

Book Reviews

Charles Darwin's *Beagle* Diary Richard Darwin Keynes (ed.). Cambridge University Press, Cambridge. 1988. Pp. xxix+464. Price £35.00. ISBN 0 521 23503 0.

Throughout the voyage of the *Beagle*, Darwin recorded his daily activities in what he generally referred to as his "Journal", but which, in order to avoid confusion with his publication *Journal of Researches*, is best referred to as *The Beagle Diary*. The text first appeared in print in a volume edited by Nora Barlow entitled *Charles Darwin's Diary of the Voyage of H.M.S. "Beagle"* published in 1933 and the manuscript, on which this and the present volume are based, was published in facsimile in 1979. This new version corrects a small number of unimportant errors in the earlier edition and has been revised according to the modern standards of transcription set by the editors of *The Correspondence of Charles Darwin*, also published by Cambridge University Press.

Though the diary reads as though it was written on a daily basis, Darwin normally wrote it only when on board the *Beagle* or when in a house on shore and did not take it with him on his lengthy excursions inland. The parts of the diary that deal with these journeys overland were evidently written up later, when back on board the *Beagle*, partly from the brief notes that he made in a series of eighteen pocket books that accompanied him in these journeys and partly from memory.

Anyone who has read Darwin's *Journal of Researches*, now better known as *The Voyage of the Beagle*, will find much that is familiar here, for about half of the 182,000 words in the manuscript diary were incorporated in the former, so that the two texts are identical in many places. When writing the *Journal*, however, Darwin decided to follow a geographical rather than a strict chronological sequence, so those places, such as Tierra del Fuego and the Falkland Islands, that were visited by the *Beagle* twice at an interval of a year or more, are confined to single chapters. The *Diary*, on the other hand, preserves the chronological continuity of the voyage and it thus has a freshness and immediacy lacking in the better known work.

One event in the voyage illustrates this difference between the two texts better than most. Thus, in the *Voyage*, the important discovery of the fossil bones of terrestrial quadrupeds at Punta Alta is discussed, in measured tones, in a section dated 5 October 1832, which was, in fact, just before Darwin's second visit to the site on 8 October. In the *Diary*, on the other hand, we are left in no doubt about his excitement about his discovery. Thus on 22 September, the date of his first visit, we read "We staid sometime on Punta Alta about 10 miles from the ship: here I found some rocks.—These are the first I have seen, & are very interesting from containing numerous shells & the bones of large animals". On the

following day, Sunday 23rd we read; "I walked on to Punta Alta to look after fossils; & to my great joy I found the head of some large animal, imbedded in a soft rock.—It took me nearly 3 hours to get it out: As far as I am able to judge, it is allied to the Rhinoceros.—I did not get it on board till some hours after it was dark". Again, on his second visit on 8 October 1832 he wrote: "After breakfast I walked to Punta Alta, the same place where I have before found fossils.—I obtained a jaw bone which contained a tooth: by this I found out that it belongs to the great antediluvial animal the Megatherium. This is particularly interesting as the only specimens in Europe are in the Kings collection at Madrid, where for all purpose of science they are nearly as much hidden as if in their primaeval rock". In other words, the *Diary* makes the reader feel that he was there at the time, whereas the *Voyage* is the measured and carefully considered account of the discovery written later. In modern terms, the contrast between the two texts is equivalent to that between telling one's colleagues about an important discovery made in the laboratory and writing up this discovery for publication in a prestigious journal sometime later.

The volume is, as one would expect, beautifully produced and contains many helpful and explanatory footnotes on relevant points of detail in the *Diary*. It also contains twenty-seven black and white illustrations of, mostly, the places that Darwin visited on the voyage and a very useful index. The editor, and the publishers are to be congratulated for producing this valuable addition to the modern collection of the literature of Charles Darwin, which will give much pleasure to all of those interested in his life and work.

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Basic Biotechnology—A Student's Guide P. Präve, U. Faust, W. Sittig and D. A. Sukatch (eds). VCH Verlagsgesellschaft, Weinheim, F.R.G. 1987. Pp. x+344. Price Dm. 56-. ISBN 3 527 26678 X.

Biotechnology is defined in the opening chapter of this book as "the use of biological processes within the framework of technical operations and industrial productions", which gives biotechnology a wide remit covering strain selection, optimisation of growth conditions, fermentation, biosensors and diagnostic kits, and in general the business end of the outpouring of biological knowledge from the technical progress of the last few years.