cessful of them is Waser, who compares two mangabey species. His chapter is actually most remarkable for its careful documentation of the close similarity in behavioural ecology between the arboreal mangabey species (*Cercocebus albigena*) that he studied in Uganda and the largely terrestrial species (*C. galeritus*) studied by Katherine Homewood in Kenya. Waser attempts to relate the relatively limited differences between the two species to ecological differences, but it is somewhat difficult to test the inferences made. This problem is even more acute with other chapters based on a comparison between two species. For instance, Temerin, Wheatley and Rodman attempt to analyse the relationship between body size and foraging in primates by comparing *Macaca fascicularis* (the crab-eating macaque) with *Pongo pygmaeus* (the orang-utan). These two primates do, of course, differ in numerous ways, but a comparison between them cannot reliably reveal which of those differences is due to body size alone. (Curiously, the book includes no allometric analyses other than those contained in Kay's chapter; this technique has much to offer, especially in identifying body-size effects.)

Finally, special mention should be made of Post's essentially theoretical, but nonetheless challenging chapter arguing that current optimal foraging models are generally designed for fine-grained habitat conditions and are therefore inadequate for interpretation of primate feeding behaviour in patchy habitats.

Perhaps the most surprising point about the book as a whole is that there is no explicit discussion of the crucial distinction between "foraging" (the search for food) and "feeding" (actual ingestion). These terms are very loosely used in the literature and a clearing-up exercise is long overdue. But the book's principal drawback resides in its lack of cohesiveness; in the event, the meal is pretty indigestible. The introduction by Rodman and Cant is interesting in a historical sense, but theoretically superficial, while the closing chapter by Cant and Temerin, which could have served to bring the key points together, actually dissolves into a diffuse listing of large numbers of potential interacting variables. So although *Adaptations for Foraging in Nonhuman Primates* contains much of value in terms of individual chapters, it falls far short of the synthetic view of primate feeding adaptations that should one day emerge. □

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Hows (and whys) in molecular biology

Peter Little

Transcription and Translation: A Practical Approach.
Edited by B.D. Hames and S.J. Higgins.
IRL Press: 1984. Pp. 328. Pbk £12, $24.

ONE of the problems of compiling a practical manual in molecular biology is to decide when to do it. The speed with which the subject progresses makes it difficult to judge when a method has progressed from research topic to established procedure. Perhaps the easiest way to identify areas that are ripe for such a treatment is to ask whether justification for use of the method has to be supplied with the protocol.

By this criterion, a number of the topics covered in Hames and Higgins's collection of articles were not ready for inclusion in a methods handbook. The point is most apparent in the first half of the book, which covers eukaryotic transcription and translation. Extensive protocols are provided in an annoying tabular form but they are heavily interspersed with results and discussion — this is particularly true of the chapter on expression of DNA in mammalian cells from Spandidos and Wilkie, who have otherwise written an interesting and extensive review of a rapidly developing field.

The second half of the book is devoted to prokaryotic transcription–translation systems and eukaryotic *in vitro* methods and is a useful source of protocols, albeit in the same unsatisfactory format. Here Colman contributes a helpful and informative account of the use of *Xenopus* oocytes for translation of nucleic acids. Sandwiched between the two halves is a chapter on the use of *E. coli* polymerase to transcribe chromatin — a field which seems to me, even after reading this chapter, to have limited intellectual justification in view of extensive progress in *in vitro* techniques for faithful transcription of DNA by eukaryotic polymerases (well documented here by Manley).

It is worth comparing this volume with *Molecular Cloning: A Laboratory Manual*, published by Cold Spring Harbor Laboratory (reviewed in *Nature* **300**, 782; 1982). The most striking difference is that in the latter book each method is presented clearly, without detailed discussion as to *why* one would want to make, for example, a phage lambda library. If the editors could have put together a manual on transcription and translation in a similar fashion, they would have produced a very worthwhile publication, but it is probably a few more years before this can be done. As it is the book contains several useful articles, but it is not one which I would buy for my laboratory. However, I think I would borrow it! □

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Piecing it together

John M. Charap

The Ideas of Particle Physics: An Introduction for Scientists.
By J.E. Dodd.
Cambridge University Press: 1984. Pp. 202. Hbk £22.50, $44.50; pbk £8.95, $18.

THE IDEAS of particle physics are probably no more difficult than those of many other sciences, but they are certainly less familiar. Notwithstanding the fact that the discoveries of recent years together represent one of the great achievements of modern science, most non-physicists would be hard pressed to explain why there is such confidence in the validity of the "standard model" of electroweak and QCD interaction between leptons and quarks, still less to point beyond present frontiers to more or less credible speculation.

There has long been a need for a book which would enable scientists from other disciplines to share more fully in the continuing endeavour of particle physicists, pursued on a grand scale and addressing the most fundamental question about the ultimate structure of matter; after all, the advances of the past few years have brought about as profound a revolution of our knowledge of the basic constituents of all matter and of their interactions as did the heroic work of Bohr and Rutherford for our understanding of the constitution of atoms. Dr Dodd has written just such a book.

The stage is set with a brief introduction to the key ideas of relativistic quantum field theory, and the drama is allowed to unfold in a broadly chronological sweep. The mathematical demands are modest. Equations are used to summarize or to illustrate rather than to advance arguments. Diagrams likewise are there to elucidate and not to baffle, and the ubiquitous Feynman diagrams need hold no terror. The fact that there are rules which relate them quantitatively to measurable observables is mentioned but no such calculations are undertaken. And the book is bang up to date; the evidence for the top quark from the CERN $p\bar{p}$ collider is the only major post-publication discovery omitted.

If you consider yourself to be reasonably numerate, and want to learn about quarks and gluons, asymptotic freedom and colour confinement, electroweak unification, and W and Z bosons, Dr Dodd's book is an excellent place to start. More important, if you want to know how the jig-saw puzzle seems to be falling into place, making sense of the plethora of particles, then this is the book to read. □

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