

## BOOK REVIEW

P.D.B. COLLINS, *Regge theory and high-energy physics*, (Cambridge University Press, 1977). 445 pages, 29.

The preface for this book was written in August 1975, and presumably the book was well underway in November 1974 when the  $\psi/J$  was found and the direction of particle physics finally changed almost completely away from studying Regge properties and old hadrons. In one sense that change has served to enhance the value of this book, because very little development has taken place in these areas since the book was written; it is still quite up-to-date, particularly in its theoretical aspects.

Of course, since the main areas of particle physics activity are no longer closely connected with the subject matter of the book, in another sense the change in direction has turned the book from a useful everyday tool into a kind of occasional reference. It does pay sufficient attention to exposition, explanations, and derivations to be able to play that role. Contrary to what often happens in particle physics, the author goes some distance toward writing a textbook rather than just presenting results.

Since much of the actual experimental data taken is hadron interactions, and since basic Regge ideas will play a role in any theory of hadrons, this book will serve as a useful place to get an introduction to the necessary techniques. There is probably not a better place to turn, although in many areas it should be considered as an introduction and not as an encyclopedic source. Unfortunately, in view of the role the book will play, its treatment of phenomenological questions useful to experimenters with data is really rather out of date. It gives a brief but satisfactory review of the situation as of early 1974, but by now newer data and applications have effectively settled a number of questions.

Almost every topic in conventional hadron Regge theory and multiparticle work is covered or at least mentioned. There is a too-brief section on "Regge poles, elementary particles, and weak interactions"; if this section, with its connection to the new physics, had been considerably more developed it would have enhanced the value of the book significantly. Taken as a whole, the book will serve an occasional but useful role for lots of particle physicists, and will probably be studied by lots of graduate students who need to catch up on terminology and techniques which have become rather standard.

Gordon Kane  
Physics Department  
University of Michigan