FOSSILS AND GARNETS.

SIR,—On p. 165 of the current volume of this Magazine we read that to the writer of the article there printed "it is very difficult to understand how such a fossil as a belemnite could have retained its characteristic form while molecular changes of such importance were taking place in the matrix of the rock . . . . The results of contact-metamorphism most nearly resemble the crystalline schists. In them, so far as my [the writer's] experience goes, garnet, and still more staurolite, are not formed until the materials of the rock have undergone such great molecular changes as to obliterate all traces of a sedimentary origin" . . . .

On p. 140 of "Études Synthetiques de Géologie expérimentale par A. Daubrée," dated 1879, we read statements which when translated into English are to the following effect:—

"It is well known that the crystallization that is brought about by the proximity of eruptive rocks has not always effaced the traces of the fossils. There still remain very distinct vestiges of them in the middle of rocks crowded with crystalline silicates. One need only recall the fossiliferous Silurian limestone of Norway, which contains at Brevig paranthine and garnet, and at Gjellebeck amphibole and epidote . . . . and lastly, in the Vosges the amphibole rock of Rothau, in which the corals have been replaced, without being deformed, by crystals of amphibole, garnet, and axinite. In some places the rock now consists entirely of a mixture of lamellar pyroxene, epidote, and compact garnet, with flecks of galena. In the middle of this rock, composed entirely of silicates of this nature, I have recognized perfectly preserved impressions of numerous corals (more especially of *Calamopora spongites*, Goldf.) and Flustras . . . . More than this, the very cavities left by the partial disappearance of the calcareous matter of these corals are lined with crystals of the same minerals as form the bulk of the rock . . . .

"Now it is the same thing in the case of the crystalline masses we are considering . . . . MM. Lardy and Strider have found in the neighbourhood of St. Gotthard belemnites in the middle of micaceous schists with garnets." VERBUM SAP.

OBITUARY.

JOHN STORRIE, A.L.S.

BORN 1844. DIED MAY 2, 1901.

JOHN STORRIE, for many years Curator of the Cardiff Museum, and an earnest worker at the natural history of Glamorganshire, was born at Muiryett, in Lanarkshire. His early years were spent at Glasgow, where he was apprenticed to the printing-trade, and about the year 1872 he found employment in the *Western Mail* printing works at Cardiff. The writings of David Page had given to Storrie an interest in geology, and he pursued the subject with zeal when he came to reside in South Wales. The Silurian rocks of

Rumney and the Rhætic beds of Penarth attracted his special attention. He obtained a new Silurian alga which was named *Nematophycus Storrei*, and he found in Triassic strata a new species of *Mastodonsaurus*. His researches on these subjects, and many important articles on local botany and archæology, were published in the Transactions of the Cardiff Naturalists' Society. He was awarded the proceeds of the Barlow-Jameson Fund in 1896 by the Geological Society of London. An interesting account of his life and labours, accompanied by a portrait, appeared in the "Public Library Journal" of Cardiff for June, 1901.

JAMES WALKER KIRKBY, F.G.S. EDINB.

BORN APRIL 10, 1834. DIED JULY 30, 1901.

THIS well-known geologist of Leven, Fife, was author of many good papers on the strata and fossils, Permian and Carboniferous, of Durham and Fifeshire. One paper, in 1882, was written in company with E. W. Binney, for whom he managed the Pirnie Coal-mine. His first paper was published in 1858, and the two last appeared in the Transactions of the Edinburgh Geological Society, 1901, vol. viii, pt. 1. From 1859 onwards numerous papers on the Upper Palæozoic Ostracoda were produced by Messrs. J. W. Kirkby and T. Rupert Jones, as joint authors, having worked together in determining and describing these microzoa.

He was an invalid for years, yet his persistent energy enabled him to throw much light on the succession and characters of the long series of Carboniferous and Permian strata, by his personal research, and largely by the aid of his exact knowledge of the Ostracoda and their associated fossils. The Murchison Geological Fund was awarded him in 1879 by the Geological Society of London.

Having a retiring and modest disposition and very poor health, Mr. Kirkby did not move much beyond the circle of home neighbours and loving friends, but he had many admirers abroad who knew and appreciated his work.

WE have to record the death from apoplexy of Professor EDWARD WALLER CLAYPOLE, D.Sc. Lond., B.A., F.G.S., of Throop Polytechnic Institute, Pasadena, California, U.S.A., one of the founders and for many years editor of the *American Geologist*.

MARTIN FOUNTAIN WOODWARD, Demonstrator in Biology, Royal College of Science, South Kensington, and Secretary of the Malacological Society of London, was unfortunately drowned on the night of September 15th by the capsizing of a boat in a squall at Moyard, near Letterfrack, co. Galway, Ireland, whilst in charge of the Marine Biological Laboratory of the Joint Committee of the Department of Agriculture (Fisheries Branch) and the Royal Dublin Society, at Ballinakill, during the Summer vacation. He was a naturalist of great promise and author of several important papers on the dentition of the Mammalia, on *Pleurotomaria* and other Mollusca, etc. He was the second son of the Editor of the GEOLOGICAL MAGAZINE.