The Contours of a Debate

The Intelligence Men. Makers of the IQ Controversy. RAYMOND E. FANCHER. Norton, New York, 1985. xviii, 269 pp., illus. $17.95.

Raymond E. Fancher has written a balanced account of one of the bitterest scientific debates of the past century. Focusing on the nature-nurture controversy, he examines psychological conceptualizations of "intelligence" and the lives of the men who tried to measure it.

The book is aimed at the general reader interested in understanding current controversies as well as those of the past. In fact, past and present have become increasingly intertwined in the IQ debate. Recent writings exposing past errors and political biases, in particular those emphasizing psychological support of racist and class-biased social policies during the 1920's, have become potent weapons in present-day struggles pitting environmentalists against hereditarians. They have also fostered a new self-consciousness on both sides of the issue, for the historical record now suggests that the study of "intelligence" is, as Fancher argues, "unusual among scientific problems for the degree to which it interacts with the extra-scientific and sometimes even non-rational concerns of its investigators" (p. 239).

Fancher documents these interactions between the personal and the scientific through a series of biographical sketches. He begins with two 19th-century child prodigies who "grew up to develop diametrically opposed theories to account for their own—and everyone else's—intellectual abilities" (p. xv). John Stuart Mill attributed his own astonishing early accomplishments to the intense tutelage of his father. Later in life, he promoted an "associationistic psychology" that explained much of the "furniture of the mind" as experientially determined. By contrast, Francis Galton, a half-cousin of the century's most renowned scientist, Charles Darwin, credited his own early "genius" to superior inheritance obviously running in family lines. Both Mill and Galton, moreover, realized the political and moral implications of their science. Mill believed that the tendency to regard differences between "individuals, races, or sexes" as innate constituted "one of the chief hindrances to the rational treatment of great social questions, and one of the greatest stumbling blocks to human improvement." As a result, he argued that politicians had, in Fancher's words, "a moral obligation to accept the environmentalist explanation, at least as a working hypothesis" (p. 17). Galton, by contrast, envisioned an alternative utopia in which eugenic practices would eliminate most of society's problems by breeding a superior, and consequently happier, human species.

With Mill's environmentalism and Galton's hereditarianism as his base, Fancher then traces the development of techniques to measure intellectual aptitudes. Of course, assessing "intelligence" and determining its origins are actually two separate problems; as Fancher rightly argues, this has led to "two logically distinct but practically interrelated disputes" (p. xiii). He follows both disputes through the careers of psychologists most involved with mental testing: James McKeen Cattell, Alfred Binet, Charles Spearman, William Stern, Henry Herbert Goddard, Robert Yerkes, Lewis Terman, David Wechsler, Cyril Burt, Arthur Jensen, and Leon Kamin.

Fancher's striking clarity in describing tests as well as testers contributes to the current trend of demystifying psychological testing by making it accessible to the nonprofessional public. Tracing the evolution of psychometrics, he summarizes Cattell's failure to find physical tests that would predict intellectual behavior; Binet's success in measuring relative mental abilities in children of different ages; Spearman's search for a "*g*," or general intelligence factor; Stern's shift from mental ages to an "intelligence quotient," popularized as IQ in Terman's Stanford-Binet test; and Wechsler's adoption of a point scale.

Fancher contrasts the ideas of testers like Galton and Spearman, who conceived of intelligence as a single, largely inherited entity, with those of Binet and Wechsler, who had in mind something more plastic, multidimensional, and environmentally influenced. He also reviews the current state of twin studies. Galton suggested that such studies would settle the debate concerning the relative power of nature and nurture, but this has yet to happen. All studies to date have fallen far short of the ideal conditions necessary for definitive assessments; instead, recent studies offer evidence used by both hereditarians and environmentalists.

