not wholly successful. Fully comprehensive coverage of such a large field is not to be expected, even in a thousand pages, but the balance between different topics is in places very uneven. Only a handful of articles, for example, make any reference to the soluble components of the cytoplasm, but nearly half of the books (surely too much) is devoted to cytoplasmic fila-

ments. These volumes do however contain a wealth of interesting material, while the breadth of ground covered makes them especially valuable to more general readers, or to cell biologists exploring areas peripheral to their own. □

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Tectonics: moving with the times

Janet V. Watson

Plate Tectonics and Crustal Evolution, 2nd Edn. By Kent C. Condie. Pp.310. Hbk ISBN 0-08-028076-5; pbk ISBN 0-08-028075-7. (Pergamon: 1982.) Hbk £32.50, \$65; pbk £13.10, \$29.50.

SO MANY books have been written in the aftermath of the plate tectonic upheaval that any new arrival is bound to encounter some resistance. Kent Condie's volume is a second edition, issued six years after the original, and can therefore be said to have already justified its existence.

Has the new edition moved with the times? Although text, figures and tectonic map have been updated with respect to many details, my impression is that the book retains not only the merits but also the defects of its predecessor. Kent Condie is distinguished for his work on Precambrian magmatic assemblages, and his treatment of the Precambrian magmatic provinces and of igneous phenomena generally is thorough and effective. He is successful in showing how geophysical and geochemical data can contribute to the understanding of geological problems and he has been unusually courageous in his attempts to elicit a general picture from the scrappy and often contradictory evidence about the deep structure of the crust and mantle. The numbers assigned to such values as the average thicknesses of crust in different types of province make good Aunt Sallys for the knowledgeable, though the less-experienced reader might have been better served if a range rather than an average had been quoted.

The inequalities of standard of treatment seem more apparent in this second edition than they did in 1976. In particular the disparity between the sophisticated discussion of magmatic phenomena and the cursory treatment of sedimentary basins has become more glaring. The author justifies the omissions on the reasonable grounds of lack of space and on the need to avoid overlap with other published works. Nonetheless, plate tectonics without the sedimentation story is Hamlet with no more than half the Prince of Denmark.

I have one final personal regret which concerns the otherwise welcome world tectonic map which is contained in a pocket at the back of the book. Maps are not only valuable sources of information, they can also be objects of beauty that kindle the imagination and stimulate the initiated and the expert alike; this one succeeds in its first role but is sadly deficient in the second. □

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All of the Araneae pulled together

J.L. Cloudsley-Thompson

Biology of Spiders. By R.F. Foelix. Pp.306. ISBN 0-674-07431-9. (Harvard University Press: 1982.) \$35, £21.

ALTHOUGH there are some recent and quite excellent books on the ecology and natural history of arachnids in general and of spiders in particular, no new attempt has been made for over half a century to provide a comprehensive synthesis of the general biology of these fascinating creatures. The book under review, the original version of which appeared in 1979 as *Biologie der Spinnen* (published by Georg Thieme Verlag, Stuttgart), is an attempt to pull together the various facets of a spider's life. It is not a condensed handbook or reference book so much as

an advanced introduction to the group.

Spiders are found throughout the world and, according to Rainer Foelix, "have conquered all ecological environments, with perhaps the single exception of the air": and, one might add, of the seas. The biology of freshwater spiders (*Argyroneta aquatica*, *Dolomedes* spp. etc.) is discussed in some detail, but little mention has been made of marine littoral spiders, although these do occur as well. It is, in truth, no exaggeration to say that all possible ecological niches on land have been occupied, including rather barren environments such as sand dunes, tidal zones or mountain tops. The distribution of spiders, extending even to oceanic islands, can be explained by the ability of the young of many species as well as of adult Linyphiidae, to float through the air, ballooning on their own threads. That spiders cannot bridge really large distances by aeronautical means, however, is indicated by the fact that East Africa and Madagascar are only 400 km apart, yet the spider fauna of each is quite different.

The interactions between spiders and their environments have been investigated systematically only within the past few decades. During this time, however, information about the ecology of spiders has burgeoned to such an extent that only a few selected themes have been discussed in the chapter on ecology. These include distribution, habitats, prey, enemies, thermoregulation, overwintering, camouflage and mimicry, communication and social behaviour. Other chapters are concerned with functional anatomy, metabolism, neurobiology, spider webs, locomotion and prey capture, reproduction, development, phylogeny and systematics.

The book is well illustrated with photographs and line drawings. It is interestingly written, and the author has managed to convey to the reader some of his own obvious enthusiasm for the subject. He cannot fail to have engendered further interest in spiders, thereby militating against the neglect they have so long been accorded and which he himself so deplores.

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