or goddess.

Among the rock-hewn tombs of the valley of the Petit Morin in the department of Marne, France, were seven which contained engravings on one of the walls. Several of these represent human figures (Fig. 13). The eyes are not marked, but the hair and nose are clear. In some the breasts are shown, in others they are omitted. On each figure is represented what appears to be a collar or necklace. Similar figures occur on the slabs of some of the *allées couvertes* of Seine et Oise, and on certain blocks found in and near megalithic burials in the South of France. Moreover, in the departments of Aveyron, Tarn, and Hérault have been found what are known as menhir- [139] statues, upright pillars of stone roughly shaped into human semblance at the top; they are of two types, the one clearly female and the other with no breasts, but always with a collar or baldric.

It has been argued that these figures represent a deity or deities of the megalithic people. Déchelette, comparing what are apparently tattoo marks on a menhir-statue at Saint Sermin (Aveyron) with similar marks on a figure cut on a schist plaque at Idanha a Nova (Portugal) and on a marble idol from the island of Seriphos in the Ægean, seems inclined to argue that in France and Portugal we have the same deity as in the Ægean. This seems rather a hazardous conjecture, for we know that many primitive peoples practised tattooing, and, moreover, it is not certain that the French figures represent deities at all. It is quite as likely, if not more so, that they represent the deceased, and take the place of a grave-stone: this would account for the occurrence of both male and female types. This was almost certainly the purpose of six stones that remain of a line that ran parallel to a now destroyed tomb at Tamuli (Sardinia). Three have breasts as if to

distinguish the sex of three of those buried in the tomb. We must not therefore assume that any of the French figures represents a 'dolmen-deity.'

The method of burial observed in the megalithic tombs is almost universally inhumation. [140] Cremation seems to occur only in France, but there it is beyond all doubt. The known examples are found in the departments of Finistère, Marne, and Aisne, and in the neighbourhood of Paris. In Finistère out of 92 megalithic burials examined 61 were cremations, 26 were inhumations, and 5 were uncertain. It is extremely curious that this small portion of France should be the only part of the megalithic area where cremation was practised. It is generally held that cremation was brought into Europe by the broad-headed 'Alpine' people, who seem to have invaded the centre of the continent at some period in the neolithic age. It is possible that in parts of France a mixture took place between the megalithic builders and the Alpine race. Intermarriage would no doubt lead to confusion in many cases between the two rites.

In all other cases the builders of the megalithic monuments buried their dead unburned. Often the body was lying stretched out on its back, or was set in a sitting position against the side of the tomb; but most frequently it was placed in what is known as the contracted position, laid on one side, generally the left, with the knees bent and drawn up towards the chin, the arms bent at the elbow, and the hands placed close to the face. Many explanations of this position have been suggested. Some see in it a natural posture of repose, some an attempt to crowd the body into as [141] small a space as possible. Some have suggested that the corpse was tightly bound up with cords in order that the spirit might not escape and do harm to the living. Perhaps the most widely approved theory is that which considers this position to be embryonic, i.e. the position of the embryo previous to birth. None of these explanations is entirely convincing, but no better one has been put forward up to the present.

This custom, it must be noted, was not limited to the megalithic peoples. It was the invariable practice of the pre-dynastic Egyptians and has been found further east in Persia. It occurs in the neolithic period in Crete and the Ægean, in Italy, Switzerland, Germany, and other parts of Europe, and it is one of the facts which go to show that the builders of the megaliths were ethnologically connected, however remotely, with their predecessors in Europe.

At Halsaflieni, in Malta, we have perhaps examples of the curious custom of secondary interment; the body is buried temporarily in some suitable place, and after the flesh has left the bones the latter are collected and thrown together into a common ossuary. That the bones at Halsaflieni were placed there when free from flesh is probable from the closeness with which they were packed together (see p. 111). There are also possible examples in Sicily (see p. 79). The custom [142] was not unknown in neolithic days, especially in Crete. It is still occasionally practised on the island and on the Greek mainland, where, after the dead have lain a few years in hallowed soil, their bones are dug up, roughly cleaned, and deposited in caves.