Many of the incidents recounted here will be familiar to those aware of recent literature on the history of psychology. Nevertheless, in gathering them together and filling in the gaps between them, Fancher has provided a historical overview of the contours of this debate that is not available elsewhere. His collection of biographies also brings new relationships to light. Interviews with Jensen and Kamin, for instance, add a personal dimension to a public controversy. Fancher shows how Jensen's work indirectly caused Kamin, an animal behaviorist, to examine psychological testing. Kamin had himself been something of a "calculating" prodigy as a boy and in his youth had developed what he called "a deep commitment to reforming the world" (p. 203). Responding to Jensen, Kamin exposed Burt's studies as fraudulent; he then began to explore the history of his field. In positing his own belief in "zero heritability" until opponents can prove otherwise, Kamin has become the modern-day equivalent of Mill.

Fancher's reasoned mixture of biography and history of ideas serves as a useful starting point for those interested in the complex history of testing. What we need now are studies connecting developments in psychometrics with contemporaneous developments in medicine, biology, sociology, and education in order to place these debates within their proper scientific and social contexts. We also need histories of the actual processes of bureaucratic decision-making to explain how and why psychological tests came to play their ubiquitous role in contemporary culture.

The use of such tests, even hereditarians like Jensen have recently argued, has been excessive. On the basis of such concessions, Fancher concludes that the nature-nurture controversy has once again begun to settle down to a shaky consensus attributing significant explanatory power to both sides. It now looks even more likely that in the coming years developments in genetics and cognitive psychology will lead scientists to clarify their conceptualizations of both "nature" and "nurture." Nonetheless, if the history of the past century proves anything, it is that these scientists too will have to confront the personal, social, and moral questions that have always lurked just below the surface of the IQ controversy.

LEILA ZENDERLAND
Department of American Studies, California State University, Fullerton 92634

Ethnological Displays

All the World's a Fair. Visions of Empire at American International Expositions, 1876–1916. ROBERT W. RYDELL. University of Chicago Press, Chicago, 1985. x, 328 pp., illus. $27.50.

Social Darwinism applied the theory of natural selection to human society. It was rampant in late 19th- and early 20th-century America and has by no means disappeared today. Robert Rydell presents abundant evidence that it was found in American world's fairs from the Centennial Exhibition in Phil-

adelphia in 1876 to the Panama California International Exposition in San Diego in 1916.

Social Darwinism takes a number of forms: Survival of the fittest can become a rationale for unfettered free enterprise; the slow pace of evolutionary change can justify political conservatism; and the notion that living peoples represent stages in human evolution from lower to higher can be seen as a mandate for racism and imperialism.

It is this last theme that Rydell stresses, by paying particular attention to the ethnological displays that were a part of every exposition. These displays varied from solemn scientific exhibitions of skulls in series to the "missing link," a trained chimpanzee in a suit and top hat shown on the midway at the Pan American Exposition in Buffalo in 1901. Living peoples were also arranged in evolutionary sequence, notably at the Louisiana Purchase Exposition in St. Louis in 1904. Here a series of constructed villages ranged across the grounds, with African pygmies and Philippine Igorots representing the most "primitive" stages of humanity. The exhibit was under the charge of W. J. McGee, president of the American Anthropological Association. Anthropologists, famous and forgotten, played considerable roles in collecting and arranging these evolutionary and ethnological displays. Major John Wesley Powell collected for the Centennial Exhibition of 1876; Franz Boas, E. H. Thompson, and G. A. Dorsey for the World's Columbian Exposition in Chicago in 1893; James Mooney, J. R. Swanton, and Matilda Coxe Stevenson for the St. Louis fair of 1904; and Edgar L. Hewett and Aleš Hrdlička for the San Diego Exposition of 1915–1916.

American Indians were featured in every exposition. The Smithsonian put on elaborate displays of artifacts, dioramas, and life-sized models. There was a huge Indian congress at the Trans-Mississippi and International Exposition in Omaha in 1898 that featured a sham battle every day between whites and Indians. In these displays Indians were pictured as backward savages whom the whites would civilize. A similar philosophy animated the Philippine exhibits at the 1901 Buffalo and 1904 St. Louis fairs. These exhibits also served to celebrate America's emergence as a colonial power following the conquests of the Spanish-American War.

Behind all these displays Rydell implies that there was an organized ideology at work, an ideology intended to placate and control the masses in order to further the aims of corporate capitalism. He calls the expositions "triumphs of hegemony." Even the amusement zones were not just for fun but "reflected the growing efforts by the upper classes, threatened by class conflict at every turn, to influence the content of popular culture" (p. 236).

