contemporary peace activists. Its core assumption is that the security of one nation cannot be rooted in the insecurity of another. Collective action requires more than a vision, but, as an alternative to "Peace through Strength" and the continuing arms race it has brought us, "Common Security" offers a challenging new beginning.

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Ideals of Psychologists

The Rise of Experimentation in American Psychology. JILL G. MORAWSKI, Ed. Yale University Press, New Haven, CT, 1988. xx, 220 pp. $24.50.

The persistent tendency of psychologists to equate genuinely scientific work with experimental research is examined in this collection of essays dealing with episodes from the late 19th century to the very recent past. In addition to this common theme there is agreement among the contributors that experimentalists' research designs and findings have always been somehow shaped by social circumstances. The essays are diverse in focus and argument, however: some of them analyze the fabricated social situations of the laboratory, whereas others describe the social characteristics of those involved in research as either members of the professional community of psychologists or subjects of experimentation; the "experiments" discussed range from laboratory projects to a longitudinal study of a selected population (but are nearly all experiments involving human subjects—a skewed sample of experimentalist research).

If psychologists intended their research to have practical implications, historians easily identify the social values sustained by their work. Henry Minton shows that Lewis Terman's study of gifted children, charted in 1921 and still continuing, was designed to persuade the public that an aristocracy of the talented should lead them. Others might have viewed Terman's data as documentation of the workings of the American class system, but to Terman they indicated that intelligence was inherited and was linked to successful performance in all spheres of life; naturally his subjects came from relatively prosperous families, were physically fit and psychologically well adjusted, and enjoyed (if they were male) notable careers. Richard Gillespie's account of the experiments conducted at the Hawthorne plant of the Western Electric Company between 1924 and 1933 reveals them to have rationalized the shift of control over production from workers to a psychologically oriented managerial sector new to American industry. Initiated by plant managers and subsequently elaborated by Elton Mayo and his colleagues from the Harvard Business School, the experiments were heralded as demonstrations that workers' productivity was determined by their psychological attitudes. Contrary to social science myth, however, Mayo's conclusions were consistent with the plant managers' expectations. And Jill Morawski analyzes the efforts of prominent—male—psychologists to prove that conventional sex roles were "natural." From the early years of this century, feminists argued that natural sex differences were inaccessible to psychological inquiry: human nature was thoroughly masked by the training both males and females received from birth. But men such as Robert Yerkes postulated that (unsocialized) primates exhibited nearly human nature and contrived primate experiments that supposedly revealed the inevitability of male dominance.

Minton, Gillespie, and Morawski all treat psychologists' efforts to appeal to the potential markets for their services and thus to establish professional roles for themselves, as sages or practical consultants. The other contributors to this collection are also concerned with psychologists' creation of a distinct professional identity, but they focus on changes psychologists effected in their research styles and rhetoric that enabled them to present a collective front to outsiders. Gail Hornstein relates how in the late 19th and early 20th centuries psychologists were persuaded that their findings would not be genuinely scientific unless they were expressed in quantitative form and how they managed to suspend consideration of questions about the significance of those research projects that were susceptible to quantification. In no small part, the quantitative ideal was the cause of the experimentalists, and their professional dominance was consolidated by an elite (and all male) network of psychologists joined in the society of experimentalists, described here by Laurel Furumoto, founded by E. B. Titchener in 1904.

All the other contributors analyze psychologists' management of the experimental situation itself. Kurt Danziger traces changes in the modes of identifying experimental subjects—represented in the 19th century as virtual collaborators in research and subsequently increasingly described as passive subjects—and argues that this shift in the language of research reports is an index to psychologists' delusion that their experimental subjects were incapable of conscious calculation and, in the laboratory at least, unaffected by the experiences they had had as social beings. By the 1950s, as Jerry Suls and Ralph Rosnow report, researchers had begun to recognize the negative consequences of the authority they had established in the laboratory, observing that the established social relationship between subjects and researchers made the former likely to respond as the latter expected (not least because subjects were neither naïve nor unconscious). Initially, this observed pattern was seen to mandate reform of experimental procedure, but, as Benjamin Harris shows, by the 1960s psychologists had also become concerned about its ethical implications and instituted post-experimental "debriefing"—sessions in which subjects' potential resentment at being experimentally manipulated could be allayed. To Harris, "debriefing" procedures denote psychologists' persistent determination to render their experimental subjects thoroughly passive, but Karl Scheibe construes recent research developments differently. To Scheibe, both concerns about the accuracy of experimental results and debates about the ethics of research procedures are manifestations of fundamental disciplinary change, indications that many psychologists now question the scientistic ideal embraced in the 19th century.