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CHAPTER X

WHO WERE THE BUILDERS, AND WHENCE DID THEY COME?

Modern discussion of the origin of the megalithic monuments may be said to date from Bertrand's publication of the French examples in 1864. In this work Bertrand upheld the thesis that "the dolmens and *allées couvertes* are sepulchres; and their origin seems up to the present to be northern." In 1865 appeared Bonstetten's famous *Essai sur les dolmens*, in which he maintained that the dolmens were constructed by one and the same people spreading over Europe from north to south. At this time the dolmens of North Africa were still unstudied. In 1867 followed an important paper by Bertrand. In 1872 two events of importance to the subject occurred, the publication of Fergusson's *Rude Stone Monuments in All Countries*, and the discussion raised at the Brussels Congress by General Faidherbe's paper on the dolmens of Algeria. Faidherbe maintained the thesis that dolmens, whether in Europe or Africa, were the work of a single people moving southward from the Baltic Sea.

The question thus raised has been keenly debated since. At the Stockholm Congress in 1874 de [144] Mortillet advanced the theory that megalithic monuments in different districts were due to different peoples, and that what spread was the custom of building such structures and not the builders themselves. This theory has been accepted by most archæologists, including Montelius, Salomon Reinach, Sophus Müller, Hoernes, and Déchelette. But while the rest believe the influences which produced the megalithic monuments to have spread from east to west, i.e. from Asia to Europe, Salomon Reinach holds the contrary view, which he has supported in a remarkable paper called *Le Mirage Oriental*, published in 1893.

The questions we have to discuss are, therefore, as follows: Are all the megalithic monuments due to a single race or to several? If to a single race, whence did that race come and in what

direction did it move? If to several, did the idea of building megalithic structures arise among the several races independently, or did it spread from one to another?

We shall consider first the theory that the idea of megalithic building was evolved among several races independently, i.e. that it was a phase of culture through which they separately passed.

On the whole, this idea has not found favour among archæologists. The use of stone for building might have arisen in many places independently. But megalithic architecture is something much [145] more than this. It is the use of great stones in certain definite and particular ways. We have already examined what may be called the style of megalithic architecture and found that the same features are noticeable in all countries where these buildings occur. In each case we see a type of construction based on the use of large orthostatic slabs, sometimes surmounted by courses of horizontal masonry, with either a roof of horizontal slabs or a corbelled vault. Associated with this we frequently find the hewing of underground chambers in the rock. In almost all countries where megalithic structures occur certain fixed types prevail; the dolmen is the most general of these, and it is clear that many of the other forms are simply developments of this. The occurrence of structures with a hole in one of the walls and of blocks with 'cup-markings' is usual over the whole of the megalithic area. There are even more remarkable resemblances in detail between structures in widely separated countries. Thus the Giants' Tombs of Sardinia all have a concave façade which forms a kind of semicircular court in front of the entrance to the tomb. This feature is seen also in the temples of Malta, in the tomb of Los Millares in Spain, in the *naus* of the Balearic Isles (where, however, the curve is slight), in the Giant's Grave of Annaclochmullin and the chambered cairn of Newbliss in Ireland, in the tomb of Cashtal-yn-Ard in the Isle of Man, in the barrow of West Tump in Gloucestershire, and in the [146] horned cairns of the north of Scotland. These parallels are due to something more than coincidence; in fact, it is clear that megalithic building is a widespread and homogeneous system, which, despite local differences, always preserves certain common features pointing to a single origin. It is thus difficult to accept the suggestion that it is merely a phase through which many races have passed. The phases which occur in many races alike are always those which are natural and necessary in the development of a people, such as the phase of using copper. But there is nothing either natural or necessary in the use of huge unwieldy blocks of stone where much smaller ones would have sufficed.

