records. Also, the introductory paragraphs to chapter nine on the nature of seismic reflections and the formation of hydrocarbon reservoirs I feel ought to have been at the very beginning of the book. Reservoirs are, after all, the objective of the whole exercise and the major tool being discussed here is the detection of these using their characterisic seismic reflections. The case study part is very exciting however. It shows clearly that each oil field is slightly different from all the others and requires its own special interpretation approach, which in turn goes to show that interpretation *experience* is a vitally important asset of geologists and geophysicists in the oil industry. On the whole the difficult task of bringing together all the different facets of seismic interpretation into one book and describing them all in an equal degree of detail and simultaneously capturing a snapshot of a rapidly developing subject has been done well. I should particularly like to applaud the inclusion of a chapter on other geophysical methods relevant to seismic interpretation since these are frequently not given the attention they deserve in a field where geophysics is often taken to be synonymous with seismics.

The book is extremely well illustrated, not only black and white but also with a very useful colour section bound into the middle. Colour is an important element in the presentation of seismic interpretations as it allows the demonstration of advanced techniques that are a feature of oil exploration at the present day. Numerous references and a detailed index are also very good assets of the text. Unfortunately, there are a few places where the presentation is confusing, for example the inclusion of the air gun in a figure showing 'non-explosive' marine seismic sources to be followed by a description of this sorce as providing an 'explosive' release of air. There are also several textural errors in the use of symbols, page references in the index, the transposition of figure captions etc. which should have been picked up in careful editing of the book. I recall that the first edition of Introduction to Seismic Interpretation suffered from the same problem. There has, nevertheless, been a vast improvement in the style of presentation in this second edition. Figure sizes have been reduced without any loss of clarity, whilst the size of print has been increased, making it generally easier to read.

I have little doubt that this book will sell as widely and in as large numbers as its first edition. The practicing seismic interprter and the experience geologist and geophysicist within the oil industry may not be enlightened by the book, but as an introductory text for newcomers and others involved in oil and gas exploration and for students at universities and colleges this book is ideal. At £29.50, bearing in mind the inclusion of colour figures, it is not unduly expensive. The £16 paperback edition is good value for money.

R. A. SCRUTTON

THE STORY OF THE EARTH by Peter Cattermole and Patrick Moore, 1985. Cambridge University Press, 1985. No. of pages: 224. Price: £12.95 (hardback).

Attractively produced and profusely illustrated, *The Story of the Earth* is designed to appeal to a wide readership. The idea behind the book is novel yet ambitious: to present the history of the Earth, from the origin of the solar system to the present day, emphasizing modern techniques and theories in the earth sciences. Patrick Moore's coauthorship will undoubtedly generate interest in the book: his endearing style is apparent but is only evident in the early chapters; thereafter the story is as captivating as the flyleaf suggests, but the same cannot be said of the style.

The story begins with a view of the Earth as a planet and hypotheses of its formation. With constant references to the historical development of geology, the next chapter outlines the methods of earth scientists. In Part 2, The Planetary Engine, modern ideas of the way the Earth works are presented, including Earth structure, volcanoes, magnetism, place tectonics, and remote sensing. Parts 3 and 4 form the meat of the book: a chronological survey of world dynamic stratigraphy. This is no easy task; the reader is faced with trying to keep track of wandering cratons, developing mobile belts, and continental collisions, interspersed with brief glimpses of the life of the times and explanatory sections on geological processes. The inevitable condensation of the description of these events may tend to trivialize them and lead the reader to lose sight of scale: 'Sporadic crustal uplifts alternated with periods of rapid sedimentation as short pulses of tectonic activity affected different parts of the region' (the Alps during the Cretaceous, p. 145, for example).

In detail, I was surprised by the number of errors and inconsistencies which ought to have been picked up by the C.U.P. editors. Outcrop and exposure are synonymized on p. 25, moulds and casts on p. 29, and on p. 99, where the distinction is supposedly made between plate tectonics and continental drift, it is not clear. In fact, plate tectonic theory is explained before any mention of Wegener and continental drift evidence, which may be thought of as putting the cart before the horse. Plate boundaries are described as convergent, divergent and conservative in the text of p. 59, yet on

the same page the map legend refers to constructive, destructive and undifferentiated plate margins. On p. 42 the reader is told, by an unfortunate misprint, that only S-waves can pass through liquids but on p. 43 they cannot. The odd sections on palaeontology contain numerous inaccuracies, like ammonites in the Devonian (p. 143) and flying dinosaurs, precursors of birds (p. 160). Dinosaur extinction could have benefitted from more space and there is little on exotic terranes. I was pleased to see 'billion' actually defined as a thousand million on p. 35 but elsewhere the authors could not make up their minds about the spelling of prim(a)eval.

