

Underpinnings for Sexual Equality

Beyond Separate Spheres. Intellectual Roots of Modern Feminism. ROSALIND ROSENBERG. Yale University Press, New Haven, Conn., 1982. xxii, 288 pp. \$19.95.

In *Beyond Separate Spheres*, Rosalind Rosenberg tells the fascinating story of a small group of women scientists who initiated the modern scientific study of differences between males and females in the period between the later 19th century and World War II. The specific discovery these women made, Rosenberg insists, is the idea of sexual equality. This is an interesting account, or, more precisely, series of vignettes, nicely written, solidly researched, and intelligently presented. The book is itself an excellent example of feminist scholarship.

Rosenberg begins with the rebellion of the first generation of collegiate alumnae against the Victorian scientific, medical, and social dogmas concerning the separate spheres of man and woman, the dicta that there were such profound distinctions between what biological and psychological evolution had mandated for masculine and feminine thought and action that women could never enter the public sphere without contravening laws of nature and thus endangering their own health. Most women who attended college in the 1880's were feminists virtually by definition, Rosenberg insists, perhaps plausibly, for the prevailing notions of the limits of woman's education, which the Boston doctor Edward W. Clarke did much to popularize, insisted that the collegiate experience, and abstract thinking more generally, would prove harmful to the mental and, perhaps, the reproductive fertility of most women. Among those college alumnae who took strong issue with these notions was another New Englander, Marion Talbot. She conducted a survey of woman college graduates for the Association of Collegiate Alumnae and argued that higher education was not deleterious to feminine health. Although this study neither received wide notice nor challenged Victorian evolutionary assumptions, Rosenberg assures us that it was the open-

ing wedge for the tradition of feminist scholarship that is the topic of her book.

In the late 19th century, Rosenberg continues, higher education seemed to offer professional, that is to say non-domestic, opportunities to a small yet growing number of women such as Talbot. Higher education thus became an institutional refuge for many women. As public colleges and universities became coeducational in fact as well as in name, the presidents and many faculty at the nation's prominent, prestige-conscious private universities became concerned that coeducation would dilute the quality of advanced teaching and research at their institutions. At Chicago, where Talbot became the first dean of women, the struggle over coeducation pitted her and several sympathetic professors in the social sciences, including John Dewey and George Herbert Mead, against the president, the trustees, and many faculty. At issue in this conflict were not simply coeducation but the alternatives of reform or specialization. Rosenberg incisively shows how and why the conflict was resolved. Specialization became the rule for all faculty. And often academic women gravitated toward such newly minted fields as home economics. Ironically higher education, which once seemed to beckon women to opportunities quite beyond the traditional domestic sphere, within two generations came to a point at which most members of the female professoriate had the unattractive choice between a secure position in a marginal—that is, feminine—field and a marginal position in a major—that is, masculine—field.

Rosenberg argues that the ideas of the new social sciences, especially as represented by the work of such men as Dewey, Mead, William I. Thomas, and Franz Boas, offered a fresh, antievolutionary point of view that emancipated women intellectually from the thralldom of Victorian evolutionary naturalism, including its version of the separate spheres. At the same time, the social sciences offered some professional opportunities for women. These conditions permitted a full-scale intellectual and

ideological rebellion against the idea of the separate spheres and served as the catalyst for the modern study of sex differences. These developments came into their own chiefly at Chicago and Columbia. At Chicago, the psychologists were far more receptive to women as graduate students than at many universities. An early—and brilliant—Chicago Ph.D. was Helen Thompson Woolley, whose tests of the intelligence of college men and women showed no important or consistent differences between the sexes, thus pointing to the idea of sexual equality. Subsequently Leta S. Hollingworth, while a doctoral student at Columbia, examined two questions that bore on the idea of separate spheres, whether menstruation influenced female intellectual performance and whether men possessed a larger variety of mental aptitudes than did women. Hollingworth concluded, the separate spheres doctrine notwithstanding, that men did not differ from women intellectually. Jessie Taft, a graduate student working in philosophy at Chicago with Mead, carried the tradition of feminist scholarship even further. The overall theme of Taft's dissertation was that women, unlike men, were forced to live in the public (male) and private (female) spheres of society and were thus vulnerable to unsatisfactory adjustment as "marginal outsiders." Elsie Clews Parsons, a committed feminist and prolific amateur anthropologist, argued in her many writings against the notion of the superiority of the Western family structure as compared with the familial forms of more "primitive" cultures. Mary Roberts Smith Coolidge and Clelia Duel Mosher carried the tradition of feminist scholarship even further with their work on sex and reproduction. They rejected the doctrine of the separate spheres in these matters as the other feminist scholars had assaulted it with regard to intelligence, social role, and personality.

The woman whose work was the culmination of this tradition of feminist scholarship was Margaret Mead. Mead's studies of the primitive peoples of the South Pacific certainly challenged Victorian and post-Victorian notions of male dominance, sexual behavior, family structure, and the like. Mead's overarching contribution, we are told, was to insist that most "masculine" and "feminine" traits were simply the product of Western mores and customs, not the irreversible result of iron-clad biological and psychological evolution. Rosenberg notes that after Mead's work the "light of feminist scholarship" (p. 238) almost died out and was barely kept flickering

by a handful of women scholars from the 1940's until the 1970's, when, of course, the new feminist movement helped revive the doctrine of sexual equality.