There are further objections to this theory in the distribution of the megalithic buildings both in space and time. In space they occupy a very remarkable position along a vast sea-board which includes the Mediterranean coast of Africa and the Atlantic coast of Europe. In other words, they lie entirely along a natural sea route. It is more than accident that the many places in which, according to this theory, the megalithic phase independently arose all lie in most natural sea connection with each other, while not one is in the interior of Europe.

In time the vast majority of the megalithic monuments of Europe seem to begin near the end of [147] the neolithic period and cover the copper age, the later forms continuing occasionally into that of bronze. Here again it is curious that megalithic building, if merely an independent phase in many countries, should arise in so many at about the same time, and with no apparent reason. Had it been the use of *worked* stones that arose, and had this followed the appearance of copper tools, the advocates of this theory would have had a stronger case, but there seems to be no reason why huge unworked stones should *simultaneously* begin to be employed for tombs in many different countries unless this use spread from a single source.

For these reasons it is impossible to consider megalithic building as a mere phase through which many nations passed, and it must therefore have been a system originating with one race, and spreading far and wide, owing either to trade influence or migration. But can we determine which?

Great movements of races by sea were not by any means unusual in primitive days, in fact, the sea has always been less of an obstacle to early man than the land with its deserts, mountains, and unfordable rivers. There is nothing inherently impossible or even improbable in the suggestion that a great immigration brought the megalithic monuments from Sweden to India or vice versa. History is full of instances of such migrations. According to the most widely accepted [148] modern theory the whole or at least the greater part of the neolithic population of Europe moved in from some part of Africa at the opening of the neolithic age. In medieval history we have the example of the Arabs, who in their movement covered a considerable portion of the very megalithic area which we are discussing.

On the other hand, many find it preferable to suppose that over this same distance there extended a vast trade route or a series of trade routes, along which travelled the influences which account for the presence of precisely similar dolmens in Denmark, Spain, and the Caucasus. Yet although much has been written about neolithic trade routes little has been proved, and the fact that early man occasionally crossed large tracts of land and sea in the great movements of migration does not show that he also did so by way of trade, nor does it prove the existence of such steady and extensive commercial relations as such a theory of the megalithic monuments would seem to require. Immigration is often forced on a race. Change of climate or the diverting of the course of a great river may make their country unfit for habitation, or they may be expelled by a stronger race. In either case they must migrate, and we know from history that they often covered long distances in their attempt to follow the line of least resistance. Thus there is nothing a priori improbable in the idea that the megalithic monuments were built by a [149] single invading race.

There are other considerations which support such a theory. It will be readily admitted that the commonest and most widely distributed form of the megalithic monument is the dolmen. Both this and its obvious derivatives, the Giant's Grave, the *allée couverte*, and others, are known to have been tombs, while other types of structure, such as the Maltese temple, the menhir, and the cromlech, almost certainly had a religious purpose. It is difficult to believe that these types of building, so closely connected with religion and burial, were introduced into all these regions simply by the influence of trade relations. Religious customs and the burial rites connected with them are perhaps the most precious possession of a primitive people, and they are those in which they most oppose and resent change of any kind, even when it only involves detail and not principle. Thus it is almost incredible that the people, for instance, of Spain, because they were told by traders that the people of North Africa buried in dolmens, gave up, even in isolated instances, their habit of interment in trench graves in favour of burial in dolmens. It is still more impossible to believe that this unnatural event happened in one country after another. It is true that the use of metal was spread by means of commerce, but here there was something to be [150] gained by adopting the new discovery, and there was no sacrifice of religious custom or principle. An exchange of products between one country and another is not unnatural, but a traffic in burial customs is unthinkable.

