



**ROUGH STONE
MONUMENTS
AND THEIR BUILDERS**

T. ERIC PEET

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Contents:

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Preface

Chapter I - Introduction

Chapter II - Stonehenge And Other Great Stone
Monuments In England And Wales

Chapter III - Megalithic Monuments In Scotland And
Ireland

Chapter IV - The Scandinavian Megalithic Area

Chapter V - France, Spain, And Portugal

Chapter VI - Italy And Its Islands

Chapter VII - Africa, Malta, And The Smaller
Mediterranean Islands

Chapter VIII - The Dolmens Of Asia

Chapter IX - The Builders Of The Megalithic Monuments,
Their Habits, Customs, Religion, Etc.

Chapter X - Who Were The Builders, And Whence Did
They Come?

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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 10th*, 1912.

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, 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 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 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 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 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 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 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 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 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 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, 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.

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