By any reasonable standard this is a good book on an important topic. It deserves the widest possible readership. Yet this does not mean that every angle of vision taken or every interpretation made is unexceptionable. Essentially this is reform history. Certainly reform history is a popular, perhaps mainstream, enterprise within the historical profession. Certainly too an author has a right to pursue a particular line of inquiry. Yet reform history—in this instance, an ardent, open, feminist search for a usable past—yields at best a partial reconstruction of the past. A search for a usable past is by definition bound up with contemporary concerns that occlude the vision of the past. Much to her credit, Rosenberg has avoided the simplistic Manichean formulations that all too often contaminate mainstream reform history. Her analyses and interpretations are often sophisticated, especially on social phenomena. Yet problems remain. One gets the impression, for example, that the doctrine of sexual equality, which Rosenberg's *dramatis personae* worked so valiantly to create as an intellectual and scientific construct, is an enduring "truth of science." This seems to me an unduly whiggish or positivistic conception of science and its history. Nor does it seem a service to democratic civilization to imply that important public policy questions can be resolved by "scientific truth."

A consequence of Rosenberg's search for the scientific roots of the modern feminist sensibility is that the book does not quite coalesce intellectually about a coherent historical problem. Not all of the scholars so ably discussed were of comparable importance, either to a tradition of feminist scholarship or to their respective disciplines, or even to one another as thinkers and scholars. Certainly Woolley, Hollingworth, and Mead were major scholars in these and other respects. I was not persuaded in the other cases. And we learn only about these scientists' contributions to the doctrine of sexual equality, which was a fragment of their total work, consideration of which, I would suggest, might well strengthen, not weaken, Rosenberg's arguments.

Some specific interpretations are arguable. Rosenberg argues that, once Victorian (or, more precisely, Spencerian or Neo-Lamarckian) evolutionary naturalism was undercut by the post-1900 social sciences, its offspring, the separate

spheres argument, went glimmering. The idea of the separate spheres has had a far more complex and enduring history. And Rosenberg insists that the work of Woolley and Hollingworth undercut psychology's assumption of inborn sex differences and led to a feminist scientific triumph. Hollingworth's work did build upon Woolley's. And in the 1920's sex differences as a subject of research virtually disappeared from psychology. Yet I wonder whose victory this really was. A comparison with the fate of the contemporaneous arguments in psychology concerning race differences is both instructive and depressing. Psychologists abandoned race differences as a scientific subject when the methodology underlying the more egregious claims in that regard became a matter of embarrassment and when a major public policy objective of scientific racism, immigration restriction, was accomplished. Perhaps sex differences hypotheses became less necessary too as the prewar women's movement collapsed and challenges within psychology to the idea of separate spheres emerged within a few years of one another.

There is another level of explanation that helps us understand what happened to this tradition of feminist scholarship, some elements of which Rosenberg sees very perceptively. The general model of evolution in both scientific and social thought changed drastically in the '20's. The prewar model defined species as

types, arranged them in a hierarchical order of superiority and inferiority, and insisted that continuity and change were the consequence of natural (that is, innate) "forces." The heredity-environment controversy of the '20's brought the naturalistic cultural determinism of the new social sciences to the foreground of scientific discussion. The resulting new synthesis, which took shape in that decade, employed an essentially statistical definition of a species as a fluctuating population, juxtaposed species rather than arranged them in an hierarchy, and argued that man was the product of biological and cultural evolution. Only *man* as a single, interbreeding, culture-bearing species remained, with woman as such not an object of concern. Now it made no more sense to have a hierarchy of sex than of race. From the 1930's on the evolutionary model was entirely naturalistic and interdisciplinary, as in, for example, the many theories of culture and personality. This deeper intellectual change was impersonal, reflecting an even more profound and general shift in the culture and society concerning the relationship of the parts to the whole. I suspect many of its scientific architects did not perceive the implications suggested here, but such is the progress of science.

HAMILTON CRAVENS

*Program in History of Technology and Science, Department of History,
Iowa State University, Ames 50011*

Radiometrists and Plate Tectonics

The Road to Jaramillo. Critical Years of the Revolution in Earth Science. WILLIAM GLEN. Stanford University Press, Stanford, Calif., 1982. xx, 460 pp., illus. \$37.50

The Road to Jaramillo is geologist-historian William Glen's account of some of the lines of research that figured in the much-heralded revolution in the earth sciences culminating in the theory of plate tectonics. It is the first such account to which criteria of adequacy developed by historians of science can fairly be applied, and it makes unusual claims about the key to the revolution, which the author locates far afield from its origins as represented in previous accounts of the subject.

The title refers to the discovery of a reversal of the earth's magnetic field at 900,000 years ago, the "Jaramillo event," and the heart of the book is a chronicle of the efforts of a number of scientists, particularly Cox, Doell, and

Dalrymple of the U.S. Geological Survey at Menlo Park, California, to establish an absolute time scale for reversals of the earth's magnetic field, using potassium-argon isotopic dating. This technique, particularly the development of a mass spectrometer capable of accurately dating very young rocks, is the subject of the first part of the book; in the closing chapters the author discusses the application of the time scale to the now famous "Eltanin 19" profile of the ocean floor, with its symmetric magnetic lineations parallel to an ocean ridge. Glen argues that this confluence of data, when supported by geomagnetic polarity determinations from ocean sediment cores at Columbia's Lamont-Doherty Geological Observatory, "confirmed" the Vine-Matthews-Morley hypothesis of seafloor spreading and ushered in a revolution in the earth sciences, a revolution that Glen ranks with the achievements of Copernicus, Darwin, and Einstein.