that which appears neutral merely carries its ideological burden in a mediated and mystified form. Or instead one might argue against them from the perspective of this whole volume that social interests shape the generation of all knowledge, including the sociologist's knowledge of the history of science.

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Socioeconomic Differentiators

The Inequality of Pay. HENRY PHELPS BROWN. University of California Press, Berkeley, 1978. xvi, 360 pp., illus. $16.50.

The Inequality of Pay, which surveys a wide range of secondary materials on occupations, social stratification, and the structure of earnings in modern societies, is recommended reading for anyone interested in those subjects. The volume is not remarkable for the problem it addresses, to "show how far inequality of pay is imposed by market forces and how far by custom and convention, by status, class, and power" (p. 25), or for the conclusion reached some 300 pages later, that "the main cause of the inequality of pay is the inequality of abilities to work" (p. 332). But, though one may choose to quarrel with the conclusions drawn from it, most readers will learn a considerable amount about historical, comparative, and cross-sectional differences in rates of pay from the evidence presented.

Entire volumes have been written about the subjects to which Brown's main substantive chapters are devoted—occupational differences in pay, changes in occupational pay structure, the relationship between pay and status, discrimination, intergenerational mobility, social class and mental ability, intraoccupational differences in earnings, and income distribution. Brown adds no new knowledge on these subjects save that which is derivative from the way he juxtaposes the results of previous inquiries. His main contribution is simply that of putting between two covers a substantial amount of what is known about these matters.

As in almost any survey as comprehensive as that undertaken by Brown, significant items are missed. This reviewer found himself enlightened about subjects that have attracted little of his own research interests and disappointed in the treatment of topics closest to his own areas of expertise. Some examples may suffice to indicate the ways in which this volume suffers from tackling a task that is perhaps too large for any one essayist, given the present stage of development in the social sciences.

There are four logically possible ways in which pay and status—the latter referring to a person's effective claim to social esteem in terms of positive or negative privileges (p. 111)—can be related: (i) pay determines status; (ii) status determines pay; (iii) each determines the other; and (iv) neither determines the other, the observed connection between them resting upon their association with other factors. For all practical purposes, Brown considers only the first two of these possibilities, associating the first with the perspective of economics and the second with that of sociology. Numerous studies have shown that the social grading of occupations, that is, the status accorded to them by samples of the public, is positively associated with the income levels of their incumbents. Although the correlation falls short of perfection, it is quite substantial (*1*). Insofar as occupational rates of pay are determined by market forces, then,

> If the attention of the economist is drawn to the general agreement between the rank orders of occupations by status and pay, he is likely to regard it as an interesting observation, no doubt, but no concern of his; or else he may hazard the suggestion that the same capabilities as command a higher rate of pay as a fact of the market also command higher esteem. . . . Then can it be that the rate of pay, determined as the economist believes it to be, is in turn the principal determinant of the status assigned to the occupation concerned? The sociologist raises the opposite possibility, that it is the status that determines the pay: people generally feel it is only "right and proper" that an occupation of higher status should have higher pay, and this consensus brought to bear through custom or negotiation or award puts and keeps the relative pay where it is [p. 19].

The possibility that occupational pay and status are not themselves causally connected is not considered by Brown, despite the fact that it is embodied in the functional theory of stratification that has been a source of continuing debate among sociologists (*2*). Pay takes several forms, of which money income is but one. Among the other components of pay one would include the various forms of income in kind, of which board, lodging, health insurance, and retirement benefits are especially prevalent. To these one could plausibly add status. Brown tends to equate pay with money income; the functional theory explicitly recognizes that there are several components to the total rewards (= pay?) associated with pursuing a position: money income is one of them, status is another, and the inherent satisfaction in pursuing the work yet a third. To be sure, the conversion rate between these commodities is not firmly established, and the utility of the particular reward package associated with a position will vary from one individual to the next. If status and pay are part of the same package of rewards, then evidently there is more occupational inequality than one would presume on the basis of either alone. Beyond that, the interesting question becomes not whether pay determines status or vice versa but why they are not always mixed in the same proportion. Apparently the market is segmented into sectors where the indifference curves between status and money among the available pools of workers are not constant. Insofar as that is the case, occupational inequality has a component that is social or cultural, rather than purely economic, since the creation of labor pools that differ and differ systematically in their tastes for pay and status can only be a product of differential socialization and the ways in which the primary agencies of socialization—schools and families—are linked to labor markets. Brown does not broach these possibilities and, indeed, he ignores the literature that bears on the functional theory of stratification.

The remaining possibility, that pay and status determine each other, is likewise ignored by Brown, though in many ways it is perhaps the most intriguing of the four. There is scant doubt that pay can be and is used to secure status in its several manifestations. But status is also a resource that can be converted to cash through exploitation of one's status connections. Surely, the prospect that status and pay determine each other helps to explain the well-established but ill-understood generalization that income and social participation are positively correlated at the individual level. Study after study has shown that higher-income respondents are more likely to belong to voluntary organizations, participate in community affairs, and informally gather with friends, neighbors, business associates, or relatives (*3*). It is of course true that higher-income families are better able to meet the expenditures associated with such activities, but these are not necessarily large. More important, however, since their time is demonstrably more valuable, one would imagine that higher-income persons should participate less rather than more in these activities. Such involvement is, however, both status-producing and status-maintaining; the possibility cannot be ignored that

such public displays are requisite to maintaining one's position and to cementing it further via the contacts and opportunities chanced upon in the course of casual interaction. This is tantamount to regarding pay and status as potential determinants of each other.

