

FERGUSSON'S RUDE STONE MONUMENTS\*

IN Mr. Fergusson's "Handbook of Architecture," published in 1854, one chapter of about fifty pages is de-

voted to Megalithic, or, as he prefers to call them, Rude Stone, Monuments. Ever since that period he has been collecting materials on this interesting subject, and the result is now before us, in the work which forms the subject

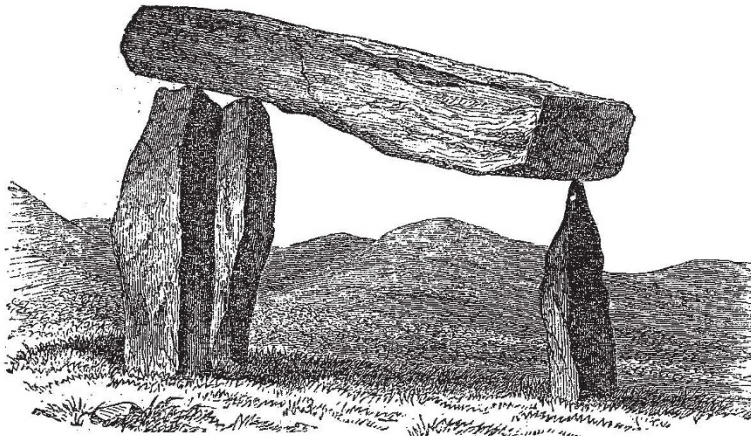


FIG. 1.—Dolmen at Castle Wellan, Ireland. From a drawing by Sir Henry James.

of this notice. In it he confines himself to the classes of monuments indicated in the title, omitting all reference to hut circles, Pict's houses, brochs, and other buildings

composed of smaller stones; not because he doubts that they belong to the same period, "but because their age being doubtful also" it would only complicate the

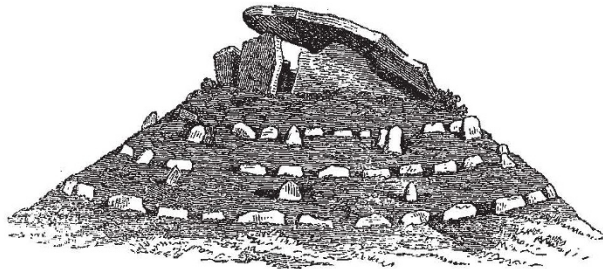


FIG. 2.—Dolmen de Bousquet. From a drawing by E. Cartailhac.

argument to introduce them. He limits himself therefore to tumuli, menhirs or stone pillars, stone circles, avenues, and dolmens. All these we find sometimes singly, some-

times in combination, the tumulus containing a dolmen, being surrounded by one or more stone circles, and surmounted by a menhir. Fig. liiii., representing the celebrated

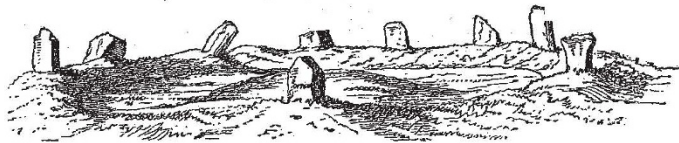


FIG. 3.—Nine Ladies, Stanton Moor. From a drawing by L. Jewitt.

tumulus of New Grange, near Drogheda, gives a good idea of the large barrows; it was originally surrounded by a circle of stones, most of which, however, have disap-

peared. Fig. 3 represents the stone circle, known as the Nine Ladies on Stanton Moor. The typical "Dolmen" may be described as a massive

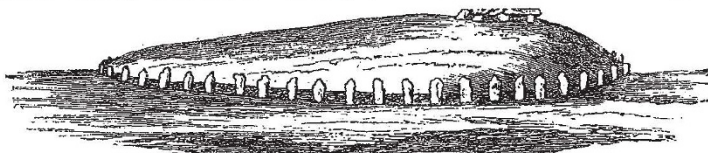


FIG. 4.—Long Barrow, Kennet, restored by Dr. Thurnam. *Archaeologia*, xii.