Perhaps, however, it was not the form of the dolmen which was brought by commerce, but simply the art of architecture in general, and this was adapted to burial purposes. To this there are serious objections. In the first place it does not explain why exactly the same types of building (e.g. the dolmen), showing so many similarities of peculiar detail, occur in countries so far apart; and in the second place, if what was carried by trade was the art of building alone, why should the learners go out of their way to use huge stones when smaller ones would have suited their purpose equally well? That the megalithic builders knew how to employ smaller stones we know from their work; that they preferred to use large ones for certain purposes was not due to ignorance or chance, it was because the large stone as such had some particular meaning and association for them. We cannot definitely say that large stones were themselves actually worshipped, but there can be no possible doubt that for some reason or other they were regarded as peculiarly fit to be used in sanctified places such as the tombs of the dead. It is impossible that the men who possessed the skill to lay the horizontal upper courses of the Hagiar Kim temple [151] should have taken the trouble to haul to the spot and use vast blocks over 20 feet in length where far smaller ones would have been more convenient, unless they had some deep-seated prejudice in favour of great stones.

Such are the main difficulties involved by the influence theory. On the other hand, objections have been urged against the idea that the monuments were all built by one and the same race. Thus Dr. Montelius in his excellent *Orient und Europa* says, "In Europe at this time dwelt Aryans, but the Syrians and Sudanese cannot be Aryans," the inference being, of course, that the European dolmens were built by a different race from that which built those of Syria and the Sudan. Unfortunately, however, the major premise is not completely true, for though it is true that Aryans did live in Europe at this time, there were also people in Europe who were not Aryans, and it is precisely among them that megalithic buildings occur.

The French archæologist Déchelette also condemns the idea of a single race. "Anthropological observations," he says, "have long since ruined this adventurous hypothesis." He does not tell us what these observations are, but we presume that he refers to the occurrence of varying skull types among the people buried in the megalithic tombs. Nothing is more natural than that some variation should occur. We are dealing with a race which made enormous journeys, and thus [152] became contaminated by the various other races with which it came in contact. It may even have been a mixed race to start with. Thus even if we found skulls of very different types in the dolmens this would not in the least disprove the idea that dolmen building was introduced into various countries by one and the same race. It would be simply a case of the common anthropological fact that a race immigrating into an already inhabited country becomes to some extent modified by intermarriage with the earlier inhabitants. The measurements given in the last chapter would seem to show that despite local variation there is an underlying homogeneity in the skulls of the megalithic people.

It thus seems that the most probable theory of the origin of the megalithic monuments is that this style of building was brought to the various countries in which we find it by a single race in an immense migration or series of migrations. It is significant that this theory has been accepted by Dr. Duncan Mackenzie, who is perhaps the first authority on the megalithic structures of the Mediterranean basin.

One question still remains to be discussed. From what direction did megalithic architecture come, and what was its original home? This is clearly a point which is not altogether dependent on the means by which this architecture was diffused. Montelius speaks in favour of an Asiatic [153] origin. He considers that caves, and tombs accessible from above, i.e. simple pits dug in the earth, were native in Europe, while tombs reached from the side, such as dolmens and corridor-tombs, were introduced into Europe from the east. Salomon Reinach, arguing mainly from the early appearance of the objects found in the tombs of Scandinavia and the rarity of the simpler types of monument, such as the dolmen, in Germany and South Europe, suggests that megalithic monuments first appeared in North Europe and spread southwards. Mackenzie is more inclined to believe in an African origin. If he is right it may be that some climatic change, possibly the

decrease of rainfall in what is now the Sahara desert, caused a migration from Africa to Europe very similar to that which many believe to have given to Europe its early neolithic population. The megalithic people may even have been a branch of the same vast race as the neolithic: this would explain the fact that both inhumed their dead in the contracted position.

It is probable that the problem will never be solved. The only way to attempt a solution would be to show that in some part of the megalithic area the structures were definitely earlier than in any other, and that as we move away from that part in any direction they become later and later. Such a means of solution is not hopeful, for the earliest form of structure, the dolmen, occurs in [154] all parts of the area, and if we attempt to date by objects we are met by the difficulty that a dolmen in one place which contained copper might be earlier than one in another place which contained none, copper having been known in the former place earlier than in the latter.

