

BUCKINGHAM ADVERTISER AND FREE PRESS
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EMINENT SCIENTISTS AT CALVERT.

INSPECTION OF MESSRS. ITTER'S BRICKWORKS.
"MOST FAMOUS CLAY QUARRY IN THE COUNTRY".

"Calvert brickworks, being the most famous in the country, naturally became the object one of our excursions," said Mr. Bayzand, M.A., F.R.G.S., to our reporter Saturday last. The occasion was a visit Section C (Geology) of the British Association, which has been formed for the advancement of science. The object of the visit to Calvert was to give some of the greatest scientific brains in the world the opportunity to imbibe observations which might be applied the formation of schemes for the more economical production of bricks.

This excursion was one of a series of six organised by the Section during the Oxford meeting the Association. the occasion of the important Oxford meeting of the Association.

The spectacle of a great scientist devoting the full force of his attention to the study of a brick, a fragment of cement, or a lump of clay is at once food for the humourists. Certainly, it would tend to appeal to most people as a deplorable waste of energy, and it is only when the movements of such a body as the British Association are followed closely that the general public can, in any measure, appreciate the tremendous importance of these minute researches.

We are indebted for the present advanced state of our scientific and economical knowledge to an occasional discovery or invention by some mechanical or artistic genius. Instances can be given by the mention of certain names, such as those of James Watt, Thomas Alva Edison, and Dr Lee Forest. In future things will be done differently. Instead of leaving the possibility of revolutions of industrial processes to the casual observations of a potential inventor, we shall have our thinking done systematically, not by one clever man, but by a body of such men formed for the purpose.

This body is the British Association, the geological section of which came by charabanc from Oxford to Calvert brickworks on Saturday last, by invitation of the Directors.

The party left the Museum, Oxford, at 9.30 in the morning, and proceeded to Calvert, via Bicester. They arrived at Calvert brickworks at about 11 a.m. where they were met on arrival by the Directors of the Company (Messrs. W T Mellows, A Itter, G H. Boden and Chas. Boden).

Mr A Itter and Mr C Morton then commenced a tour of the works, explaining in great detail the methods of the manufacture of bricks from the raw materials obtained from the quarry face to the finished brick ready for despatch on the railway.

Among the many figures familiar to the newspaper reading public were Sir Edgeworth David, F.R.S. (late Professor of Geology at Sydney University), famous as a South Pole explorer; Professor S. J. Sollas, F.R.S. (Professor of Geology, Oxford University), whose name will at once be identified with certain valuable and interesting works relating to Paleolithic Man; Professor S. H. Reynolds, D.S.C., F.R.S.E. (Professor of Geology, King's College, London).

WORKING THE QUARRY

The local secretary of the Section was Mr C. G. Bayzand, M.A., F.R.G.S. (Lecturer in Geology at Oxford University), and on his shoulders fell the responsibility of managing the affairs of the day. He stated, in an interview during the course of the inspection of the quarry, that specimens of different grades of clay would be taken away and studied with a view to discovering the exact nature of the difference between the inferior clay and that which is used in the manufacture of bricks. Indicating the top stratum of the quarry, he pointed out that it was lighter in colour and coarser in texture because it was not subjected to the same natural chemical refining processes as the clay which lay deeper in the earth.

As Mr. Bayzand remarked, the workings of a clay quarry were very clearly and beautifully illustrated in a view of the Calvert quarry taken from the edge farthest from the working face. There one could see at a glance the whole ingenious system by which the clay was removed. At the top a steam navvy was being employed to cut away a layer of soil and inferior clay which extended to a depth of about twenty feet. Below this began the workable shale, which was being worked to a depth of about 120 feet.

A series of chutes had been dug into the face of the clay, and five men were employed on each chute, breaking out lumps of clay and casting them down it, into a wagon which waited below. This wagon, which ran on rails, would then be pushed to the other side of the quarry and thence hauled up into the works by means of a cable working over a steam winch.

Mr Bayzand pointed out that the whole system of dealing with the clay from quarry to brick press, was so well developed as to call for no economical improvement. What they wished to attend to was that top layer which, at present, had to be wasted. He did not care to think about the many thousands of tons of clay that had to be thrown away as useless – perhaps entirely for the want of a little research. The top layer was subject to excessive moisture, and it was submitted to very little pressure, comparatively. He thought it possible that, in some way, the moisture could be removed and the pressure applied synthetically.

The expedition round the quarry and the works was rendered the more interesting by reason of the extremely lucid explanations given from time to time by Mr Itter.

An inspection of the works, the kilns, and the two 350 h.p. engines in the power house concluded the round, and the party adjourned for lunch.

The latter was provided by the company, and was held in a marquee erected at the side of the works. It was an extremely well-arranged affair; the catering being admirably carried out by Mr F Richens of Aylesbury.

