

feminist sociobiologist Sarah Blaffer Hrdy who through her early field research successfully challenged the male-biased ethological view of sex roles in primates (Hrdy 1981).

Diane Rodgers's book is written with verve, and is a provocative and suggestive starting point for a number of more comprehensive analyses. However, in order to be convincing, much more consideration has to be given to the science itself. What is needed is in-depth studies of the kind that many empirically-oriented historians of science or field sociologists conduct: research that examines the interaction of scientific and social factors without reducing the former to the latter. This kind of research would look at such things as the problems of the science at the time as well as cognitive and strategic scientific concerns of individual scientists, in addition to politically and socially relevant factors.

References

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Weaving Self-Evidence: A Sociology of Logic, by **Claude Rosental**, translated by Catherine Porter. Princeton, NJ: Princeton University Press, 2008. 294pp. \$24.95 paper. ISBN: 9780691139401.

STEVE G. HOFFMAN
 University at Buffalo, SUNY
 sgh@buffalo.edu

If the attempt to prove a logical theorem looks much like how a novelist gets her first book published, a novice playwright gets the backing of a production house, or a social scientist publishes a journal article, can we put to rest the notion that scientific knowledge is guided primarily by principled argumentation? Claude Rosental stays too close to his meticulously detailed case to draw

such unprincipled analogies. However, by taking on the "hard case" of logic, *Weaving Self-Evidence* repeatedly raises this broader problematic around scientific proof. Scholars of science studies, rhetoric, and cultural theory should find Rosental's book highly illustrative in this regard.

The book revisits a mid-nineties controversy over fuzzy set theory initiated by an article published by the young computer scientist Charles Elkan. The proof, published in a 1993 artificial intelligence conference proceeding, claimed that fuzzy logic actually reduces to classical logic, which permits only two truth-values, rather than a more paradigm shifting system allowing for an indefinite array of them. Elkan's proof, along with a subsequent paper award, heats up a debate on an electronic bulletin board. Rosental documents these exchanges as ritualistic performances that gradually move from a boiling Usenet discussion to simmering journal forums to their eventual cooling to room temperature with no clear resolution.

Rosental successfully explodes the image of logicians dreaming up proofs individually and proceeding toward truth in a stepwise, univocal fashion. Rather, all parties to the debate pull together heterogeneous resources and "de-monstrations" aimed at showing that the correct position is "self-evident." Supporters and detractors mobilize savvy rhetoric and subtle textual modifications to re-represent the original theorem in contradictory ways. Debaters engage in multiple registers of proof, as position taking moves swiftly from the "law of the excluded middle," political biases against fuzzy logic in "mainstream AI," fundamental differences between Western and Eastern philosophy, to angry denunciations of stifling political correctness. Elkan proves a skilled rhetorician, subtly reformulating his paper so as to leave most parties reasonably satisfied that their position remains correct while still exuding confidence in his initial theorem. Overall, the practice of logic is convincingly described as the ritual engagements of a multivocal cast of practitioners who share a "form of life" but lack consensus over which axioms yield credible and indisputable proof.

I have three main criticisms. First, I doubt Rosental managed to satisfy his goal of appealing to readers with no interest or

background in logic *as well as* those with specialized knowledge (which, given his subject matter, is no easy task). Although he begins with a fascinating chapter on the material and embodied practices involved in teaching the fundamentals of logic, subsequent chapters present too much unorganized detail to keep a nonspecialist interested. The book does a poor job, as a mentor once wrote on an unrelated matter, of separating the metal from the dross. Second, Rosental's analysis seems to transpire in an historical vacuum. Other than describing how a Usenet operates, he makes little effort at historicizing the technological modality or the discipline of logic. If, as I suspect, the mid-1990s were a high point of participation on discussion boards among computer scientists, this likely contributed to the ferment and multivocality around Elkan's theorem. The modality and timing created a situation hungry for controversy.

Third, Rosental's analytic contribution is too flat, in the sense that he struggles to account for why some voices rose above the din while others dissipated into the digital ether. As such, the book lacks a coherent conclusion. For example, who were the moderators who made the decision to post certain responses to the board's FAQ? According to what criteria did they make this decision? Similarly, Rosental merely speculates on why certain individuals were chosen to represent the debate in journal forums: reputation, partisan demonstrations of force, rhetorical savvy, backstage social skill, or the consistent clarity of their expositions. Yet Rosental does not want to reduce any of these factors to any other. The result of this "non-reducibility" is a detailed description of rhetoric but no explanation for how the controversy moved through its multiple phases. As a consequence of this analytic flatness, the (blasphemous!) possibility remains that those actors who mobilized the most substantively solid logical expositions won the day within their respective teams, despite the fact that no singular synthesis arose between teams.

Rosental does a very neat job of fusing actor-network theory with a Bath-style focus on scientific controversy. He accomplishes this with an interesting use of Goffman's dramaturgical analysis. As such, for those specialists who occasionally unearth the

fossils of old scientific controversies, Rosental hints at an avenue toward closure for the one between these two traditions in science studies. Along these lines, this book could be served up as a chewy case study for an advanced graduate seminar in the sociology of science, cultural sociology, or the rhetoric of proof.

What Do We Owe Each Other?: Rights and Obligations in Contemporary American Society, edited by **Howard L. Rosenthal** and **David J. Rothman**. New Brunswick, NJ: Transaction Publishers, 2008. 123pp. \$39.95 cloth. ISBN: 9781412807234.

JANE A. GRANT

Indiana University-Purdue University, Fort Wayne
grant@ipfw.edu

This sobering volume might well have been titled *What We Fail to Do for Each Other*. The authors examine how contemporary Americans view the common good, assessing the implications for political, social, and economic equality. The book continues the analyses of Etzioni (1993), Sandel (1996), Hacker (2002), Grant (2008), and others who have explored the subject of "values," virtue, and shared fates from the center-left end of the political spectrum. From the late 1960s through the first years of the twenty-first century, public discourse on ethics in the United States has been dominated by a narrow, Christian, fundamentalist orientation that placed the traditional nuclear family at the center of the social system and made individual liberty, a free market economy, and the voluntary ties of community its key attributes. Those espousing a more progressive orientation, whose voices were submerged after the din of the late 1960s subsided, but which have periodically re-emerged, most notably during the 2008 presidential campaign, focused instead on expanding rights and incorporating those previously excluded from the polity. These progressive advocates had less to say about the values or structures that would promote a shared civic ethos in an increasingly diverse society.

Howard Rosenthal and David Rothman were motivated to write about mutual