The diagrams, maps and photographs are generally very good. Every other double-page spread has colour which enhances the clear diagrams and there are many satellite photographs. However, I did not see one reference to an illustration in the text, they are not numbered and there are no scales, which can be very confusing when figures range from aerial photographs to photomicrographs. Some of the block diagrams and tectonic maps are very clear and useful, and the SEASAT picture on pp. 174–5 is beautiful. Yet other diagrams are totally meaningless and/or confusing: the 'typical Coal Measure cyclothem' on p. 142 certainly is not: the balloon chart of mammals on p. 193 is labelled 'Cenozoic life' and neither subjects are mentioned in the text; on p. 209 is an irrelevant fuzzy blob labelled 'weather systems of the Earth'. Why does the chart of the history of life (and a poor one at that) on pp. 218–9 start at the top right instead of bottom left?

I am sure that this appealing book, beautifully illustrated and not too expensively priced, will attract attention in the bookshop. On reading however, it is heavy going for the amateur and confusing in parts. C.U.P. can do better.

PAUL A. SELDEN

FAULT AND FOLD TECTONICS by W. Jaroszewski, Ellis Horwood Limited, John Wiley & Sons. No. of pages: 565. Price: £47.50.

This book is the English version of Jaroszewski's 1980 Polish edition and is one of the Ellis Horwood Series in Geology, a series of translated text books. Wendy Kirk is the translation editor.

Fold and Fault Tectonics is not claimed to be a comprehensive text book in structural geology. Rather, it covers the kinds of structures encountered by geologists in Poland, *viz* faults and folds in low-grade rocks at shallow depths. The dust cover claims: Every important recent contribution has been considered to give the reader an idea of overall advances in research work. Certainly, one of the most remarkable features of this book is its treatment of the literature, spanning many languages and decades. But the statement, while true for the 1980 version, no longer holds. The most recent references are mid-1978, which 'date' the book. Since then, two specialist journals in structural geology and tectonics have come into existence and thrust tectonics has dominated western research.

The 565-page book is arranged in three parts, each ending with consolidated references. Part I, *Theoretical Basis of Tectonics,* contains six chapters covering stress, material properties, and failure theories. There is a strong flavour of rock mechanics and it is good to see aspects such as anisotropy and linking of *en echelon* cracks discussed. Although much of rock-mechanics experiments are easily available (in the west) elsewhere, it is useful to have all the relevant results collected together and complemented by the author's own results and discussions.

Part II, *Fault Tectonics,* contains chapters on fault geometry, mechanisms of fault movement, genesis, overthrusts and fault descriptions. Many examples are given from the literature and from Polish studies. The whole section probably contains more detail than a university teacher could use. However, throughout, discussion centres on real geology rather than mere idealization. The weakness is that there is no inclusion of recent work on thrusts: the overthrust chapter is dominated by the Hubbert–Rubey model although it does mention Elliott's 1976 contribution. And later, in chapter 6 on fault descriptions, normal faults are given 16 pages, reverse/thrust faults one page and strike-slip faults 13. There is only brief mention, in conclusion, of strike-slip faulting in relationship to plate tectonics and no mention or definition of transform faults.

Fold Tectonics is Part III, subdivided into chapters on fold geometry, classification, mechanisms, and causes. I found the chaper subdivisions somewhat deadening to that part of the book which should have interested me most. Thus, I wondered why there was no mention of Hudleston's work under 'shape classification' (it came in the next chapter) or why the Biot–Ramberg buckling model did not figure under 'folding mechanisms—flexure' (it appeared later under 'causes of folding—compression'). The distinction between mechanisms (internal) and causes (external), although logical, leads to a rather unnatural partitioning of fold studies.

Probably my most serious reservation about this part of the book is its incompleteness compared to the fault section. The author only set out to consider folds, together with fault and joints, in