



Vignettes: Physics from the Bottom Up

Physics is not difficult; it's just weird. . . . Physics is weird because intuition is false. To understand what an electron's world is like, you've got to be an electron, or jolly nearly. Intuition is forged in the hellish fires of the everyday world, which makes it so eminently useful in our daily struggle for survival. For anything else, it is hopeless. Our intuitive fear of heights would be ridiculous for an albatross; our intuitive appreciation of the flight of a ball is silly if we want to trace a quark. Intuition gives us plausible nonsense like astrology, homeopathy, or quantum-mechanics-turned-into-Zen. Intuition does not help us much in doing physics, be it quantum theory or classical mechanics (ever tried to understand the motions of a spinning top intuitively?)

—Vincent Icke, in *The Force of Symmetry* (Cambridge University Press)

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—Robert Gilmore, in *Alice in Quantumland: An Allegory of Quantum Physics* (Copernicus/Springer-Verlag)

sufficient to delude millions of Americans into believing that the American way of war was the most humane on earth. . ." (p. 209). Modest success with precision-guided munitions in the Gulf War "means fewer people will die, but people will still die" (p. 209).

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Undervalued Contributors

Hidden Scholars. Women Anthropologists and the Native American Southwest. NANCY J. PAREZO, Ed. University of New Mexico Press, Albuquerque, 1994. xxii, 429 pp., illus. \$47.50.

Hidden Scholars carries forward the theme of an earlier work, *Daughters of the Desert* (University of New Mexico Press, 1988), and the museum exhibition for which it served as catalog. A considerable number of women have contributed significant work to the anthropology of the U.S. Southwest, yet much of their work is unacknowledged. Nancy Parezo, editor of this volume and coauthor of *Daughters of the Desert*, introduces and concludes *Hidden Scholars* with extensive discussion drawn from the literature on careers of women in science. She demonstrates that neither anthropology nor the relatively underpopulated Southwest has

been particularly open to women seeking careers.

Parezo and her collaborators discovered the names of over 3500 men and 1600 women who have published on American Indians of the Greater Southwest. Of the men, a number are standard figures in the history of the discipline (Bandelier, Powell, Cushing, Goddard, Hewett, Cummings, Kroeber, Kluckhohn, Eggan, Haury, and Devereaux come readily to mind). Of the women, only Ruth Benedict is usually discussed in histories of American anthropology. Some of the omissions can only be attributed to a pervasive obtuseness in recognizing work when it is done by a woman. For example, Dorothy Keur's *Big Bead Mesa* was Memoir No. 1 of the Society for American Archaeology as well as a landmark in ethnoarchaeology and historical archaeology, but Keur is not discussed by the major historians of American archaeology, Trigger, Willey and Sabloff, and Patterson. Worse, the reason Keur gets into Willey and Sabloff's index is that she is mentioned by a social anthropologist they quote. In Parezo's book, Keur garners 13 index listings.

The patterns discovered in the half-hundred women's lives examined in *Hidden Scholars* are clearly exemplified by Keur. She carried heavy teaching and some administrative responsibilities in an undergraduate department; she never had

access to graduate students or research assistants; after she married, she collaborated in her husband's field projects and published monographs jointly with him. Again and again, Parezo's volume reveals women teaching in undergraduate programs outside the top-ranked universities or employed in museums where they were jills-of-all-trades, curating, preparing exhibits and popular publications, giving public lectures, and womaning the reception desk during the attendant's lunch hour (p. 284). A few of the women carried out applied anthropology projects or programs that veered into social work or public health, falling into the nurturing stereotype for women. A few other women are discussed because their popular writing about the land and its inhabitants overlapped with that of women anthropologists, feeding the public image of the Southwest. I missed seeing explicit discussion of the predominant pattern of women anthropologists of the benighted generations carrying out serious research both in archaeology and in ethnography. Men gave up fieldwork on such a broad front by 1950, women not until the late '70s; in this volume, Jane Holden Kelley is an example of a still-active woman contributing major work in both fields.

The papers in *Hidden Scholars* focus on a few of the principal women—Matilda Cox Stevens, Elsie Clews Parsons, Ruth Benedict, Gladys Reichard, Esther Goldfrank, Ruth Bunzel—and on such topics as wealthy museum founders and women in museums, linguistics, archaeology, and Yaqui ethnogra-



"Florence Hawley Ellis, Gladys Phare, Emil Haury, and Clara Lee Tanner at University of Arizona field school, 1926." [From *Hidden Scholars*; courtesy of the Arizona Historical Society, Tucson]

