traditional medical criteria of triage. Seattle appears to have been the *only* patient selection committee to evaluate prospective patients explicitly in terms of a utilitarian standard of "social worth"; it was the only committee to have become embroiled in public controversy.[2] Thus the moral of the early dialysis crisis would seem to be that health professionals selecting patients according to an "old" medical principle, triage, were able to allocate scarce resources with few problems, while committees on which lay members introduced non-medical selection criteria, like "social worth", became embroiled in controversy. It is only by forgetting about the 192 non-controversial committees, and about lay participation on the Seattle Committee, that Jonsen can tell his tale of the failure of "old" medical ethics and the concomitant search for a new bioethic.

To vex Jonsen with facts, however, is to commit what philosophers call a "category mistake". Johnson is not aiming at academic history but *aggadah*. He isolates, juxtaposes, and embellishes to illuminate, to reveal, to inspire—and he does so brilliantly.

Robert Baker, Union College, Schenectady

DAVID J. ROTHMAN, *Strangers at the bedside: a history of how law and bioethics transformed medical decisionmaking*, New York, Basic Books, 1991, pp. xi, 303, $24.95 (0–465–08209–2).

David Rothman, author of the *Discovery of the asylum*, has written the first social history of the bioethical revolution: how it came about that "outsiders, not doctors, defined the moral codes that were to guide physician behavior" (p. 4). The revolution was precipitated, during and after World War II, by the extensive governmental funding of hospital-based research, and the increasing social distance between hospital-based physicians and their patients. The first conflated the physician-patient with the science-subject relationship, the second tempted some physician-scientists to advance science (and their careers) by treating patients as subjects (generating scandals at Sloan-Kettering, the U.S. Public Health Service, Willowbrook and elsewhere).

Coincidentally, new medical technologies attracted public attention to the problem of excess demand for heart and, especially, kidney transplants. Traditional medical ethics offered few answers to the problem of allocating scarce organs. So, to buffer external criticism, the medical community set up lay allocation committees—and in the process, allowed outsiders into medicine. A similar buffering process occurred in medical research, where review committees (known as IRBs) were set up to protect "patients" rights in the aftermath of scandals. Allowing select professional ousiders, the bioethicists (lawyers, philosophers, and theologians concerned with medical ethics), to serve on oversight committees was thus the price the medical profession willingly paid to secure public and government financing, while shielding its practices from more pervasive public and particularly political scrutiny.

Rothman's focus is on persons and events. Thus "change", that is the bioethical revolution, "began with a whistle-blower and a scandal" (p. 15). The scandal, using patients as unconsenting guinea pigs; the whistle-blower, Harvard anaesthesiologist, Henry Beecher—whose 1966 *New England Journal of Medicine* article described twenty-two cases of published research in which human subjects were abused. Why did Beecher "blow the whistle"? Rothman emphasizes Beecher's fear that "bad ethics would undercut the pursuit of good science" (p. 72). He barely mentions the world-wide debate over codes of experimentation engendered by the 1949 Nuremberg trial of Nazi physicians and the subsequent 1954 and 1964 codes of the World Medical Association—or Beecher's adamant opposition to the 1963 Harvard regulations on research.

[2]A. H. Katz, and D. M. Proctor, *Social-psychological characteristics of patients receiving hemodialysis treatment for chronic renal failure*, Public Health Service, Kidney Disease Program, Washington D. C., July 1969; quoted in Renee Fox and Judith Swazey, *The courage to fail: a social view of organ transplants and dialysis*, 2nd ed., University of Chicago Press, 1978, p. 228 ff.

Social history, especially of bioethics, is bound to be problematic unless it is predicated upon a clear analysis of the substantive ethical issues. At issue in the 1960s was whether research standards should be *subjective* guidelines, enforced by the researcher's conscience, externally enforced *objective* rules, or *intersubjective* standards enforced by review committees (IRBs). In a series of papers published both before and after 1966, Beecher argued that subjective standards were too weak, objective standards too inflexible, and (citing Percival's 1803 code) championed intersubjective external review. By highlighting only Beecher's 1966 article, Rothman transforms a scholarly contribution to an on-going policy debate into an isolated act of "whistle-blowing". He thus transubstantiates Beecher, an archetypical "insider", into an honorary "outsider", in order to substantiate his theory of bioethics as essentially an *outside* critique.

Rothman systematically de-emphasizes substantive ethical debates *within* the medical community, and obscures the role of physicians, of *insiders*, of traditional medical ethics, in reshaping the ethics of contemporary medicine. None the less, he has written a penetrating and ground-breaking history of contemporary medical ethics.

Robert Baker, Union College, Schenectady

JOSEPH S. FRUTON, *A skeptical biochemist*, Cambridge, Mass., and London, Harvard University Press, 1992, pp. xii, 330, £23.95 (0–674–81077–5).

With this richly informative, challenging and beautifully-written book, the American proteolytic enzyme chemist, biochemistry textbook writer and historian, J. S. Fruton (b. 1912), completes what can now be seen as a trilogy of important historical studies. *Molecules and life* (New York, Wiley, 1972) examined the development of research on enzymes, proteins, nucleic acids and biological oxidation from their nineteenth-century origins to the 1940s. In *Contrasts in scientific style* (Philadelphia, American Philosophical Society, 1990) Fruton examined how different styles of leadership affected biochemical research (and, incidentally, provided historians of chemistry and biochemistry with a major work of reference). Echoing Robert Boyle's *Sceptical chymist* (1661) and Joseph Needham's *Sceptical biologist* (1929), Fruton's latest book critically (and sceptically) examines the philosophy and historiography of biochemistry. The linking thread of all three volumes, and the main thrust of *A skeptical biochemist*, is the interplay between biology and chemistry in the life sciences.

Although never as disenchanted with the current scientific world as his colleague, Erwin Chargaff, Fruton has several axes to grind against philosophers and historians of biology who conceive ideas more important than practice, who take an anti-reductionist position or who view institutional factors as inhibiting and directing research. In five chapters, Fruton examines: the "scientific method" of biochemists (dismissing Popper's and Medawar's interpretation and making a plea for inductivism); methodological controversies since 1800 over vitalism and mechanism, organicism and reductionism; the rival interpretations of the discipline's historical development (including a penetrating discussion of the issue of science history versus history of science); and provides a fascinating analysis of the significance of language and the changing meaning of words in biochemistry's development (including a defence of the scientific paper against Medawar's claims of fraudulence). In its wealth of case histories based upon the author's close familiarity with the sources or on personal experience since the early 1930s, Fruton makes a convincing case that historians and philosophers of science must never undervalue the role of "craft" (and particularly the chemical techniques of purification and structure determination) as well as instrumental improvements in their interpretations. In its underscoring of the long and continuing significance of chemistry in the study of biological problems, Fruton's study will be of particular interest to historians of chemistry, as well as to the audience of historians and philosophers of biology and practising scientists that it chiefly addresses. There is also an excellent 44 page bibliography.

W. H. Brock, University of Leicester