The chair was taken by Mr. W T Mellows, who was supported at the head table by Mr A Itter, Professor Kendall, Professor Sollas, Professor Sir Edgeworth David, Professor S. H Reynolds (President of the Section). Mr Bowden and Professor Fearnside.

Among what may be termed the exhibits on the Company's premises was an outflow of marsh gas which greatly interested the party. Mr Itter had previously told them that the history of the outflow, together with the analysis of the gas, would be given after lunch. Accordingly, there was an atmosphere of interested expectancy when the time for the speeches approached.

AN INTERESTING ADDRESS

The Chairman gave an interesting address, which is reproduced below:-

“The Directors of Itter’s Brick Company, Ltd., feel it a very great privilege to be able to entertain at their Calvert brickworks some of the members of the British Association on the occasion of the important Oxford meeting of the Association. They are delighted to have the opportunity of showing you the process of manufacture of bricks of the Fletton type, and behalf of my colleagues I extend to you a very hearty welcome. Mr. Arthur Itter, the eldest son of the late Mr. Itter who was the founder of the works, has already conducted you round the brickyard and has explained to you the process of manufacture. You have seen the bricks made, placed in the kilns and burned. You may perhaps be interested if I say few words about this Calvert brickyard, which is one of four belonging to the Company in different parts of the country.

“In the year 1899, the late Mr. A. W. Itter, who had already established successful brickworks at Whittlesey, near Peterborough, considered the acquisition of other works, to supply bricks for the extension of the Great Central Railway and also to supply the area round South and West London. Eventually he came to the conclusion that the most suitable site for his purpose was at Calvert, which was then the last station on the Great Central Railway. The Railway Company had then recently obtained powers to construct a new line to London.

“In 1901 Mr Itter acquired a portion of this estate by the side of the new line from the Warden or Rector and Scholars of Lincoln College, Oxford, and further land from the same authorities in the year 1905, enabling him to connect up the works with the line from the London and North-Western Railway from Cambridge to Oxford. This line provided an alternative route for the despatch of bricks to London and enlarged very considerably the area in which the bricks were sold. This additional land also ensured sufficient shale for brickmaking to last for many years to come.

“Incidentally, I may say that the connection of the brickworks with this railway has enabled the Company to supply many bricks in the City of Oxford and more particularly for the extension of the well-known Morris motor works, which you may have seen during your visit to Oxford.

“At the time of the establishment of the works there were only two small brickyards in the neighbourhood—one at Claydon, three miles distant, where a small quantity of handmade bricks and tiles were made: and the other at Brill some nine miles away. In the Claydon works only top clay was made into bricks.

The strata underneath, as have seen them to-day, were not then visible. A great deal of experimenting was necessary to arrive at the successful process in use at the present time, and this success was only attained by great energy and determination on the part the late Mr. Itter and those who worked with him.

“I have some hesitation in speaking to you on the subject of geology, of which I have little knowledge. My own recreation is historical research, and I have noticed from your programme that you do not consider history a science, and therefore it has no place in your discussions.

“With regard to the geology of this district, as you doubtless know, the pit, or knot hole, as we described it, consists of the ornatum zone of the Oxford clay, its thickness here being ninety-three feet, workable to a depth of 63 feet. Underneath this clay is thirty-eight feet of forest marble, and underneath that the great oolite series.

“As you are doubtless aware, this clay is very similar in nature to the beds at Peterborough which produce the well-known Fletton bricks. I think I am right in saying that this type of brick, whether made here or in the Peterborough district, outnumbers millions any other class of brick made in this country. The great success of the industry is really due two important facts. One is that the clay as comes from the pit. after very superficial drying or admixture with drier clay, can be passed straight to the brickmaking machines and there pressed into a brick, which is put straight into the kilns without drying. The drying in the kilns takes place at the expense of the excess heat from the previous or neighbouring bricks which have just been burned, and are cooled through what we call the green brick chambers. The other, if not more important feature, is the fact that this clay contains a percentage of combustible shale which burns within the brick during the process of manufacture. This feature results in an enormous saving of fuel, which is very useful at the present moment, and combined with the physical nature of the clay, which I have already referred to, makes it an ideal substance for making common bricks.

“So much for the pit and bricks themselves. There is, however, on these premises something which is unique. I hope you will all see it. It is the natural gas which comes up from a boring near the engine house. This has burned continually since it was first discovered many years ago. In case any of you are interested in this matter, I would like to give you roughly the facts to far as they have been explained to me by my friend Mr. Elborne.