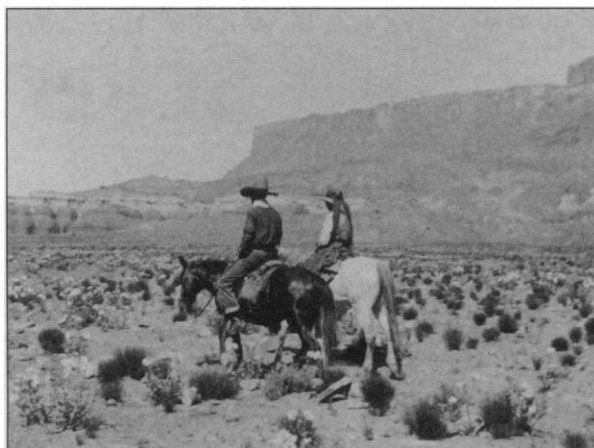
phy. This leads to redundancy, which can be rhetorically suasive. Florence Hawley Ellis, Marjorie Lambert, and Bertha Dutton deserve to be mentioned again and again. Interviews with 18 of the most prominent women brought out their determination to continue

working in their chosen field, counting as sign of success the mere continuation of underpaid employment. Hawley Ellis said, "The discrimination was discouraging when you stopped to think of it. So you just don't dare stop to think at all" (p. 339).

Among the many thought-provoking observations in *Hidden Scholars* is that after Boas was censured by the American Anthropological Association in 1919, "fewer men applied to work with [him] at Columbia; they went to Harvard, Chicago, or Berkeley" (p. 352). The anomalous large proportion of women trained by Boas nearly all received their doctorates after 1920. Yes, Boas was exceptional in his recognition of talented women, and Elsie Parsons's fortune enabled him to support them, but even here there turns out to be a bit of the Rosie-the-Riveter syndrome, women gladly accepted when no men can be obtained. A related topic not overtly discussed is males' territorial behavior when they permit females to come in to serve them but bite any who strive to gain independent recognition in the domain. 'Tain't pretty, nor is it genteel to complain of ungentelemanly behavior. Surely some of the Southwest's women scholars repressed stories of top dogs' nasty nips; Parezo has remarked that "getting [the women interviewed] to even admit that they had experienced any form of discrimination was like pulling teeth."

Reading *Hidden Scholars* has been bitter-sweet for me (Barnard '56, Harvard Ph.D. '64). I've seen myself and my cohort of women anthropologists in Nancy Parezo's hidden scholars. It's cold comfort to know our apparent second-rank status fits a pervasive pattern of undervaluing women scholars. Parezo aimed in this book to place the half-hundred women anthropologists into their earned places in the history of research in the Southwest and to convince readers that the standard measure of worth according to Big Science projects obscures the vital role of smaller projects and laboratory research in advancing knowledge of a region. Women often have worked in the interstices or background of a research field, for example, in ethnoarchaeology or ceramic analyses, but without their contributions the field would be disjointed, like a Constable landscape blank except for cows and a cathedral spire. *Hidden Scholars* foregrounds not only women anthropologists but their usually less-celebrated research that in many instances has linked, deepened, applied, and humanized the landscapes in which Big Science projects stand out.

The book, incidentally, consistently



"Mary Cabot Wheelwright and Jack Lambert near Soap Creek, Arizona, 1927." [From *Hidden Scholars*; courtesy of the Wheelwright Museum of the American Indian]

transgenders people named Jesse/Jessie—the successful man Jesse Walter Fewkes becomes "Jessie" but the woman Jessie Taft becomes "Jesse."

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Books Received

AIDS and the Public Debate. Historical and Contemporary Perspectives. Caroline Hannaway, Victoria A. Harden, and John Parascandola, Eds. IOS Press, Burke, VA, 1995. viii, 216 pp., illus. \$70.

Atlas of the Developing Rat Nervous System. 2nd ed. George Paxinos, Ken W. S. Ashwell, and Istvan Törk. Academic Press, San Diego, 1994. Various pagings. Spiral bound, \$125.

Behavior Genetic Approaches in Behavioral Medicine. J. Rick Turner, Lon R. Cardon, and John K. Hewitt, Eds. Plenum, New York, 1995. xviii, 273 pp., illus. \$45. Perspectives on Individual Differences.

The Brain Immune Axis and Substance Abuse. Burt M. Sharp et al., Eds. Plenum, New York, 1995. x, 245 pp., illus. \$79.50. Advances in Experimental Medicine and Biology, vol. 373. From a symposium, Palm Beach, FL, June 1994.

Cancer Cytogenetics. Sverre Heim and Felix Mitelman. 2nd ed. Wiley-Liss, New York, 1995. x, 536 pp., illus. \$59.95.

Doing Their Share to Save the Planet. Children and Environmental Crisis. Donna Lee King. Rutgers University Press, New Brunswick, NJ, 1995. xii, 135 pp. + plates. \$42; paper, \$15.

Earth. An Introduction to Geologic Change. Sheldon Judson and Steven M. Richardson. Prentice Hall, Englewood Cliffs, NJ, 1995. xx, 551 pp., illus. Paper, \$50.67.

Earth's Dynamic Systems. W. Kenneth Hamblin and Eric H. Christiansen. 7th ed. Prentice Hall, Englewood Cliffs, NJ, 1995. xviii, 710 pp., illus. Paper, \$50.67.

Free Choice Petri Nets. Jörg Desel and Javier Esparza. Cambridge University Press, New York, 1995. viii, 244 pp., illus. \$39.95. Cambridge Tracts in Theoretical Computer Science, 40.

