Looking Backward

A History of Immunology. ARTHUR M. SILVERSTEIN. Academic Press, San Diego, CA, 1989. xxii, 422 pp., illus. $39.95.

Immunology, 1930–1980. Essays on the History of Immunology. PAULINE M. H. MAZUMDAR, Ed. Wall and Thompson, Toronto, 1989. x, 307 pp., illus. $C39.95. Based on a congress, Toronto, July 1986.

As immunology has entered the epoch of the T cell receptor an infectious certainty has settled upon us; this time, we are confident, we really have got it right. With this confidence has come a tendency to look back in a rather self-congratulatory way. This comes at an interesting time for immunology. On one side, as Robert Teitelman points out in *Gene Dreams* (Basic Books, 1989), we are lavished with uncritical praise by the press and the biotechnology industry. On the other, postmodernist social critics attack immunology and the very establishment of science (see D. Haraway, *Differences: A Journal of Feminist Cultural Studies* **1**, 3 [1989]). When a discipline finds itself the object of conflicting evaluation from outside and comfortable analysis from within, the time is right for a critical appraisal, and examining its history is not an uncommon way of beginning. The two books under review are probably the first wave of studies of the history, sociology, and psychotherapy of immunology and immunologists, and they force us to ask, Who is to do this critical appraisal? Trained historians and social critics who do not know the science, or scientists themselves? In *What Is History* E. H. Carr argues that history is what historians choose to write about. The facts, he tells us, can be verified, but "they do not themselves constitute history . . . when we take up a work of history, our first concern should be not with the facts which it contains but with the historian who wrote it." In short, in any scientist's history of science one must look for the principles governing the selection and interpretation of the scientific facts and events that make up the historian's narrative.

Arthur Silverstein, the author of *A History of Immunology*, is an established immunologist who knows the facts and has devoted years to training himself in the discipline of the historian. Consider his introductory chapter entitled "On history and historians." In a brief seven pages he shows clearly the difference between the ways in which the working scientist and the historian or social critic operate. He describes the need for the practicing scientist to see continuity in scientific progress and therefore to remember his or her antecedents selectively. In contrast, the historian, he informs us, sees the "nonlogic of scientific discovery" (Peter Medawar's phrase). So in Silverstein we have a scholar who has worked both sides of the street and is aware of the scientist's need to believe that the road that led us here was a straight shot from ignorance to truth. But he also knows and understands what countless historians (and Medawar) have identified as the selectivity of recall. *A History of Immunology* is therefore a serious history (note that the title is not "*The* History of Immunology") that attempts to deal with not only the facts but also the factors that determined the choice of those facts that immunologists have used.

Silverstein the scientist has been a diligent reader of the immunological literature, and Silverstein the historian has put these facts into a series of essays ranging from the royal experiment on smallpox in 1722 to the debate on cellular versus humoral immunity at the end of the 19th century. On occasion he falls into the trap of hindsight and one sees the scientist superseding the historian, but these lapses are rare. Each of the essays is coherent and self-contained, a fact that is both a strong point and a weakness of the book. Most of the chapters have appeared in only slightly different form as articles in the journal *Cellular Immunology*, and there has been no attempt to unify them. The result is an episodic presentation, more like an encyclopedia than a monograph. In fact, the whole feel of the book is one that we have come to expect from Academic Press: heavy, slick pages that reflect light, much like a volume of *Advances in Immunology* or books on enzyme kinetics rather than a high-level history. But these are minor complaints, and though this book is not the kind of good read that *The Eighth Day of Creation* is, it will be of interest to all but the most obdurately hard-core experimentalist.

The second book under review has a deceptive title. It is a collection of the papers presented at a satellite symposium at the Sixth International Congress of Immunology in Toronto, and, though there are indeed some essays on the history of immunology, most of the chapters are the remembrances of people who have been at the center of immunology from the 1950s. As one would predict, the literary styles and the amount and kind of historical perspective vary greatly. Fortunately, the people I know all wrote fascinating and penetrating chapters. This volume, I would suspect, will be of interest to those who know the authors and are interested in how they remember the events they discuss. Historians may find it interesting to compare the battlefield memories of participants as they try to piece together what it was like when immunology was groping to find the path that is retrospectively so clear to us.

Taken together, these two books give us insight into the scientific process that should be of value to practitioners, critics, and admirers. Anyone who is planning to exploit the therapeutic promise and profitability of the latest lymphokine should realize the danger of the short-term view after reading Silverstein's history and the Toronto volume. Similarly, the postmodernists who attack science from the vantage of the most current ism (Marxism, feminism, environmentalism, or some other) should take from these volumes the warning that scientific discovery is complicated and that one must be very thoughtful about attacking the motives and aims of the working scientist. The practitioner, alas, must keep slogging along and hoping that the grant review committee has the proper combination of historical and scientific insight to realize that his or her proposal is *really* on the fork of history that will survive as truth.

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Radical Professionalism

The Politics of Knowledge. Activist Movements in Medicine and Planning. LILY M. HOFFMAN. State University of New York Press, Albany, 1989. xii, 290 pp. $54.50; paper, $17.95. SUNY Series in the Sociology of Work.

American society generally and the social sciences in particular often view professionals as a self-centered elite. The vague critical label "yuppie" that arose in the 1980s and the sociological critique of medicine, law, and other high-status professions as exercising "professional dominance" over consumers and the public through their control over knowledge are examples of this viewpoint. Yet beginning in the 1960s, thousands of young doctors, teachers, scientists, lawyers, social workers, and other professionals, strongly influenced by the civil rights and

anti-war movements, sought to combine radical political activism with work in the professions. Rather than seek high income or status, they sought to "serve the people" through work with the poor and disenfranchised, and some even sought to challenge the dominance their professional organizations and institutions held in the community.

