

to show how little the mind of civilised man has really developed during 3000 years.

In the neighbourhood a small temple was erected for the use of the workmen, and here also was a barrack for the soldiers who protected, or kept them in order.

This district has remained unexplored, probably, on account of its being quite out of the beaten track, and in an unknown country there is no temptation to stray, particularly as the guides and dragomen discourage any explorations which may add to the risk of the journey. It is, however, much to be desired, that now that attention is directed to the locality, and moreover, since the thorough investigation of its sites is likely to prove exceedingly profitable, that the enterprise and desire for knowledge of our scientific explorers may find help from the ready hand of some of our commercial magnates, and thus, that a past book in the world's history may, by English perseverance, be re-opened.—*Iron.*

**THE ASSYRIAN EXPEDITION.**—Mr. George Smith, of the British Museum, who has gone to Assyria as the special correspondent of the *Daily Telegraph*, for the purpose of making explorations, has sent a telegram from Mosul, in which he says:—"I am happy to inform you that my researches up to the present time in Mesopotamia have been crowned with much good fortune, and that I have obtained results of real value and interest. . . . I have recovered part of the series of tablets containing most curious and ancient Babylonian legends, as well as syllabaries of great utility, a bilingual collection of proverbs, and some astrological and mythological tables. . . . I excavated at Nimrod for seventeen days, and explored there the North-west Palace of Esarhaddon, the Temple of Nebo, and also some entirely untouched portions of the South-east Palace. I found spacious halls and fine chambers, the walls of which were ornamented with bands of plain colours. One of my most recent discoveries is that of a perfectly new text of the annals of Tiglath-Pileser. I am at present digging hard to obtain, if possible, the remainder of this highly important piece of history."

#### THE MORTAR OF THE GREAT PYRAMID.

At the 1<sup>st</sup> meeting of the Chemical Section of the Philosophical Society of Glasgow, the President, Dr. Wallace, F. R. S. E., read a paper in which he gave a number of interesting details regarding the mortar employed in building the Great Pyramid, and incidentally referred to the composition of some mortars than he analysed a few years ago, including two from the interior and exterior of the Great Pyramid, two specimens of very ancient Phœnician mortar from the Island of Cyprus, two from ruins at Athens, and from Rome and other places in Italy. It was most interesting to observe the remarkable differences between the mortars of the various ancient peoples. By going to Balbec and other ruined cities of Turkey in Asia, buildings might be found constructed of immense blocks of stone jointed with such excessive nicety that even the blade of a penknife could not be pushed between them, but without a vestige of mortar. In the structures of the ancient Egyptians, on the other hand, taking the Great Pyramid as an example, mortar was freely employed, but consisting almost entirely of gypsum or sulphate of lime. A specimen was examined from an ancient Phœnician temple, the highest stone of which was, a few years ago, five feet below the level of the ground at the time the specimen was taken. It was something like that found in some of the baronial castles in this country, and was like a piece of solid rock. The gentleman who brought it home supposed it to be the very oldest mortar in existence. If it were so, Dr. Wallace said that it was most remarkable, inasmuch as it was a perfect in composition as it could possibly be, having been made, evidently, of burnt lime, fine sand, coarse sand, and gravel. It might be called concrete, rather than mortar. At any rate, one thing was certain—namely, that the lime in it had been completely carbonated; and another specimen of the same age exhibited the same phenomenon, thus satisfactorily settling a point which was long in dispute. The ancient Greek mortars from ruins in the vicinity of Athens were also very perfect, but contained more lime than that from Cyprus, and no gravel. The mortars from various ruined buildings in Herculæum, Rome, and its neighbour-

hood appeared to have been made from burnt lime and puzzuolana, or what is called by geologists volcanic ash. Dr. Wallace stated that he had had some correspondence with Professor Piazza Smyth regarding the mortar of the Great Pyramid, some portion of which he read, and he gave the following analysis of a specimen which he had recently examined:—

Hydrated sulphate of lime.....	92 83
Carbonate of lime.....	4 63
Carbonate of magnesia.....	1 66
Alumina and traces of oxide of iron.....	24
Silicon.....	88
Water (hygroscopic).....	07

100 31

The following are analyses of two specimens examined a few years ago:—

Hydrated sulphate of lime.....	81 50	82 99
Carbonate of lime.....	9 47	8 80
Carbonate of magnesia.....	59	79
Oxide of iron.....	25	21
Alumina.....	2 41	3 00
Silica.....	5 30	4 30
Water (hygroscopic).....	—	—

99 52..... 100 99

In reply to a question, Dr. Wallace stated that he believed the sulphate of lime, which is abundant near the Pyramids, had been partly calcined to drive off the water of hydration in the mineral before being used in making the mortar. There was very little cohesiveness in the samples exhibited.—*Iron.*

The following account of the first meerschaum pipe has been published by Messrs. Pollak and Son, pipe manufacturers, in New-York:—In 1723 there lived in Pesth, the capital of Hungary, Karol Kowates, a shoemaker, whose ingenuity in cutting and carving on wood, &c., brought him into contact with Count Andrassy, ancestor of the present Prime Minister of Austria, with whom he became a favourite. The Count, on his return from a mission to Turkey, brought with him a large piece of whitish clay, which had been presented to him as a curiosity, on account of its extraordinarily light specific gravity. It struck the shoemaker that, being porous, it must naturally be well adapted for pipes, as it would absorb the nicotine. The experiment was tried, and Karol cut a pipe for the Count, and one for himself. But in the pursuit of his trade he could not keep his hands clean, and many a piece of shoemaker's wax became attached to the pipe. The clay, however, instead of assuming a dirty appearance, as was naturally to be expected, when Karol wiped it off, received, wherever the wax had touched, a clear brown polish, instead of the dull white it previously had. Attributing this change in the tint to the proper source, he waxed the whole surface, and, polishing the pipe again, smoked it, and noticed how admirably and beautifully it coloured; also, how much more sweetly the pipe smoked after being waxed. Karol had struck the smoking philosopher's stone; and other noblemen, hearing of the wonderful properties of this singular species of clay, imported it in considerable quantities for the manufacture of pipes. The natural scarcity of this much esteemed article, and the great cost of importation, in those days of limited facilities for transportation rendered its use exclusively confined to the richest European noblemen, until 1830, when it became a more general article of trade. The first meerschaum pipe made by Karol Kowates has been preserved in the museum of Pesth, which by the way, was the native city of Mr. Pollak, sen.

**ENAMELLED BRICKS.**—Works are now being erected in Pittsburgh to manufacture pressed bricks with enamelled facings. The enamel is made of various colours to suit the tastes of architects or builders, and as it is impervious to water or acids, having a surface that can be cleaned like glass, it is supposed well adapted for building purposes in the smoky cities of the West. The advantage claimed for the enamel is to increase the strength and durability of the bricks, while giving all the beauty of surface to be obtained from stone or marble. The cost is said to be twenty dollars per thousand over the common pressed brick of the United States.