Gene Cloning and Manipulation. Christopher Howe. Cambridge University Press, New York, 1995. xiv, 210 pp., illus. \$44.95; paper, \$19.95.

Human Impacts on Weather and Climate. William R. Cotton and Roger A. Pielke. Cambridge University Press, New York, 1995. vii, 288 pp., illus. \$59.95; paper, \$24.95. Reprint, 1992 ed.

The Hyman Method. Oligonucleotide Synthesis and Plasmid Preparation. Edward David Hyman. Sybrel Biotechnology, Harahan, LA, 1995. viii, 213 pp., illus. \$85.

Immunocytochemical Methods and Protocols. Lorette C. Javois, Ed. Humana, Totowa, NJ, 1994. xii, 435 pp., illus. Spiral bound, \$64.50. Methods in Molecular Biology, vol. 34.

The Making of a Conservative Environmentalist. With Reflections on Government, Industry, Scientists, the Media, Education, Economic Growth, the Public, the Great Lakes, Activists, and the Sunset of Toxic Chemicals. Gordon K. Durnil. Indiana University Press, Bloomington, 1995. xiv, 201 pp. \$19.95.

Making Waves. Engineering, Politics, and the Social Management of Technology. Edward Wenk, Jr. University of Illinois Press, Urbana, 1995. xvi, 271 pp. \$26.95.

Managing Scientists. Leadership Strategies in Research and Development. Alice M. Sapienza. Wiley-Liss, New York, 1995. xvi, 191 pp., illus. Paper, \$24.95.

Neuroendocrinology of Gastrointestinal Ulceration. Sandor Szabo and Yvette Taché, Eds. Plenum, New York, 1995. xiv, 248 pp., illus. \$85. Hans Selye Symposia on Neuroendocrinology and Stress. From a meeting, Esterel, Quebec, Canada, Sept. 1989.

Pathogenic and Clinical Microbiology. A Laboratory Manual. Sharon S. Rowland et al. Little Brown, New York, 1995. xx, 389 pp., illus. Paper, \$26.95.

Patty's Industrial Hygiene and Toxicology. Vol. 2, Part C, Toxicology. George D. Clayton and Florence E. Clayton, Eds. 4th ed. Wiley, New York, 1994. xviii, pp. 1677-2394, illus. \$195.

Purine and Pyrimidine Metabolism in Man VIII. Amrik Sahota and Milton W. Taylor, Ed. Plenum, New York, 1995. xxii, 836 pp., illus. \$159.50. Advances in Experimental Medicine and Biology, vol. 370. From a symposium, Bloomington, IN, May 1994.

Quantum Mechanics Using Maple®. Marko Horbatsch. Springer-Verlag, New York, 1995. x, 331 pp., illus., + diskette. \$49.

Routing, Placement, and Partitioning. George W. Zobrist, Ed. Ablex, Norwood, NJ, 1994. viii, 293 pp., illus. \$65. VLSI Design Automation.

Rydberg Atoms. Thomas F. Gallagher. Cambridge University Press, New York, 1994. xiv, 495 pp., illus. \$100. Cambridge Monographs on Atomic, Molecular, and Chemical Physics, 3.

Saponins. K. Hostettmann and A. Marston. Cambridge University Press, New York, 1995. xii, 548 pp., illus. \$120. Chemistry and Pharmacology of Natural Products.

Science and Technology in a Multicultural World. The Cultural Politics of Facts and Artifacts. David J. Hess. Columbia University Press, New York, 1995. xiv, 311 pp., illus. \$49.50 or £33; paper, \$18 or £12.75.

Science and Technology of Electroceramic Thin Films. Orlando Auciello and Rainer Waser, Eds. Kluwer, Norwell, MA, 1995. xvi, 456 pp., illus. \$211 or £135.50 or \$330 Dfl. NATO ASI Series E, vol. 284. From a workshop, Villa del Mare, Italy, June 1994.

Thermal Analysis. Fundamentals and Applications to Polymer Science. T. Hatakeyama and F. X. Quinn. Wiley, New York, 1994. x, 158 pp., illus. \$54.95.

World Geographical Encyclopedia. Umberto Bonapace and Lambert Laureti, Eds. McGraw-Hill, New York, 1995. 5 vols. Vol. 1, Africa. viii, 350 pp., illus. Vol. 2, The Americas. viii, 352 pp., illus. Vol. 3, Asia. viii, 352 pp., illus. Vol. 4, Europe. x, 350 pp., illus. Vol. 5, Oceania; Index. vii, 357 pp., illus. The set, \$500. Translated from the Italian edition (1994).

Publishers' Addresses

Below is information about how to direct orders for books reviewed in this issue. A fuller list of addresses of publishers represented in *Science* appears in the issue of 26 May 1995, page 1220.

Smithsonian Institution Press, P.O. Box 960, Herndon, VA 22070-0960. Phone: 800-782-4612; 202-287-3738. Fax: 202-287-3184; 202-287-3637.

University of New Mexico Press, 1720 Lomas Blvd., NE Albuquerque, NM 87131-1591. Phone: 800-249-7737; 505-277-4810. Fax: 800-622-8667; 505-277-3350.