stone resting on three supports; the celebrated Kits Coty House, near Maidstone, may be regarded as a typical ex-

ample. Fig. cvii. represents one at Halskov, in Denmark, raised on a small mound, and surrounded by a circle of stone. Fig. 1, representing a Dolmen at Castle Wellan, Ireland, and Fig. 6, one at Grandmont, in Bas Languedoc, are more ex-

\* "Rude Stone Monuments." By James Fergusson, D.C.L., F.R.S. London: John Murray, 1872.)

ceptional types. Dolmens are sometimes covered by a mound of earth (like the Gib Hill example, excavated by Mr. Bateman), sometimes free, as in the preceding figures. That all the earlier ones were covered, says Mr. Fergusson, "is more than probable, and it may since have been originally intended to cover up many of those which

now stand free ; but it seems impossible to believe that the bulk of those we now see were ever hidden by any earthen covering."

The tumuli which contain megalithic chambers closely resemble the dwellings even now used by many northern nations, the Siberian Yurt, for instance, consists of a central

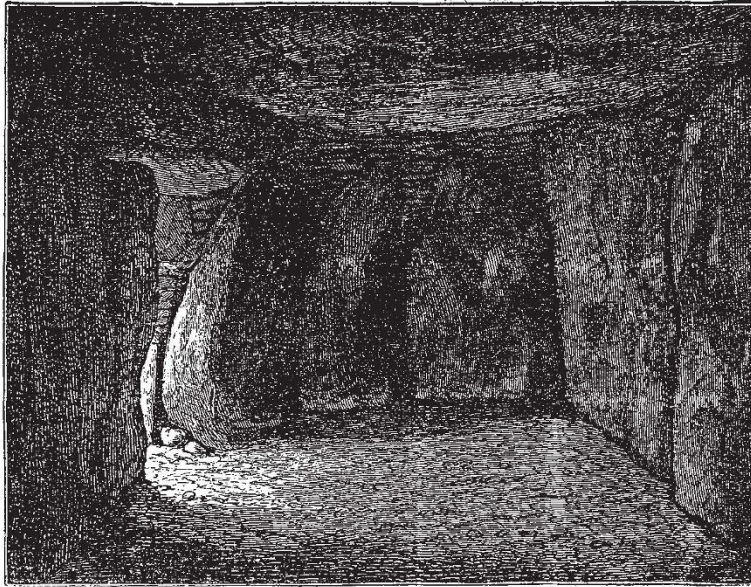


FIG. 5.—View of Interior of Chamber at Uby. From Madsen.

chamber, generally sunk a little below the surface, built of stones or timber, and heaped over with earth, so as to form a mound. The Tchutski huts are very similar. "They are," says Captain Cook, "sunk a little below the surface of the earth. One of them which I examined

was of an oval form, about twenty feet long and twelve or more high. The framing was composed of wood and the ribs of whales, disposed in a judicious manner, and bound together with smaller materials of the same sort. Over this framing is laid a covering of strong coarse

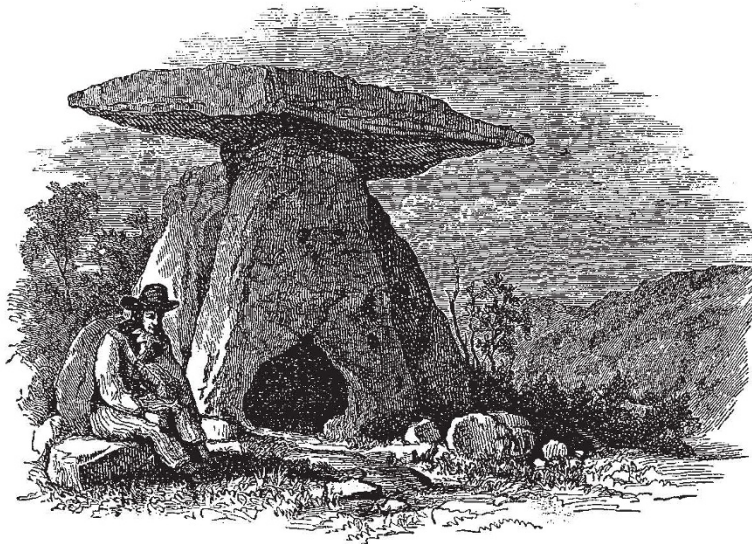


FIG. 6.—Dolmen of Grandmont.

grass, and that, again, is covered with earth, so that, on the outside, the house looks like a hillock supported by a wall of stone three or four feet high, which is built round the two sides and one end."

