

reduction in infant mortality over the period was greatest in Woolwich and, in particular, Stepney, reflecting their active provision of services and the commitment of Labour to expenditure. In Kensington and Hampstead, the needs of the ratepayer were given priority over the needs of the poor. Not only did the levels of provision vary, and to some extent reduce the importance of economic and social conditions, but the success of the services improved as a result of changes in the attitudes of the health-care professionals to mothers which affected the rate of uptake. Here Kensington, which in other respects had a poor record, stands out for the pioneering work of women within philanthropic bodies.

The analysis will be of great interest to medical historians, but it would be a great pity if the implications of Lara Marks' study were not realized by other historians. There has been a spate of recent studies comparing British and continental European policies towards motherhood and infancy, with excellent studies such as Susan Pedersen's analysis of child allowances in France and Britain. But it is clear from Marks that there were wide variations within London, let alone Britain as a whole. This should not be surprising, for a very large part of total government expenditure was local, and how it was spent obviously varied widely and had considerable impact on life chances. Marks' account of infant and maternity services should be linked to the provision of public utilities and schooling, for example, to get a wider sense of the variation over the country. It is clear that the central government was becoming concerned by the 1920s about the ability of councils such as Stepney to ratchet up expenditure, which was increasingly being shifted to the central government through grants in aid. Should these grants be linked with local expenditure, which would encourage the more adventurous councils to take initiatives: or should they be set by formulae which would impose more central control? There was considerable concern that the Poor Law would fall into the hands of Labour and the beneficiaries of welfare and so drive up expenditure; and the

issue of control over municipal expenditure was at the centre of the reform of local government finance in 1929. Control of the central state was becoming more important in the finance of local services, and it was in any case clear that the provision of a uniform, national standard of welfare meant moving away from the localities to the nation. The result was another debate, over the loss of democratic, local accountability of welfare provision. Local authorities lost their control of hospitals in 1948, and of maternal and welfare services in 1974. These trends in the provision of welfare services are central to the understanding of the changing nature of the British state over the nineteenth and twentieth centuries.

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Joan H Fujimura, *Crafting science: a sociohistory of the quest for the genetics of cancer*, Cambridge, Mass., and London, Harvard University Press, 1996, pp. x, 322, £29.95 (0-674-17553-0).

Crafting science studies the development of oncogene research. The book traces the background of the discovery of genes related to the genesis of cancer, describes their transformation into "established scientific facts", and follows their use in several specialized laboratories. Fujimura was trained in the interactionist sociology tradition, and is familiar with social studies of science and with ethnographies of the laboratory. She borrows from these three approaches to observe how science is made through interactions between actors belonging to different social worlds. Scientific practice, sociologists of science explain, is much more diverse and locally contingent than it was once assumed to be. The question then is how science achieves a high level of conceptual unity and technical efficacy. Fujimura's book proposes that in order to answer this question one should look at the articulation of different aspects of scientists' work, especially the planning,

organizing, monitoring, evaluating, adjusting, coordinating and integrating activities which are usually labelled “administrative” rather than “scientific”. This effort at the optimal articulation of activities in the laboratory is facilitated by the existence of “packages” of theory and methods—the elaboration of standardized reagents, instruments and experimental protocols, which promote the generalization of new approaches and their adaptation to local conditions. The development of such “packages” in molecular biology transformed oncogenes into “do-able problems” that can be studied in various sites and yield reproducible results.

The importance of articulations in scientists’ work is but one aspect of the view of the laboratory as a workplace. According to this view, science is a collective enterprise, conducted by actors active in different social worlds. In order to understand science it is necessary to take into account the viewpoints and contributions of all participants and social worlds involved. The global “ecology of scientific action” advocated by Fujimura does not distinguish between the “inside” and the “outside” of science. The solutions of technical, administrative, and organizational problems are interdependent. Thus, scientists who work with oncogenes need to convince different audiences (scientific peers, oncologists, science and health administrators, politicians, industrialists) that their work should be supported. They need to craft a multifunctional product, which may have different uses and meanings in different sites (e.g., be simultaneously shaped as a contribution to fundamental biological studies, a diagnostic tool, an element in an experimental system, and a marketable item). The interdependence of all the elements in scientific work explains why, in Fujimura’s words, “there is no micro- meso- or macro-sociology in the laboratory”.

The book’s most original aspect is the perception of science as work—a fresh angle from which to look at scientists’ activities. This aspect is, however, partially obscured by Fujimura’s attempts to position herself within

ongoing debates in science studies. The desire to convince a small circle of specialized colleagues is understandable, but it makes the book less accessible to a larger public. Another problem is the limited scope of the case studies presented in the book: Fujimura stresses the importance of a broad “ecological” approach to science, one which explores numerous social worlds, but her investigations are focused on the single social world of a research laboratory. The clinic is practically absent from the book, notwithstanding its subject—cancer studies—and industry is not much dealt with. For example, one of the laboratories studied by Fujimura works for industry. This fact is, however, mainly perceived in terms of the constraints imposed on laboratory investigations, and we do not learn much about industrial activity as such.

Fujimura’s focus on the “crafting of laboratory science” limits the scope of generalizations made in her book. For example, the lack of hierarchy between “micro”, “meso”, and “macro” levels of explanation may be justified when studying a single research laboratory, a site in which a micro-level problem (e.g., a technical obstacle in making an experimental system work) may occasionally be more difficult to solve than a macro-level one (e.g., getting funds for a project). Differences in size, scale, or stability of structures are nevertheless important in an analysis of larger settings. Similarly, the flexibility of technical solutions in the laboratory may be contrasted with the irreversibility of large-scale technological networks. The sociohistory of the genetics of cancer would benefit from an interest in the fate of oncogenes outside the laboratory. It is unrealistic, however, to ask an author to study all aspects of a given question. One of the main merits of Fujimura’s innovative research is to have sketched an ambitious and stimulating programme for the study of modern biomedicine as work, one which may be modified, enriched and extended by other investigators.

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