had arrived at, for whether by process of rapid or slow cooling, he had found the crystals spoken of.

Mr. West observed, that with respect to the crystallization spoken of, there was little reason to believe it was caused by what went in at the bottom of an iron furnace. It was much more likely that the crystals were formed by a process which could be more easily conceived than described, and to which a name had scarcely been given. In this case a substance descended through a very great mass of another material, in very small proportions, and the particles approaching each other, most probably caused the formation of these crystals. He merely offered this as an opinion, for in the present state of their circumscribed information, it was impossible to arrive at any definite conclusion.

ON THE OCCURRENCE OF SHELLS IN THE YORKSHIRE COAL FIELD.—BY HENRY HARTOP, ESQ.

Mr. Hartop alluded to some very interesting specimens of shells which had been found in the Yorkshire coal field. He thought he could show that some of the organic remains in the ironstone field had been suddenly fixed in the ironstone strata in which they were found, the muscles therein all being in a feeding position, while in another seam of ironstone, about 100 yards deeper, an immense number of muscles were found with every appearance of having been floated into that position when dead. There were specimens from other strata where large fishes were found in the act of eating smaller ones. If they got hold of fresh water muscles alive, it would be generally found that they were upon their edge. He now produced a specimen of muscles feeding, the appearance of which seemed to confirm the truth of the observation he had made.

The Chairman thought the specimens looked very much like as if the muscles had been fed upon by other fish.

The morning meeting then broke up.
At the evening meeting Mr. **Holmes**, of Leeds, exhibited and explained a Safety Lamp, in which he had introduced a modification of the principle of Upton and Roberts' lamp, without being aware of what had been previously effected by other parties. Mr. Holmes's plan was, however, an improvement, inasmuch as it contained an apparatus for regulating the admission of air. The thanks of the Society were voted to Mr. Holmes for his communication, and he was earnestly recommended to continue his experiments.

The following paper was then read:—

**Observations on the Occurrence of Boulders of Granite and Other Crystalline Rocks in the Valley of the Calder, near Halifax.—By Joseph Travis Clay, Esq., of Rastrick.**

The subject of drifted boulders has latterly very much engaged the attention of geologists, and as there is great diversity of opinion regarding the means by which they have been removed into their present situations, every additional fact which may throw light upon the subject is valuable. I was therefore much interested in hearing from Dr. Alexander's paper on the geology of the parish of Halifax, that in prosecuting the works on the line of railway, some blocks of granite had been found near Hebden-bridge, and this has led me to an examination of the bed of the river Calder, at Cromwell Bottom, about eight miles below the above-mentioned locality.

At this place the valley expands considerably in width, and the river, winding from side to side, exposes a good section of the strata through which it passes. The stream has cut through a deep alluvial soil, about six feet in thickness, beneath which is a bed of large pebbles, containing some boulders of considerable size, the majority of which are of coarse-grained sandstone from the millstone grit series,