The huts of the Esquimaux and Lapps are built on the same model, and have generally a longer or shorter

covered passage leading to the door, the object of which is to keep the cold out of the central chamber. Round the walls of the latter are ranged seats for the inmates, and part of the space is often separated off by partitions. So closely do many of our Northern tumuli correspond to these descriptions, that Nilsson long ago

suggested many of them having been originally used as dwelling places, and converted subsequently into tombs. Fig xi., for instance, represents the chamber of a tumulus near St. Helier, in Jersey. Here we have the central room, with partitions, and the passage leading to the door. In some few cases the dead have been found sitting round the sepulchral chamber, with their arms and implements by their side, just as they may be supposed to have sat during life. Fig. 5 represents the chamber of a tumulus at Uby in Denmark. Stonehenge itself (Fig. 8) seems to be constructed on the same model: the mound, however, being absent, or only represented by the encircling ring of earth.

In determining the date of particular tumuli, Mr. Fergusson seems to me to attach too much importance to objects found on, or near the surface, and which often have no doubt been accidentally dropped, or belong to secondary interments. Thus he refers to the two objects of iron found at Gib Hill, as if they justified us in ascribing that interesting tumulus to the iron age. But Mr. Bateman, by whom that mound was opened, expressly states that the objects of iron were not found in the central cist, but they belonged to a secondary interment. They throw, therefore, no more light on the date of Gib Hill itself than the fragments of ginger-beer bottles which abound

in the area of Stonehenge do on the period to which it belongs. This is a consideration which is of great importance; because the history of these megalithic monuments, the race by whom, and the date at which they were constructed, are most interesting questions of archæology. Although few now regard Stonehenge as a Druidical temple, still archæologists are almost unanimous in regarding it as very ancient; while the class of megalithic monuments they consider to have begun in pre-historic times, and to have continued in out-of-the-way parts down to a comparatively recent period. Mr. Fergusson, on the contrary, is of a different opinion. He endeavours to show that these monuments belong to one period, and to comparatively recent times:—

“However this may be,” he says, “I trust that this work may lay claim to being, in one respect at least, a contribution to the cause of truth regarding the much-disputed age and use of these rude stone monuments. It states distinctly, and without reserve, one view of the mooted question, and so openly, that any one who knows better can at once pull away the prop from my house of cards and level it with the ground. If one thing comes out more clearly than another in the course of this investigation, it is that the style of architecture to which these monuments belong is a style, like Gothic, Grecian, Egyp-

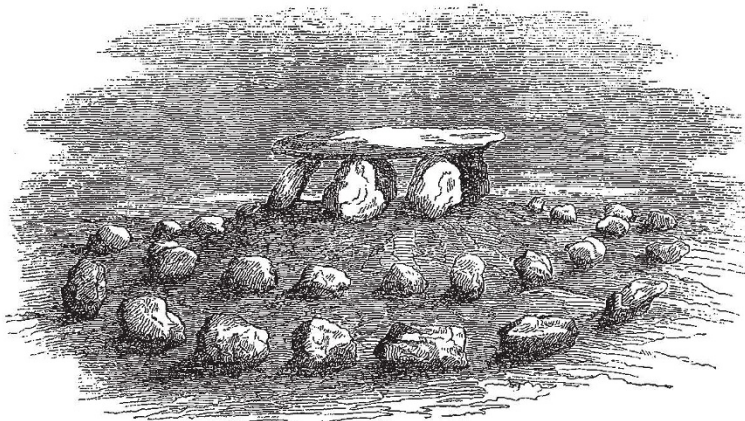


FIG. 7.—Dolmen at Pullicondah.

tian, Budhist, or any other. It has a beginning, and middle, and an end; and though we cannot yet make out the sequence in all its details, this at least seems clear—that there is no great hiatus; nor is it that one part is pre-historic, while the other belongs to historic times. All belong to the one epoch or the other. Either it is that Stonehenge and Avebury, and all such, are the temples of a race so ancient as to be beyond the ken of mortal men, or they are the sepulchral monument of a people who lived so nearly within the limits of the true historic times that their story can easily be recovered.”

