

c21 Darwin decides against being a geologist

< no fossils, unseen glacials; Down >

You see, but you do not observe. (Sherlock Holmes admonishes Dr. John H. Watson)¹

Geology of whole world will turn out simple. —Darwin naively wrote in his *Red Notebook*, p. 72.²

For a week in August 1831, Darwin at the end of his Cambridge student days accompanied Professor Sedgwick who was keen to find fossils in folded graywacke sediments in the Welsh mountains where Professor Henslow (before he had come to specialize in botany) had geologized in 1822.³

They had not much luck in finding what they sort but Darwin did learn the lesson that the fossil record is very incomplete and in recalling that time he wrote in 1882 one of his most insightful statements ever bearing on scientific enquiry: “On this tour I had a striking instance how easy it is to overlook phenomena, however conspicuous, before they have been observed by anyone. We spent many hours in Cwm [Old English word, pronounced *koom*, synonyms: Welsh *coomb*, Scottish *corrie*, French *cirque*] Idwal, examining all the rocks with extreme care as he [Sedgwick] was anxious to find fossils in them; but neither of us saw a trace of the wonderful glacial phenomena all around us; we did not notice the plainly scored rocks, the perched boulders, the lateral and terminal moraines. Yet these phenomena are so distinct that ... a house burned down by fire did not tell its story more plainly than did this valley.”⁴

Mott T. Greene in *Geology in the Nineteenth Century*, 1982, writes: ⁵

Darwin’s phrase ‘how easy it is to overlook phenomena ... before they have been observed by anyone’ contains the key to the problem of deciding theoretical questions on the basis of observations. Darwin did observe glacial phenomena in the colloquial sense, but he did not see them as elements joined together by a theory and therefore did not remark upon them. This lesson he never forgot, and was worth reiterating to himself as a reality check

Ernst Mayr in *One Long Argument*, 1991, writes: ⁶

To satisfy some of his readers Darwin asserted that he followed ‘the true Baconian method’ (Darwin 1958: 119), that is, straight induction. In reality, he ‘speculated’ on any subject he encountered. He realized that one cannot make observations unless one has some hypothesis on the basis of which to make the appropriate observations. Therefore, ‘I can have no doubt that speculative men, with a curb on, make far the best observers’ (Darwin, 1958: 317).[⁷] He stated his views most clearly in a letter to Henry Fawcett. ‘About 30 years ago there was much talk that geologists ought to observe and not to theorize; and I well remember someone saying that at this rate a man might as well go into a gravel pit and count the pebbles and describe the colors. How odd it is that anyone should not see that all observation must be for or against some view if it is to be of any service!’ [⁸]

At the time, Darwin had found his experience a perplexing one.⁹ Thereafter, his interest in geology, although peaked during the *Beagle Voyage* by his study of Playfair’s *Illustrations*, 1802, and Lyell’s *Principles*, 1830, remained that of an amateur. That (for the appellation means literally “those who love”) was enough for him to make astute geological observations, to which, grudgingly, Richard Owen to Rt. Hon. Spenser Horatio Walpole, M.P. referred in a (5th November, 1882) letter that would fail to deny the placing of a statue of Darwin (*d.* April 19, 1882, aged 73) in the Museum of Natural History, London: “Perhaps the most important and novel researches made during the voyage are those in the nature and growth of coral-formations classified by him as ‘atolls’, ‘barrier-reefs’ and ‘fringing-reefs’” the description and explanation of which Darwin gives in his classic work on *The Structure and Distribution of Coral Reefs*, 8 volumes, 1842.¹⁰ And earlier, for Richard Owen’s description of *Beagle*-returned fossil mammals, Darwin in 1840 had authored the geological introduction.¹¹ Looking for an identity from these successes, Darwin tried: “I a geologist ...”¹² but the discipline was a confliction of many minds and written up in many European languages. He was fluent only in English.¹³ Also, since the *Voyage*, illness for him ruled out geological field work.¹⁴ To be a man of science, sensibly he turned to biological systematics and closet theorizing about the possible non-fixity of the species, all of which he could do at home at Down, Downe, Kent. □