

tions for future research as well as incisive criticisms of conventional wisdom and interpretations of past experiments. Most effectively, Papaj and Rausher point out that many misunderstandings about herbivore host selection occur because researchers overemphasize the behavior that occurs after an insect has discovered its host plant and downplay the behavior that leads to host plant discovery.

Overall, this volume should be an especially useful reference to ecologists and evolutionary biologists lacking knowledge of insect behavior and sensory physiology but nonetheless pursuing research in insect ecology. Its primary merit is that it addresses a neglected topic and, in some selections, focuses attention on new ways of thinking or new avenues for research. Because a substantial number of the contributions in this volume are shallow or pedantic, there remains a large gap in the literature concerning host-seeking processes in herbivorous insects. At least this book ably points out why that gap needs to be filled before we can understand plant-insect dynamics.

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The Parity Story

Selected Papers, 1945-1980, with Commentary. CHEN NING YANG. Freeman, New York, 1983. xiv, 596 pp., illus. Cloth, \$39.95; paper, \$19.95.

In 1957, Chen Ning Yang and Tsung Dao Lee were awarded the Nobel Prize in Physics for proposing the law of parity nonconservation in weak interactions, that is, the violation of right-left symmetry among the elementary particles. Their work was done in the United States, but they were nonetheless the first Chinese scientists to be so honored. Now Yang has taken the occasion of his 60th birthday to provide, in place of festschrift, his own selection from his first 35 years of scientific writings (74 items out of about 200), together with some 80 pages of his own commentaries and a dozen pages of photographs. The book is a pleasure to read from start to finish, thanks to Yang's taste, style, and aesthetic sensitivity, coupled with his warmth and common touch. Few will want to read it in sequence, however; instead, one is drawn back and forth among the "commentaries" (which in-

clude biographical and historical notes, opinions, and personal encounters), the beguiling photographs (family portraits from China, scenes at the Institute for Advanced Study, and so on), and the scientific papers, many of them familiar, but still stunning classics of theoretical physics.

Aside from the great works with Lee (and one with Reinhard Oehme) on symmetry violations in the weak interactions, there are many papers throughout Yang's career that are based on symmetry notions and are so "geometrical" that one immediately grasps both the truth and the beauty of the argument, such as the 1950 work on "dematerialization into two photons." The most important of these papers is probably the famous work with Robert L. Mills, which is the model for the non-Abelian gauge theories that currently dominate theoretical physics. That recalls also Yang's work with his teacher, Enrico Fermi, called "Are Mesons Elementary Particles?," which is the forerunner of the Sakata model and thus of the quark model of elementary particles. Both the Fermi-Yang and the Yang-Mills papers were considered little more than curiosities in their day.

In his commentaries, Yang also pays his debts to his parents, to his teachers, to his co-workers, and to his native land, as well as to his scientific homeland, the United States. His taste and style in physics, he says, were formed from 1938 to 1944, when he was a student in Kunming. His undergraduate thesis was on group theory and molecular spectra, and group theoretical ideas (the mathematical expression of symmetry) have ruled his subsequent career. His master's thesis in Kunming dealt with statistical mechanics, the other major part of his work. Since 1971 Yang's voice has been influential in China, urging that increased attention be paid to basic research, a policy apparently approved by Chou En-lai and Mao but frustrated by the "gang of four" until 1977.

There are many other good things in this volume, but not space enough here to deal with them. The "parity" story will be read with great attention by all who experienced that dramatic turning point in physics. While regretting the sad controversy it engendered, they will welcome yet another personal view. Yang's decision to make his own festschrift was a risky one, but it could not have succeeded better.

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