“It was during an attempt to bore for water in 1905 that this gas was discovered at a depth of 380 feet, and although another boring was made at a distance of 370 yards from what I call the gas hole, no trace of combustible gas was found in the second. The Western boring, from which this gas escapes, passes, so far as is known, through strata which show close agreement with the jurassic rocks of the other or Eastern boring. The gas occurs at the base of the lias, and when it was originally found it gave rise to a pressure of 60 lbs. to the square inch, and even to-day it exerts a considerable pressure. In fact, although much trouble was taken to stop the outflow of the gas. it eventually succeeded in escaping. It would appear that the gas issues from some porous strata which thins out completely in the 370 yards between the two borings. So far as geological reports tell us, there is no evidence to show that this gas may have leaked into porous triassic strata from underlying coal measures some distance to the west or north-west, and I believe similar natural gas is known in other parts of the country which has no derivation in the coal measures. To conclude very shortly my reference to this natural gas, I think I ought to give you the composition of it, which is as follows:-

Methane	67%
Ethane	12.5%
Carbonic acid	Nil
Carbon Monoxide	1%
Nitrogen	19.5%##

“I leave the scientists concerned to explain the cause of this admixture of gases. The cores from the bore hole, together with drawings and particulars, may be examined at the Aylesbury Museum. I will refer those who are interested to a paper by Dr. A. Morley Davies and Mr. Pringle, which was published in the Quarterly Journal of the Geological Society in June 1913.

“I am afraid I cannot say very much to you about the fossils in this bed of the Oxford clay.

“The late Mr. Alfred N. Leeds, of Eyebury, near Peterborough, was a pioneer the method of collecting and preserving fossil vertebrate skeletons. For nearly half century he devoted his leisure to recovering the remains of fossil reptiles and fishes from the Oxford clay in the brickfields near Peterborough. In the course of his investigations he often visited our brickworks at Whittlesey, and, I believe, found several specimens there. His work, in which he was associated by Mr. E. Thurlow Leeds, of the Ashmoleum Museum, Oxford, was described by Dr. A. S. Woodward in the Geological Magazine in 1917.

“From time to time during the course of the excavation of clay from the knot hole in this brickyard interesting specimens have been discovered, but not to the extent of their existence in the Fletton deposits. Some of these specimens have been sent to the museum at Aylesbury. I believe that one of the finest specimens of a certain type of fossil fish of the Pholidophorus species was found here about four years ago, and was presented by Mr. Itter to the Aylesbury Museum. This fish was examined by Dr. Smith Woodward, who stated that they had in the British Museum specimens from Normandy, Peterborough, and Christian Malford, but none of them in such good condition as the Calvert example.

“In conclusion, I would say again how pleased my Company is to be honoured by the presence of the geological members of the British Association to-day. Geology and the results which follow from its knowledge have played one of the most important parts in the economic development of this country, and to my mind it is nationally, and certainly imperially, very important that the fostering of geological knowledge and its application to industry should be encouraged to its utmost. In the Empire there are, I believe, infinite possibilities of development, and it is this kind of hidden asset that we have in our colonies that the future of the Empire depends.

“All I can do is to wish the geologists as a body every success in the pursuit of their knowledge.”

In proposing vote of thanks to the Chairman, Professor Reynolds said that when they arrived there, he thought that the two hours before lunch would be rather more than they would require. Mr. Itter, however, had made things interesting that time did not hang heavily.

They owed the Directors their thanks for keeping the men at work one hour longer than usual in order that their party should see how the work was done.

In supporting the vote. Professor Sollas expressed his appreciation of the firm's treatment of the party.

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SATURDAY 2 APRIL 1938

CALVERT
Boxing

Another eventful night was experienced at the Recreation Hall, Calvert on Saturday week when the Sports and Welfare Association presented social on the occasion of the presentation of boys' boxing championship medals, 1938, by the Chairman (Mr. G. H. Stewart), who, in his remarks, referred to the very fine sporting ability that existed amongst the boys of the works. He said he could think of no finer sport than boxing to build the character and mind of a lad on the threshold of manhood.

The programme which followed was truly a novelty one, including a double exhibition fight between Harold Haynes and Daniel Stevens (heavy weights) and the brothers R. and E. Jackman (feather and fly weights), who, in the last round, got rather mixed up with each other and to the dismay of "Winchy Jack," who tried to sort them out, finished up underneath and being unceremoniously carried out by the lads, the whole affair causing roars of laughter.

Mr. Keenor Haynes was a great success with his dance band which he had got together, and kept things alive with some of the popular dances between the turns.

Amongst the artists were that ever-popular couple "The Russell Bros," who are always ready to oblige, Mr. George Aris ("The saucy one"), Mr. Crooks (vocalist), Mr. Geo. Howard ("an old Salt"), Mr. Jimmy Haynes (whose skit on the works was well received), Mr. Dick Jones, and "Winchy Jack," who was compere.

At the conclusion, the Chairman (Mr. G. H. Stewart) thanked all those who had helped to make the evening a success, including the artists and the ladies' section for the excellent refreshments. He said he did not think he had spent a more enjoyable evening.

On Friday "Winchy Jack" took a party of boys to Stewartby to witness the amateur boxing contest, in which Calvert had two entries, H. Haynes and E. Jackman.