The evidence for this argument is less convincing than that advanced for the presence of social Darwinism. Ethnological displays were not all that was on view at the fairs; indeed, they were not even the major exhibits. Exposition grounds abounded with palaces of transportation, machinery, mining and metallurgy, food products, liberal arts, forestry and fishing, electricity, fine arts, and so on. In all of these the emphasis was on technological progress, not white supremacy or cultural hegemony. The supremacy that was being presented was American supremacy over the industrial nations of Europe or the supremacy of one manufacturer's product over another's. The fairs were festivals of advertising, and ad men are not known for the consistency of their views. Rydell often seems to take exposition rhetoric too literally.

In his eagerness to demonstrate the racism and imperialism of the fairs, Rydell also fails to distinguish the educational exhibits from midway attractions. Indeed, he sees both as parts of the same plan by the upper classes to "legitimize racial exploitation at home and the creation of an empire abroad" (p. 236). But the midway concessionaries were there to take money, not to promote ideology. Some concessionaries exhibited humans as curiosities so that the wild man of Borneo was in the same category as the fat lady. Others showed Philippine, Polynesian, or Indian "villages" but showed Irish, Tyrolian, or Belgian villages as well. Did the Streets of Cairo, an extremely popular concession from the 1893 Chicago fair, provide a demonstration of racism and imperialism or a chance to ride a donkey and see the gyrations of "Little Egypt"?

Rydell sees the fairs chiefly as American phenomenon, but, of course, they derived from Europe and they were international. The book gives very little attention to the competition between nations. Not only did countries vie with each other to put on expositions, within exposition grounds each tried to outdo the other in the pavilions they constructed. National prestige was surely as important as cultural hegemony in motivating exhibitors.

Local boosterism was even more important. European expositions were almost always held in capital cities, but American fairs were held in cities across the country that hoped they would stimulate local development. By concentrating so heavily on U.S. government exhibits, Rydell neglects the importance of local support for the fairs. European fairs were almost always heavily subsidized by their governments. American fairs were financed largely by local businessmen and state and city governments. For Rydell's hegemonic theory to work, one has to assume a high degree of cooperation over 40 years among the leaders of Philadelphia, Chicago, New Orleans, Atlanta, Nashville, Omaha, Buffalo, St. Louis, Portland, Seattle, San Francisco, and San Diego.

The fact is that the fairs were about too many things and expressed too many views for any single conspiratorial explanation to be convincing. What Rydell has found was there, but there were many other things as well. Despite this shortcoming *All the World's a Fair* is excellently researched and will be an essential source for anyone interested in the American phase of these curious secular rituals.

BURTON BENEDICT
Department of Anthropology, University of California, Berkeley 94720

Chinese Micropaleontology

Marine Micropaleontology of China. WANG PINXIAN *et al.* China Ocean Press, Beijing, and Springer-Verlag, New York, 1985. x, 370 pp., illus. $85. Translated from the Chinese.

Acta Micropalaeontologica Sinica. Sheng Jin-zhang, Ed. Science Press, Beijing (distributed by China International Book Trading Corp., P.O. Box 2820, Beijing). Quarterly. Vol. 1, 1984 (two issues only); vol. 2, 1985. Annual subscription (airmail), $60; single issues, $15.

Like most sciences in China, micropaleontology is making itself known outside that country. There is a large, active group of micropaleontologists in China, and much of their work is of interest and value to others elsewhere in the world, as characterized by the papers in this book and new journal.

The book results from an effort to make available in English recent work on marine micropaleontology in China. It contains 17 papers, all dealing with calcareous microfossils of the shelf seas of China, areas that are potentially petroleum producers. Half of the papers are translations, some with revisions, of papers originally published in Chinese in 1980, and the others are new contributions. Wang Pinxian coauthored all the papers with various of 12 collaborators. Eleven papers deal with the distribution of foraminifera, ostracods, or calcareous nannofossils in modern sediments; the remaining six concern these microfossils in Cenozoic deposits. Each contribution is well done, and each demonstrates familiarity with worldwide literature on the subject. Anyone con-