Obviously, it is the triumph of this scientific ideal, predicated on postivist, mechanistic, and operationalist assumptions, that this collection variously chronicles. The authors, all but one of them psychologists, have evidently turned to historical inquiry in order to determine how an ideal they find untenable was embraced. Because their work exposes the premises underlying conventional practices, their colleagues should find it useful in resolving their discipline's present dilemmas. For readers who are not psychologists, this book has value—perhaps unanticipated—as a primer on some current debates in the field.

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Social Science in Law

Reforming the Law. Impact of Child Development Research. GARY B. MELTON, Ed. Guilford, New York, 1987. xii, 307 pp. $30. Guilford Law and Behavior Series.

Reforming the law is a complex enterprise. Legislators make and remake law in response to various mixes of political and policy considerations. Judges embellish legislated rules and legislate rules of their own,

responding to the facts and equities of matters at hand and to different mixes of political and policy considerations. The continuous formation and reformation of law are affected by the beliefs and attitudes of these lawmakers and by circles of influence within and without legislative and legal communities.

Reforming the Law is also a complex enterprise. It posits social scientists as outsiders to legal cultures and seeks to instruct them in penetrating those cultures as bearers of socially useful scientific truths. Its authors, a study group sponsored by the Society for Research in Child Development, describe the history of legal thought concerning the relationship between science and law. They review previously published analyses of judicial recognition of scientific facts and of the professional and networking behaviors of legal policy makers. They provide original data, both anecdotal and systematic, concerning the gathering and use of scientific information by legal advocates and policymakers. They catalog structures that facilitate dissemination of scientific information to consumers in the legal professions. They describe the opportunities and pitfalls associated with involvement of social scientists in litigation, legislative processes, and publication for legal audiences.

The information and advice offered are useful, but the authors' original research suffers from important limitations of design. Many of the authors reason from experiences with the dissemination of information concerning child development. Theories of child development are so diffusely and so differently relevant in legal decision-making that coherent analysis of the use of scientific evidence is difficult. These difficulties are most apparent in the context of a set of citation studies. *Reforming the Law* offers, for example, an analysis of citations of legal and scientific literature in cases coded by a legal research service under broad headings that appear to relate to children. The citations in these cases often refer to procedural and other matters to which child development theories are irrelevant. Because the research design fails to include a procedure for correlating citation patterns with particular issues to which scientific knowledge *is* arguably relevant, the results of the study are ambiguous. A second, more narrowly focused citation study is similarly imprecise. It tracks references to child development authorities in Supreme Court cases addressing age-related restrictions upon the right of choice with respect to abortion. These cases number only six. They involve a congruence of complicated factual, constitutional, and policy concerns (for example, concern that state anti-abortion policies had been masked as child protective policies and that judicial or parental veto or notification were inappropriate responses to problems posed by immaturity). Many of these concerns relate tangentially or not at all to principles of child development. Moreover, in none of the cases was the developmental status of particular minors directly at issue. Here too, decisions to seek, offer, withhold, use, or reject the views of child development authorities are deeply ambiguous and are inadequately probed.

The authors' original research also reflects the risks of taking measurements in an unfamiliar system. As the discussion above indicates, their more systematic research attempts to make sense of the legal system by counting things. They count the numbers of legal and non-legal citations per page in judicial opinions; the numbers of publications of various kinds read by actors in the judicial system; the numbers of judicial citations of particular child development research reports; the proportions of primary and secondary citations in the opinions of particular Supreme Court justices; and the numbers of law review and non-legal citations in the opinions of "liberal" and of "conservative" justices. Analyses of this sort can be useful, but they can also produce results akin to a Martian speculation that there is a correlation between spitting and batting averages. Closer study of the sociology of juvenile and family courts would lead to more pointed questions about the learning patterns of judicial and non-judicial personnel, just as closer study of the legal process would have helped the researchers to distinguish cases in which scientific facts inform judicial legislation (in which facts can serve the function implied by precise usage of the phrase "legislative facts") and those in which they only serve to suggest the policy implications of a rule of law that a judge feels bound to follow.

