telepathy was demonstrated. A subsequent and more elaborate search through the data revealed peculiar similarities in the guessing patterns of people seated near to each other in the group test. There are of course a number of possible explanations for such a finding, but Sir Alister considers it to be an example of "the coincidental coming together in time of similar ideas". But what, he asks, do we mean by coincidence anyway? This leads with a bump into the statistician's contribution, where again the inner meaning of the word coincidence is explored. Here the argument appears to be that if you riffle about long enough with sets of numbers you'll discover peculiar sequences in them—but sooner than you ought to have done by chance. Somewhere about here one crosses the transitional zone between statistics and pyramidology and I must confess to not being absolutely clear on occasions on which side of the zone Mr Harvie lies.

One is left in no doubt where Mr Koestler stands however. He doesn't actually use the word 'pyramidology' but like the pyramidologists he clearly believes that man should be very alert to the hidden meanings buried in the depths of what appear to be fairly straightforward objects or events. His section of the book is a compendium of the bizarre and the unlikely—psychic visions, poltergeist-like raps, unusual dreams, chance meetings in strange places and, of course, correspondences of the mystic car number variety. From here he argues that the sheer weight of human testimony to the vast array of oddities of this kind forces one to dispose of the word 'chance' in an explanatory role. Chance itself is a meaningless word which tells us nothing whatsoever about the universe and merely allows us to duck the issue of why such things happen so that we can preserve the creaky yet primary principle of causality. In his final section, ponderously titled "Speculations on Problems Beyond our Present Understanding", he returns to the theme of his previous work, "Roots of Coincidence", arguing that the peculiar phenomena of parapsychology are no longer peculiar in the light of recent discoveries in quantum physics. "Enlightened physicists" he tells us patronisingly, are now willing to concede this. The book is a frank statement of personal opinion and Koestler's segment in particular is highly readable. There's also not much doubt that it will be sweet music to the ears of thousands of readers, including a fair number of scientists who relish the anti-materialistic backlash which Koestler so heartily champions. Curiously, I think it is the parapsychologists, or at least those who have spent their lives attempting to trap the alleged and elusive phenomena of ESP by using the methods of experimental psychology, who will find the book most disquieting. For if there is a central argument which emerges it is that there are facets of the Universe—large facets of it—which will resist and even reject study by the traditional methods of science. This, the book implies, is the principal reason for parapsychologists' signal lack of progress in attempting to 'prove' the existence of ESP. A discouraging argument I would have felt, and if anyone cared to apply it to other areas of science, the consequences for research could be pretty peculiar. Most scientists therefore will find this a glum rather than a heartening book. Perhaps 'glumly entertaining' would be the best way to describe it.

CHRISTOPHER EVANS

Thrips

Thrips: Their Biology, Ecology and Economic Importance. By Trevor Lewis. Pp. xv+349. (Academic: London and New York, November 1973.) £7.80: $22.

THE Thysanoptera are a very interesting and important group of insects which are often ignored, apart from a few economically important species, such as the cereal thrips (*Limnothrips cerealium*) or the onion thrips (*Thrips tabaci*). The literature on this group is therefore very scattered, and this book fulfills a long-standing need by bringing together a large part of this information into one place. It is not a book to be read from cover to cover, it is far too concentrated for that, but small doses from parts of it make fascinating reading for the general entomologist. It is a book that would form a valuable addition to the bookshelf of any entomology or ecology laboratory.

It tries to cover a very wide field indeed, often with rather scant information, as this is all that exists. It includes sections on the general biology of the group, rearing and sampling techniques, ecology and economic importance. This wide coverage, while revealing the enormous gaps in our knowledge, does mean that the available information from both the pure ecological literature and the applied literature is brought together, and this in itself makes the book worth having.

On the whole the book is well presented and the numerous appendices are particularly useful. There is however a number of annoying details. For example, I should have liked to see the plates distributed at relevent places in the text, instead of collected at the end, and why put Fig. 47 (a) on page 135 and Fig. 47 (b) and the legend overleaf on page 136? Comparison would have been very much easier if they had been on facing pages. Errors and inconsistencies inevitably creep into compendia of this sort, but are very few in the present case, for example the corrected catch of thrips at Silwood Park is given on page 205 as "about 18,900 individuals" whereas over the page in Table 24 it is given as 19,900.

The author on the whole has done a good job and this book deserves to be widely used, and will no doubt retain its usefulnes for a long time.

S. MCNEILL

Marine mathematics

The Structure of Marine Ecosystems. By John H. Steele. Pp. x+128. (Blackwell Scientific: Oxford and London, 1974.) £2.75.

THIS "short work" (the author's words) consists of what, otherwise, might have appeared as two or three research papers, preceded by a general discussion about problems of investigating marine ecosystems and followed by some speculations about the impact of man's activities. The core of the book is the author's mathematical simulation of the pelagic ecosystem in the northern North Sea, presented as typifying open sea environments in temperate or sub-arctic waters.

As Dr Steele says, models of this kind reveal the lacunae in one's knowledge and so determine the kinds of research needed in the field and laboratory. In particular, the model helps to assess the validity of simplifications and identify the points at which greater detail is required.

The book serves these objectives admirably. In addition, it provides growing points for debate on topics such as the differences between terrestrial and marine ecosystems, or the significance of ecologists' icons such as diversity, stability, efficiency, food webs and food chains. In conclusion, Dr Steele argues that the most critical parts of marine ecosystems, and the points at which man's activities impinge most seriously, are at the levels of pelagic herbivores and benthic micro-organisms. He suggests that an increasing effort should be devoted to studies of structure and dynamics at these "lower levels" of the system.

The book is amply illustrated with results of Dr Steele's own research; there is an unexpected and probably unnecessary glossary, a short but valuable list of references and a totally inadequate index. It would be a valuable addition to the personal and institutional libraries of ecologists of all kinds, those who read equations as well as those who do not.

R. S. GLOVER