The foregoing remarks are intended to suggest that Brown's formulation of the problem he sets for himself is at least inadequate. Artfully treating all the logical possibilities would doubtless involve computations more complex than a bivariant regression, which, excepting those few cases in which the results of others are discussed, is the most complicated statistical technique employed by Brown. The avoidance of multivariate methods in surveying a field that has become quite sophisticated in recent years is a serious defect. Nowhere is this oversight more disastrous than in Brown's review of occupational mobility, which relies primarily upon the calculation of mobility ratios, whose usefulness has been seriously questioned (*4*). Brown, for example, observes that "the class structure is evidently an important influence on the relative supplies of labour to different occupations. This means in turn that it may prove to be an important influence on relative pay" (p. 181). But Brown never proceeds to investigate that possibility. This may, in part, be due to the fact that the literature most relevant to its answer involves calculations more complex than zero-order correlation and regression. Brown is surely aware of the available material, since his citations include some to sources where this problem is directly addressed. Duncan, Featherman, and Duncan (*5*) find that family background factors have little impact upon sons' income and that such impact as they do have is largely transmitted via sons' educational and occupational attainments. Brown does not discuss these results in his treatment of occupational mobility, though they are considerably more relevant to the topic at hand than the intergenerational mobility tables he discusses. Since the work in which they are reported is elsewhere cited by Brown, he must have been aware of them; it is difficult to understand why someone with Brown's obvious skill and imagination should neglect structural equation models of the process of status attainment, as well as other multivariate analyses of the stratification system. Brown's discussions of the relationships of age, region, and unionization to intraoccupational differences in earnings are likewise marred by the tendency to treat variables one at a time, a strategy that makes it impossible to assess their net effects.

Despite these difficulties, Brown's book remains informative and impressive for the wealth of material it surveys. This reviewer found the historical and comparative material on occupational pay and the discussion of discrimination particularly valuable. The book also benefits from being well written.

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References and Notes

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Fisheries Biology: Early Days

Spencer Fullerton Baird and the U.S. Fish Commission. A Study in the History of American Science. DEAN CONRAD ALLARD, JR. Arno, New York, 1978. xii, 428 pp. $25. Biologists and Their World.

Spencer F. Baird's many-sided career as a Washington scientist placed him at the center of a carefully constructed network of friendships, alliances, and research partnerships that linked together the Smithsonian, the National Museum, the Commission of Fish and Fisheries, the Bureau of Ethnology, the Geological Survey, and other scientific bureaus. His organizing feats alone, not to mention his scientific work, made him one of the outstanding figures of 19th-century American science. The author has chosen the Fish Commission—one of Baird's creations—as the main institution to discuss and, making extensive use of letterbooks and of governmental records and reports, he has reconstructed the strategic motivations and the tactical steps that allowed Baird to take up such a key position in the growing federal scientific establishment. The result is a biography of sorts in which, as the chronological thread unwinds, a number of themes and events receive special treatment, producing the impression of a series of magnifying lenses of different power being applied to different sections of the record. Although the author does put forward his reasons for focusing on the Fish Commission, he does not account for the relative weights he gives to different topics within the bounds of the initial choice. This may well be the consequence of that peculiar brand of cautiousness that characterizes doctoral theses—for that is what the book is: the offset reproduction of the text of a Ph.D dissertation. The fact remains that the reader may find it puzzling that, for instance, the 1877 Halifax fisheries arbitration commission should be given the same amount of space as the scientific work of the Fish Commission. In other words, the strength of the study is its documentation, while the analytical framework is its weakness.

It follows that the book is more useful than enlightening. It provides detailed information on aspects of the politics of science in Washington in the 1870's and '80's, on the early work in marine biology, and on the federal initiatives in fish culture. The wealth of evidence and the careful reconstruction of events can provide the reader with material for consideration on matters beyond the scope of the book. For those interested in the birth of new disciplines, the study provides documentation on the intellectual and institutional aspects of the birth of marine biology. The study of the professionalization of science during the 19th century is enriched by the proof that, in certain circumstances, the formation of a professional group can be helped not by the display of acquired exclusive expertise but by the asserted need to acquire it. The book also serves as a reminder of the fact that, in a democracy, the popularization of science is important and that its most profitable form is that addressed to politicians. But what is most effectively made popular tends to be the body of received, consolidated scientific ideas. And since the public image of science affects the public image of scientists, it follows that one of the most easily understood (and therefore most acceptable) scientists for politicians is one who engages in slightly old-fashioned, easily popularizable activities. Baird, a systematist in a scientific world turning more and more toward the figure of the laboratory-bound experimental scientist, was a good example of yesterday's scientist shrewdly and effectively working for tomorrow.

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