Can there be a radical professionalism and can professionals successfully organize for social change? These are the questions addressed in Lily M. Hoffman's fascinating study of activist doctors and social planners in the 1960s and '70s. Hoffman explores an issue rarely probed by social scientists: to what extent can the expertise of professionalism be harnessed to social change, and to what degree can professions be linked to activist movements while maintaining their legitimacy in American society?

Hoffman's ambitious book is based on interviews with representatives of 19 different activist groups that arose in the 1960s and '70s. These are a diverse lot, encompassing organizations of students and young professionals that sought to extend services to minorities and the poor (Urban Field Service and the Student Health Organization); activist trade unions and worker collectives in the professions (the Committee of Interns and Residents, the Lincoln Hospital Collective, the New York City Technical Guild of engineers, planners, and architects); and radical networks of journals and study groups that sought to challenge the dominant paradigms of the professions (such as the Health Policy Advisory Center, known as Health PAC, and the East Coast Health Discussion Group). Hoffman provides, for the first time, a comprehensive analysis of these many groups, their achievements and disappointments, based on candid interview material.

Hoffman organizes the book around four different strategies of social change adopted by activist professionals: "Service delivery," in which groups of professionals sought to serve low-income and minority communities directly; "empowerment," in which activist doctors and planners sought to help communities organize themselves; "professionals as workers," in which radical professionals came to view their own role as employees as critical to social change and hence formed worker collectives and unions; and "transforming society," in which some radical professionals came to believe that they could serve as a vanguard in a revolutionary transformation. Though Hoffman does not clarify this point, the first two roles are associated more with the 1960s, whereas the latter two became more prominent in the '70s.

Generally, though there is much in the book that is sympathetic to the efforts of radical professionals, Hoffman's conclusions are pessimistic, and she spends a great deal of time analyzing the failures of radical professionalism. Hoffman concludes that the very basis of professional legitimacy—expertise—strongly limits successful activism because as radical doctors and planners came to challenge their own technical roles (arguing they were political and intimately related to social class and political elites), they lost legitimacy with the public (which after all is interested in narrower issues such as the distribution of medical care). An interesting subtheme of the book, which could have been more explored, is that the federal government, in seeking to limit the power of professionals (particularly physicians) for its own reasons, may have paradoxically co-opted parts of the radicals' own critique to limit professional autonomy.

Hoffman's account is weakened by a few technical and theoretical problems. Owing to the choice of medicine and planning as professions to study, the reader is jolted back and forth between two very different sets of problems and concerns. Hoffman notes that she selected these professions on the basis of these differences, but I am not sure that the choice was fruitful enough theoretically to justify the awkwardness.

On a more substantive note, Hoffman's theoretical conclusion (that radical professionals are "constrained by their occupations") is a truism that tells us less from a sociological perspective than it first appears to. After all, most people are constrained by their occupational roles when it comes to supporting militant social action. Given the decline of 1960s radical movements generally that occurred with the advent of a more conservative period, the book does not adequately make clear in what sense professionals are more constrained than automobile workers, welfare recipients, or the homeless in implementing a radical agenda. Yet the point of such a study should be exactly that—did radical doctors or planners fail in their objectives more than other groups in society, and if so why?

This problem in the book may stem from the fact that Hoffman's study does not adequately distinguish between groups that were essentially liberal in their political ideology and those that were socialist or Marxist. I would suggest that the more liberal goals of the 1960s activists involved in groups like the Student Health Organization or Urban Field Service (increased service to the poor and Third World communities, increased professional accountability, changed curricula in many professional schools) had to some degree been met by the 1970s. In contrast, the most radical objectives of activist groups like Health PAC or the Lincoln Collective for worker and community control or "barefoot doctors" have faded into the past. The key point, then, is not to demonstrate the existence of "limits of professional activism" but to define where these limits are (or were in the last two decades).

Finally, despite a great deal of theoretical review, Hoffman does not directly give us her view about a key issue implicit in a "radical professional" movement. No one disputes that some professionals do become politically radical, but are political goals best expressed through work life? For example, many physicians throughout the world have become actively involved in politics: on the Left, one thinks of Salvador Allende in Chile and Che Guevara in Cuba, both of whom entered politics directly rather than becoming part of a radical physician movement. The unique feature of the American "radicals in the professions" movement of the past three decades was the attempt to implement radical politics through efforts to change medical care or social work or legal practice. Were American leftists mistaken in taking their occupations as the major arena of political effort rather than joining more generalized political battles? This is a question I wish Hoffman had addressed.

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A Transition in Biology

The Mendelian Revolution. The Emergence of Hereditarian Concepts in Modern Science and Society. PETER J. BOWLER. Johns Hopkins University Press, Baltimore, 1989. viii, 207 pp. $29.95.

During the last 15 years historians of the life sciences have been revising the textbook story of the rise of genetics. Much of this revision has focused on Mendel's achievements, on the period of the rediscovery of Mendel's laws, and on the scientific context in which other 19th-century investigators of "heredity" explored not only the hybridization process but other phenomena associated with reproduction, development, and transmutation. As a consequence, familiar figures, such as Gärtner, Nägeli, Darwin, Spencer, and Haeckel, are seen as students of generation or development rather than of transmission. Even Mendel, an anomaly in the traditional story, turns out to be more interested in testing whether hybridization could produce new species than in isolating the mechanism of transmission. "Generation