

Book Reviews

HOWARD E. GRUBER, *Darwin on man. A psychological study of scientific creativity*, together with *Darwin's early and unpublished notebooks*, transcribed and annotated by Paul H. Barrett, London, Wildwood House, 1974, 8vo., pp. xxv, 495, illus., £5.00.

In the first part (pp. 1–257), Professor Gruber, a developmental psychologist and follower of Piaget who provides a forward, analyses the way in which Darwin gradually assembled his theory of evolution by natural selection. The second part contains mainly the notes that Darwin recorded concerning man and his relationship with other animals, and on mind, emotions and free will.

The background to the period when Darwin was amassing his data (1838–1859) is dealt with, for a knowledge of it is essential if the novelty of his idea is to be appreciated. At a time when man was thought to be the Creator's prize product, quite separate from animals, and when the materialistic approach to human brain function was unacceptable, Darwin was continually concerned with including man in his scheme. Other influences on him, from parents and teachers, are discussed, but Professor Gruber's main task is to show how a genius takes a mass of evidence, theories, ideas, suppositions, and welds them into a biological law. Here we learn not only about Darwin, but the attributes of genius in general, and the methods of scientific thought. The original thinker uses stored, previously obtained evidence and insights, each in different contexts. He can discard or modify his ideas ruthlessly and is, therefore, never enslaved by them. He has an infinite capacity for taking pains and he has the ability clearly to maintain in his mind a variety of ideas, isolated one from the other and yet immediately available for comparative enterprises, and all constantly ready to be incorporated into the overall model. Such was Darwin's mode of thought. The only possible criticism of this impressive study is that more consideration could have been given to Darwin's psychoneurosis, which itself had an important role to play in his creativity by protecting him from society and so allowing him to give all his attention to his studies. It may be that the long delay in publishing *On the origin of species* was a direct result of it: anxiety and fear evoked by the possibility of a public reaction to a revolutionary notion that would bring upon him condemnation and ridicule.

Darwin's notebooks make fascinating reading and they constantly remind one of Harvey's *Praelectiones*. Each was acutely aware of the world about him and would record any fact that seemed at the time to add to a corpus of knowledge necessary to establish, confirm, and sustain his biological concepts. The long delay between revelation and publication is also strikingly similar. A detailed comparative study may prove to be a rewarding exercise, and a contribution to the anatomy of genius; but on the other hand Darwin presents observations on sociological issues which Harvey does not.

Professors Gruber and Barrett have produced an important book which will appeal to a variety of readers: biologists, psychologists, historians of science and medicine, philosophers of science, sociologists, and theologians. It can be warmly recommended, and at the price it is a bargain.