As already mentioned, the latter is Mr. Fergusson's view. Almost alone among English archæologists, he considers that Stonehenge is part Roman, and believes it to have been erected by Ambrosius, between the years 466 and 470 A.D., in memory of the British chiefs treacherously slain a few years previously. This theory I have discussed in “Pre-historic Times,” and, as I have little to alter in, or add to, what is there said, I will not here repeat my arguments.

As regards Abury, the second in importance—if, indeed, it be the second and not the first of these monuments

Mr. Fergusson says:—“I feel no doubt that 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 at Silbury, in the vain hope that they would convey to their latest posterity the memory of their prowess” (p. 89). In fact, Mr. Fergusson refers to this period all the similar monuments in England, a conclusion which seems to me in itself most improbable, and which becomes still more so if we consider the similar remains of other countries. The Irish examples he considers to be somewhat earlier; the Moytura remains, for instance, being perhaps as early as the first century B.C. As regards the North, he regards the celebrated tumulus of Maes Howe as probably the “tomb of Havard, or of some other of the Pagan Norwegian Jarls of Orkney;” while the Stones of Stennis can hardly, he thinks, “be carried back beyond the year 800,” to which period he refers all the megalithic remains in those islands. In short he regards these monuments, whether in Britain, Scandinavia, Germany, France, Spain, Algeria, or India, as post-Christian in date, and in many cases not more than a few hundred years old. Such a conclusion seems to me entirely inconsistent with architectural history. Thus in more than one case we know of early churches, probably belonging to the 10th or 11th centuries, which are constructed over dolmens.

Mr. Fergusson admits that the great tumulus near Sardis (Fig. 1, p. 31) is rightly identified as the tomb of Alyattes, was erected in the sixth century, B.C., and was

described by Herodotus; that some of the tumuli on the eastern shores of the Mediterranean are certainly "as old as the thirteenth century, B.C. : that the practice of burying in tumuli must have existed for many centuries before such tombs could have been constructed; and that the age in which they "were erected was essentially the age of bronze: not only are the ornaments and furniture found in the Etruscan tombs generally of that metal, but the tombs at Mycenæ and Orchomenos were wholly lined with it;" a fact which is the more interesting when we remember that all the metallic objects found in the tumuli round Stonehenge were of bronze.

Again, let us consider the class of monuments which consist of a free dolmen standing on a mound, and surrounded by one or more stone circles. This type is very widely distributed. A Danish example has already been given, Fig. 5. Fig. 4 represents the long barrow at Kennet, near Marlborough, after Dr. Thurman; Fig. 2 is the Dolmen de Bousquet in the Aveyron; lastly, Fig. 7 is a similar monument at Pullicondah, near Madras. These tumuli, though differing in detail, are identical in all essential

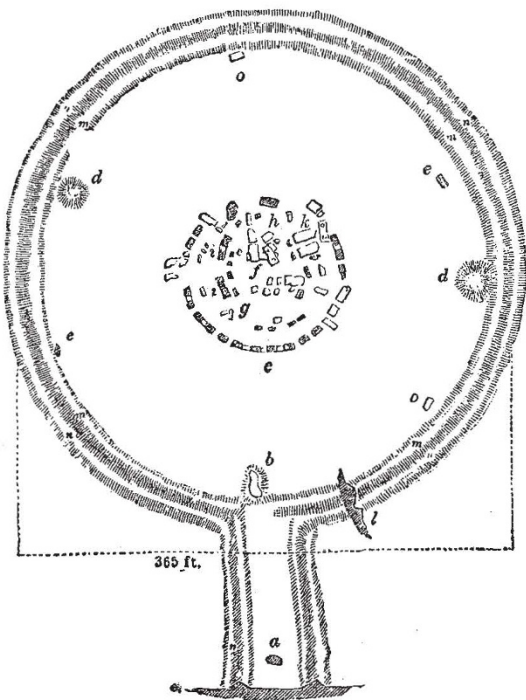


FIG. 8.—General Plan of Stonehenge, from Knight's "Old England."