It still remains to consider the question of the origin of the rock-hewn sepulchre and its relation to the megalithic monument. The rock-tomb occurs in Egypt, Phoenicia, Rhodes, Cyprus, Crete, South Italy, Sicily, Sardinia, Malta, Pianosa, the Iberian Peninsula, the Balearic Isles, and France. In all these places there are examples which are certainly early, i.e. belong to the neolithic or early metal age, with the exception of Malta and perhaps Rhodes and Phoenicia. Two types are common, the chamber cut in the vertical face of rock and thus entered from the side, sometimes by a horizontal passage, and the chamber cut underground and entered from a vertical or sloping shaft placed not directly over the chamber, but immediately to one side of it. It is unlikely that these two types have a separate origin, for they are clearly determined by geological reasons. A piece of country where vertical cliffs or faces of rock abounded was suited to the first type, while the other alone was possible when the ground consisted of a flat horizontal surface of rock. We [155] frequently find the two side by side and containing identically the same type of remains. In South-East Sicily we have the horizontal entrance in the tombs of the rocky gorge of Pantalica, while the vertical shaft is the rule in the tombs of the Plemmirio, only a few miles distant.

Two curious facts are noticeable with regard to the distribution of the rock-hewn tombs. In the first place they are all in the vicinity of the Mediterranean, and in the second some occur in the megalithic area, while others do not. The examples of Egypt, Cyprus, and Crete show that this type of tomb flourished in the Eastern Mediterranean. Was it from here that the type was introduced into the megalithic area, or did the megalithic people bring with them a tradition of building rock-tombs totally distinct from that which is represented by the tombs of Egypt, Cyprus, and Crete?

The question is difficult to answer. One thing alone is clear, that in certain places, such as Malta and Sardinia, the megalithic people were not averse to reproducing in the solid rock the forms which they more usually erected with large stones above ground. The finest instance of this is the Halsaflieni hypogeum in Malta, where the solid rock is hewn out with infinite care to imitate the form and even the details of surface building.

Similarly we have seen that both in Sardinia and in France the same forms of tomb were [156] rendered in great stones or in solid rock almost indifferently.

There can therefore be no doubt that the hewing out of rock was practised by the megalithic people, and that they were no mean exponents of the art. We have no proof that they brought this art along with them from their original centre of dispersion, though if they did it is curious that they did not carry it into other countries where they penetrated besides those of the Mediterranean. It may be that early rock-tombs will yet be found in North Africa, but it seems improbable that, had they existed in the British Isles, in North Germany, or in Scandinavia, not a single example should have been found.

On the other hand, if the megalithic people did not bring the idea of the rock-tomb with them we must suppose either that it evolved among them after their migration, or that they adopted it from the Eastern Mediterranean. The last supposition is particularly unlikely, as it would involve the modification of a burial custom by foreign influence.

We have, in fact, no evidence on which to judge the question. Perhaps it is least unreasonable to suppose that the idea of the rock-tomb was brought into the megalithic area by the same people who introduced the megalithic monuments, and did not result from contact with the Eastern Mediterranean. Similarly we ought perhaps to disclaim any direct connection between the [157] corridor-tombs of the megalithic area and the great *tholoi* of Crete and the Greek mainland. At first sight there is a considerable similarity between them. The Treasury of Atreus at Mycenæ with its corbelled circular chamber and long rectangular corridor seems very little removed, except in size and finish, from the tombs of Gavr' Inis and Lough Crew. Yet there are vital points of difference. The two last are tombs built partly with upright slabs on the surface of the ground, entered by horizontal corridors, and covered with mounds. The Treasury of Atreus is simply an elaborated rock-tomb cut underground with a sloping shaft; as the ground consisted only of loose soil a coating of stone was a necessity, and hence the resemblance to a megalithic monument.

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