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ing reference to "the shellfish genus Brachiopoda" (p. 402) and an impercipient and outdated assessment of the fossil record (p. 370). The former are, however, more significant. Neither in the account of Darwin's discovery of the remarkable concentration of fossil vertebrate bones at Punta Alta, Argentina, nor of his scientifically crucial visit to the Galapagos Islands is there any sense of the excitement Darwin must have felt, even though it shines out from the pages of his own *Journal of Researches*. Admittedly Brent is not a trained scientist, but other writers, also not scientists, have succeeded in reflecting this excitement. It comes across much better in, for example, Alan Moorehead's *Darwin and the Beagle (1969)*.

Yet Brent has understood very clearly, and set down with equal clarity, the special abilities that made Darwin such an outstanding observer and interpreter of nature:

> "His was a peculiar mixture of qualities. On the one hand, there was the jackdaw catholicity that marked his search for facts and near-facts, his collection of observations both professional and amateur, his grab-bag of correspondence in which proof, memory and rumour jostled side by side. On the other hand, there was his leaping gift for synthesis, for seeing the meaning beyond the detail, for making unsuspected connections and so giving a retrospective significance to what his voracity had earlier collected - on the basis of which he then collected even wider and farther. It was a mixture that made him the ideal person to operate in the confused and confusing conditions of his time". (p. 336).

Perhaps this is not the best biography from which to gain a full picture of Darwin's scientific achievements; perhaps it does not present so thorough or so exciting a picture of the controversy following the publication of *The Origin of Species* as does, say, William Irvine in *Apes, Angels and Victorians (1955)*. However, this biography *does* present the most complete - and, arguably, the most sympathetic - portrait of Darwin himself so far to be published. Both Darwin's failures and his successes, as scientist and as human being, are made equally comprehensible as one reads these pages. Maybe Darwin is indeed destined to remain, in some respect, a mysterious figure; yet I consider Brent has come closer to making Darwin comprehensible than any previous biographer. Most sincerely do I congratulate him on that achievement.

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Planetary Science: A Lunar Perspective

By Stuart Ross Taylor
Lunar and Planetary Institute, Houston
1982, 481 + xix pp.

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It is now thirteen years since the first 21.7 kilograms of rock were brought from Mare Tranquillitatis to Houston. Present at the arrival of the first samples, as a member of the Lunar Sample Preliminary Examination Team, S.R. Taylor has been a keen participant in the research programme on lunar materials ever since. His 1975 book "Lunar Science: A post Apollo View" has stood high on the list of essential reading for anyone interested in following the development of lunar research. The present volume is much more than an update of the previous book; it is a wholly new conception. While presenting a thorough review of progress to date on returned lunar materials, the author has woven into each aspect of the story a brief view of the corresponding state of our knowledge for the other solid objects of the solar system. The proportion of the text devoted to non-lunar matters is however relatively small. Thus for example the 85 page chapter on "Planetary Crusts" devotes four pages to non-lunar crusts, the chapter on "Planetary Surface" has one non-lunar page, on rare gases and atmospheres of planets. The penultimate chapter, on the "Origin and Evolution of the Moon and the Planets", is the most successful at integrating the lunar data into a synoptic view of the solar system.

But let the reader not think this reviewer was dissatisfied with the book for its lack of planetary perspective. It is an enormously successful book, thanks to the ability of its author to synthesize the vast bulk of data that has poured out of the Lunar and Planetary Science Conferences over the past twelve years, not to mention the countless articles in *Icarus, Moon* and other journals. When one considers that many of the leading petrologists and geochemists of the world have been deeply engrossed in this study for over a decade, it is clearly a formidable task to wrap it all up in a single relatively slim volume. As one might expect, considering Taylor's research interests, the treatment tends to focus on the geochemical aspects of the problem. Petrology is largely introduced to explain the chemical features of the rocks, and many of the interesting textural details that are unique to lunar rocks are treated rather sparingly. Mineralogy is hardly dealt with at all. However, wherever such deficiencies exist, Taylor has evidently been quite conscious of them, for he considerately directs the reader to the most thorough treatments of the subject available in the current literature.

Taylor's expertise in geochemical aspects of lunar research has allowed him to present a very illuminating comparison of the numerous theories constructed to account for the complexity of chemical and isotopic data on lunar materials. As far as this reviewer can discern, his presentations are highly objective and replete with literature citations. The citations are generally accompanied with pithy abstracts of the cited work, to simplify the task of the reader curious enough to follow out a line of argument. Indeed, the book is a treasury of citations, a veritable Reader's Guide to the weighty tomes that have been emerging each year from Houston. That in itself makes the book an essential item for anyone who is not patient enough to wade through the dozens of papers on each detailed aspect of chemistry, or petrology of the returned samples.

In summary, I would recommend this book highly to anyone interested in keeping abreast of the lunar investigations. Those interested in the petrology or mineralogy of the rocks will be disappointed, as will those who buy the book sight unseen, on the basis of its title, taking it to be a text on planetary science. But, given the enormous complexity of the rocks which have been found on the moon, and the tremendous insights that the geochemical analyses of them have produced, it is altogether appropriate that this synthesis of the current state of knowledge should dwell intensely on that aspect. Furthermore, it is fortunate that the task of synthesis should have been taken up by so gifted a writer, and one whose purview is not limited to the pages of the Lunar and Planetary Conferences, but can usefully and entertainingly include references to Pontius Pilate, Charles Lyell and the molecular biologist Jacques Monod.

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