points. If these monuments all belong to post-Christian times, they must have been erected by very different races of men. Mr. Fergusson, indeed, admits that they are the work of very different races; how then does he account for the remarkable similarity existing between them? He denies that the Celts, Scandinavians, or Iberians were themselves naturally "rude stone builders," and endeavours to remove the difficulty by an explanation which is most important, because it seems to me to involve the practical abandonment of the conclusion, which, as he told us in the preface, is the central feature of his work. This style of art, he says, "seems to have been invented by some pre-Celtic people, but to have been adopted by Celts, by Scandinavians, by British, and Iberian races."

But if Europe was once occupied by a pre-Celtic, megalithic-monument-building race, surely some of our megalithic monuments must be ascribable to that time and race, and we come back therefore to the general opinion of

archæologists, that our megalithic monuments belong to very different periods and people, and *not* all to one race or one epoch.

I cannot now enter into the consideration of the dates to which Mr. Fergusson ascribes individual monuments; I doubt whether any belong to so recent a period as he supposes: and can only express my surprise at the certainty and confidence which he feels in his own opinions—a certainty sometimes, however, oddly expressed, as, for instance, when he tells us, speaking of the crosses at Kata-pur, which he considers to be Christian and contemporaneous with a group of neighbouring dolmens, that "their juxtaposition and whole appearance render escape from this conclusion apparently inevitable."

But while I cannot accept Mr. Fergusson's peculiar theories, I cannot conclude without thanking him for the labour and care with which he has brought together a great number of illustrations, and a vast mass of facts, on this most interesting subject. In a review, one naturally dwells on points of difference, but every one must accord to Mr. Fergusson the credit which, in the following passage from his preface, he claims for himself; though I would venture to add that the unintentional self-criticism in the latter sentence seems to me not inapplicable. "I have," he says, "spared no pains in investigating the materials placed at my disposal, and no haste in forming my conclusions." His conclusions are, I think, in some cases, hasty and untenable; some seem inconsistent with one another; but no one can deny to his work the merit of being a rich and trustworthy storehouse of facts.

JOHN LUBBOCK

#### THE STUDY AND TEACHING OF MECHANICS.

A LECTURE on this subject, being one of the series of lectures at the College of Preceptors on the Teaching of Physical Science, was given by Prof. W. G. Adams, of which the following is the substance:—

Mechanics treats of the laws of equilibrium and of motion of bodies, and in its widest sense, as the science of energy, must include all branches of Physics, for the solid, liquid, and gaseous states of bodies are determined by the more or less free motion of their molecules, and heat, light, electricity and magnetism are all different forms of motion. The study of the laws of equilibrium and of visible motion is important, both for their practical applications and because on them are founded the principles of thermo- and electro-dynamics. Before entering on a study of mechanics, students should have a knowledge of algebra and geometry, and on account of the importance of accurate measurement, the elements of trigonometry should also be studied. By a proper method of teaching geometry, boys can be taught to think, and the exact definitions and proofs of Euclid's Elements are better fitted to train the judgment and the reasoning powers than any less exact system of geometry. The way to teach geometry (and the same remark applies to mechanics) is not to expect boys to get up their Euclid from a book, and to say it off by the aid of a book of figures (a system which has been practised in many schools), but to explain the meaning of and illustrate every proposition, so that boys may understand it. The true method of teaching mechanics is illustrated by the way in which Galileo established the first principles of dynamics, and placed them before his pupils. Due weight should be given both to experimental and to rational mechanics, and the best way of bringing the subject before students is to have parallel but distinct courses of experimental and theoretical lectures attended by students at the same time. The practical applications of the subject are important, and some of them of great simplicity. The "Triangle of Forces" may be employed to build up diagrams to represent the thrusts on a jointed