The penultimate chapter of *Reforming the Law* shines. This chapter, by Lois Weithorn, provides a means of integrating the information and advice contained in the preceding chapters and liberates the reader from the conception of social scientists as outsiders at the gate of a hostile legal community. Weithorn shares her coauthors' sense that law and public policy should be informed by the sciences. Indeed, she argues that the scientist's duty to inform social policy is a

special version of the general ethical duty of beneficence. Weithorn manifests a sophisticated appreciation of the history of law-science interactions as she elaborates the ethical and social obligations of scientists positioned to influence law and policy. Her discussion is sensitive to the complexities of interacting with a legal system that has made both good and highly questionable uses of scientific evidence. (The Supreme Court's scientifically based approval of sweeping authorization of eugenic sterilization is a prominent example in the latter category.) Her sensitivity to the means by which science permeates the legal system mandates concern—while other authors manifest simple eagerness—that pursuit and dissemination of scientific knowledge will have direct and indirect effects upon law and social policy. That concern leads Weithorn to call for scrupulous care in the conduct and reporting of scientific research and sensitivity to the distinction between social goals that are the product of scientific enlightenment and social goals that are the product of personally held values. At the same time, the ethical principles she advocates provide guidance for the scientist seeking ways to pursue social goals without compromising scientific integrity or suffering an artificial detachment from the processes of governance and the circles of influence by which they are inevitably affected.

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Reprints of Books Previously Reviewed

Malinowski, Rivers, Benedict and Others. Essays on Culture and Personality. George W. Stocking, Jr., Ed. University of Wisconsin Press, Madison, 1988. Paper, $12.95. *Reviewed* **236**, 1579 (1987).

The Triumph of Evolution. The Heredity-Environment Controversy, 1900–1941. Hamilton Cravens. Johns Hopkins University Press, Baltimore, 1988. *Reviewed* **208**, 1024 (1980).

Books Received

The AIDS Health Crisis. Psychological and Social Interventions. Jeffrey A. Kelly and Janet S. St. Lawrence. Plenum, New York, 1988. xvi, 205 pp. $25. Applied Clinical Psychology.

Aleksandr Porfir'evich Borodin. A Chemist's Biography. N. A. Figurovskiĭ and Yu. I. Solov'ev. Springer-Verlag, New York, 1988. xiv, 171 pp., illus. $79.50. Translated from the Russian edition (Moscow, 1950) by Charlene Steinberg and George B. Kauffman.

American Pediatrics. The Social Dynamics of Professionalism, 1880–1980. Sydney A. Halpern. University of California Press, Berkeley, 1988. xii, 228 pp. $27.50.

Angular Momentum. Understanding Spatial Aspects in Chemistry and Physics. Richard N. Zare. Wiley-Interscience, New York, 1988. xiv, 349 pp., illus. $39.95.

Auditory Pathway. Structure and Function. Josef Syka and R. Bruce Masterton, Eds. Plenum, New York, 1988. xii, 363 pp., illus. $79.50. From a symposium, Prague, Czechoslovakia, Aug. 1987.

Audubon Wildlife Report, 1988/1989. William J. Chandler and Lillian Labate, Eds. Academic Press, San Diego, CA, 1988. xviii, 817 pp., illus. $24.95.

Automated Biomonitoring. Living Sensors as Environmental Monitors. D. Gruber and J. Diamond. Horwood, Chichester, U.K., and Halsted (Wiley), New York, 1988. 208 pp., illus. $49.95. Ellis Horwood Books in Water and Wastewater Technology.

Baudin in Australian Waters. The Artwork of the French Voyage of Discovery to the Southern Lands, 1800–1804. Jacqueline Bonnemains, Elliott Forsyth, and Bernard Smith, Eds. Oxford University Press, New York, 1988. xii, 347 pp., illus. $195.

The Beauty of Light. Ben Bova. Wiley, New York, 1988. xviii, 350 pp., illus., + plates. $24.95. Wiley Science Editions.

Evolution of Life Histories of Mammals. Theory and Pattern. Mark S. Boyce, Ed. Yale University Press, New Haven, CT, 1988. xvi, 373 pp., illus. $45. Based on a symposium, Edmonton, Alberta, Aug. 1985.

Explosion Pipes. Vladimir A. Milashev. Springer-Verlag, New York, 1988. x, 249 pp., illus. $110. Translated from the Russian edition (Leningrad, 1984) by R. E. Sorkina.

Federal Social Policy. The Historical Dimension. Donald T. Critchlow and Ellis W. Hawley, Eds. Pennsylvania State University Press, University Park, 1988. viii, 206 pp. $22.50.

The Hour of the Fox. Tropical Forests, the World Bank, and Indigenous People in Central India. Robert S. Anderson and Walter Huber. University of Washington Press, Seattle, 1988. xiv, 158 pp. + plates. $25.

An Introduction to Membrane Transport and Bioelectricity. John H. Byrne and Stanley G. Schultz. Raven, New York, 1988. viii, 232 pp., illus. $49; paper, $29.50. Raven Press Series in Physiology.