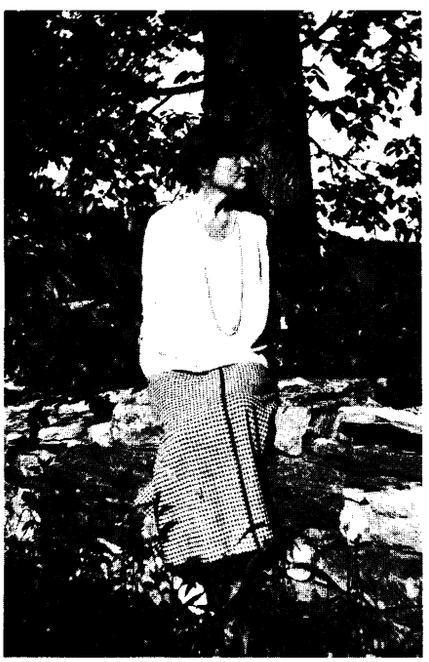
search for alternative ways of accommodating self-expression to social convention attracted Parsons to the orderly Pueblo cultures. Believing that individuals and societies should stand up for themselves, Parsons did her job of gathering, reporting, and publishing material and expected her informants to do their job of protecting secrets and, if necessary, arguing against her interpretation (p. 147). Eventually, obeying the canons of contemporary anthropology, Parsons relinquished generalization in favor of "fact" (p. 135). The result was a crude positivism that relegated her writings to the status of source material. Yet she did not give up her "romanticism" about "primitive" societies, a tension left unsettled.

Elsie Parsons did not seek positions in anthropology (she did accept the presidency of the American Anthropological Association in 1941), but she contributed to the "professionalization" of anthropology through support of students and colleagues. In the end, anthropology for Parsons was less a career than a basis for "propaganda by the ethnographic method."

The weaknesses of *A Woman's Quest for Science* result from the biographer's reluctance to stray into unfamiliar domains. The strengths lie in the absorbing narrative he has created through an interweaving of quotations, paraphrases, and biographical commentary. *A Woman's Quest for Science* should reawaken interest in Elsie Clews Parsons through its portrayal of the interaction between a determined personality and the amorphous beginnings of American anthropology.



Elsie Clews Parsons around 1913. [From *A Woman's Quest for Science*; American Philosophical Society]

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Mathematical Physics

Renormalization. An Introduction to Renormalization, the Renormalization Group, and the Operator-Product Expansion. JOHN C. COLLINS. Cambridge University Press, New York, 1984. x, 380 pp., illus. $49.50. Cambridge Monographs on Mathematical Physics.

Quantum field theory, which describes the local interactions of fields in accordance with the basic principles of quantum mechanics and relativity, is the conceptual context within which today's physicists are trying to understand the fundamental constituents of matter and their interactions. The electromagnetic, weak, and strong forces have all been formulated in the language of quantum field theory, in the so-called "standard model," and many physicists are confident that quantum field theoretic models will continue to provide an accurate description of the subatomic realm for all length scales larger than about 10^{-33} centimeter, where it is generally acknowledged that the quantum manifestations of gravity will probably require a drastic revision of the general theory.

If the frontiers of quantum field theory are indeed going to be pushed 16 orders of magnitude beyond the reach of the present generation of high-energy experiments, then undoubtedly a key role will be played by the mathematical machinery of renormalization, which governs the scaling properties of interaction strengths as one probes successively more minute distances. Often complicated and full of traps for the unwary, renormalization theory remains a particularly difficult discipline for the uninitiated to master. Even after a course in introductory quantum field theory, students are typically quite hesitant to enter the forest of mathematical subtleties encountered in most of the published literature on renormalization. For such students, and for a great many more experienced theorists as well, *Renormalization* provides a particularly useful and concise introduction to the subject.

To limit his treatment to a manageable length without sacrificing pedagogical clarity, Collins has made a careful selection of topics. Avoiding complicated phenomenology, he concentrates on some of the central themes of the standard model, such as gauge theory, the renormalization group, and deep inelastic scattering. Wisely, he has not tried to present a compendium of numerous equivalent renormalization schemes but has relied mainly on one method, minimally subtracted dimensional renormalization, which is most efficient for his purposes.

A particularly satisfying aspect of the book is the way in which Collins deals with some of the more difficult and subtle issues of renormalization theory. A good example is his discussion in chapter 13 of chiral symmetry, axial anomalies, and the Adler-Bardeen theorem. Rather than papering over the difficulties, Collins presents a thorough yet uncluttered analysis that leaves one with a firm grasp of the important points. In so doing, he transmits to the reader an important message. Renormalization theory indeed requires clear thinking and mathematically precise language if it is to succeed. Nevertheless, it need not be so abstruse that it is accessible only to a handful of experts. Rather it can, and should, be an essential part of the education of every serious particle physicist.

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Coral Reefs

Perspectives on Coral Reefs. D. J. BARNES, Ed. Published for the Australian Institute of Marine Science by Clouston, Manuka, Australia, 1983. x, 277 pp., illus. A$19.95.

In 1979 a workshop on coral reefs was held at the Australian Institute of Marine Science in Townsville. "By the conclusion of the workshop," writes the editor of this book, "there was a general feeling that a combined meeting of (mainly) geologists and biologists had provided each with fresh views. . . . It was proposed that a series of fairly basic reviews would provide a straightforward means by which a specialist in one field could discover what was going on in other fields. Following from this, a number of workshop participants agreed to provide reviews. . . . This volume is the collection of those reviews."

The goal of summarizing the state of geologic and biologic knowledge of coral