things—the clearings in the Highlands, during which large sections of the crofter population were packed off to the colonies; and the system of patronage then prevalent in the Church of Scotland. Some tracts published in 1839 made a very deep impression, and in 1840 he was persuaded to become editor of the *Witness*, the organ of the non-intrusionist party. His energies had found a congenial outlet, and his conduct of the newspaper played a great part in the events which led to the formation of the Free Church.

The scientific content of Miller's geological work is perhaps magnified by his literary qualities, but it can stand on its own merits. It must be remembered that very little was known at that time of the comparative anatomy of *living* fishes, and it is not at all remarkable that Miller made several mistakes in his accounts and reconstructions of the curious fishes of the Old Red. But these were mistakes in the interpretation and synthesis of a great number of new, accurate observations which he made on the actual fossils. Sir Archibald Geikie wrote: "He was not in any sense a trained geologist. He lacked the habit of patient and detailed investigation in departments of the science that did not specially interest him, but which were essential as a basis of accurate induction and successful speculation", though perhaps T. H. Huxley's was a fairer appreciation: "The more I study the fishes of the 'Old Red', the more I am struck with the patience and sagacity manifested in Hugh Miller's researches, and by the natural instinct, which in his case seems to have supplied the place of special knowledge."

It is often assumed that because men like Hugh Miller and Robert Burns were of humble birth and were manual workers that they were without education; but the Scottish parish school system was proof against that. Miller himself said that his want of the more orthodox learning was largely his own fault. "As for Latin," he wrote at thirty-six years of age, "I abominate it, and ever did since I burned my *Rudiments*"; and Latin was a hall-mark. It is recorded that his uncles were prepared to assist him to King's College at Aberdeen, but he became a stonemason against family advice. From his work he contracted silicosis, which ruined his health; and in later years his mind became affected and he shot himself in 1856.

Though Miller wrote much on other geological topics (for example, the shelly boulder-clays of Scotland), it is particularly with the Old Red Sandstone and its fossils that he is associated. He came early under the influence of Dr. John Malcolmson and Prof. Fleming, and later corresponded with Agassiz and with Murchison (who was also a native of the Black Isle). On the other hand he was regarded by many geologists in north-east Scotland as their mouthpiece, and such men as Robert Dick of Thurso kept him informed of their new discoveries and sent him specimens without which much of his work would never have been written.

Miller was born of mixed Scandinavian-Scottish and Celtic stock at Cromarty in 1802, and the cottage in which he was born was handed over to the National Trust for Scotland on September 26, 1938.

T. S. W.

News and Views

Dr. C. G. Darwin, F.R.S.

The Lord President of the Council has appointed Dr. C. G. Darwin, master of Christ's College, Cambridge, to the directorship of the National Physical Laboratory, rendered vacant through the ill-health of Prof. R. H. Fowler, who is unable to take up the post. The name of Darwin is so completely identified in popular speech with the author of "The Origin of Species" that it is not always easy to give due credit to the work of his illustrious descendants. Dr. Darwin is a grandson of Charles Darwin, and a son of the late Sir George Howard Darwin, formerly professor of astronomy at Cambridge. He is distinguished for his work in mathematical physics, especially for his researches in collaboration with R. H. Fowler on statistical mechanics (1922) and on the quantum theory of the electron and the atom (1927). He described the electron as a vector wave having two independent components analogous to the polarized components in a wave of light. Much of this later work was done while Darwin occupied the Tait chair of natural philosophy in the University of Edinburgh. There, as a colleague of Prof. E. T. Whittaker, he did much to strengthen the mathematical school in the University, and at the same time his influence was exerted on the council of the Royal Society of Edinburgh. The striking address which he delivered at Cambridge this year as president of Section A (Mathematical and Physical Sciences) of the British Association has been described as a model which other sections might study.

Dr. Alexander Scott, F.R.S.

The announcement of the retirement of Dr. Alexander Scott from the honorary directorship of research at the British Museum Laboratory brings to mind that he was a pioneer in a field of