problem epidemiologically (through careful investigation of trends in mortality and morbidity) before formulating a practical solution or policy. It was a method which, Eyler plausibly argues, led to socially sensitive and constructive ideas and policies which, if pursued in the longer term at national level might have led to earlier remedial action on child health and maternal mortality during the interwar period. Newsholme was a man driven by a strong sense of moral purpose, intelligent, of great personal integrity, who came up against powerful operators in his own and related fields who were less scrupulous and more adept at political intrigue and character assassination than he was. His reputation as an epidemiologist was denigrated by Karl Pearson, Major Greenwood and Raymond Pearl; his reputation as an administrator by the ambitious, arch-intriguer George Newman. Newsholme's enforced retirement when Newman was appointed Medical Officer to the new Ministry of Health in his stead was greeted with genuine regret by local medical officers of health; Eyler's account restores Newsholme to what is surely his rightful place as a thoughtful, far-sighted and pragmatic administrator, the success of whose later career was compromised by the confusions and consequences of war.

State medicine as an independent entity plays little direct part in this book, although hand in hand with Newsholme in the title. The detailed chapter analyses provide an admirable account of how this Victorian policy invention worked in practice, and Eyler provides an excellent and succinct last chapter placing his study in the context of current historiography of the field, but a larger framework of explanation, subsidiary and complementary to Newsholme himself, would have been welcome. Newsholme's career was, after all, in many senses the culminating chapter in the history of state medicine, and it seems a pity that this should not have been explicitly explored. It may, of course, be that this perspective was neglected by design, to accommodate some unjustifiable insistence of the publishers on the need to restrict word length. At 400 pages, *Newsholme* was probably pushing its luck in CUP's eyes. Tell-tale items may be discerned by the critical reader—Newsholme's handling of the 1918 influenza epidemic crisis, for example, examined over just two pages in the concluding survey (pp. 388–89), seems a prime candidate for fuller examination. If wishes were publishers, authors would ride. John Eyler is one who could with justification be trusted to do so.

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David J Rothman, *Beginnings count: the technological imperative in American health care*, Oxford University Press, 1997, pp. xii, 189, £24.95 (0-19-511118-4).

The United States spends a good deal of money on health care ($3219 per capita in 1995), much of it on the "powerful and costly medical technologies" for which US medicine is known world-wide (p. 3). And the US remains the only country where a substantial amount of health care is paid for by individuals directly (20.8 per cent) or through private, non-governmental, health insurance (31.5 per cent). In his historical essay on medical technology, David Rothman puts these well-known facts together, arguing that "since the 1930s, health care policy in the United States has reflected the needs and concerns of the middle classes" (p. 4): specifically, their "romance with medical technology" and their preference for using the marketplace, not government, to satisfy their medical wants. The result, he argues, was a medical care system which was not only the costliest in the world, but which left those unable to afford it "to fend for themselves" (p. 5).

Rothman presents his case through a series of chapters which alternate discussions of medical technology with discussions of health care finance: iron lungs for polio victims are paired with the rise of Blue Cross health insurance, 1930s to 1950s; a chapter on the introduction of Medicare (1965) is followed by

one on the 1972 extension of Medicare benefits for end-stage renal dialysis (ESRD); two concluding chapters look at efforts to ration medical technologies in the 1980s and extend medical insurance in the 1990s. In each case, Rothman emphasizes how the virtues of life-saving technologies were oversold, while programmes to help pay for these technologies drew on a private-regarding middle-class ideology.

Thus, in 1941 the National Foundation for Infantile Paralysis (NFIP) launched a programme to make the iron lung nationally available to polio victims with impaired breathing, a choice which, according to Rothman, enabled the NFIP to keep raising money to subsidize the machines. A charity inspired by Franklin Roosevelt, America's most democratic president, could not be seen as withholding technology from the largely middle-class patients who "needed" it. Similarly, Rothman argues, the pioneering Blue Cross programme extensively used technology to advertise the benefits of its product—health insurance—to middle-class consumers, while simultaneously marketing a notion of health care as a private, personal responsibility purchasable in the marketplace. Even Medicare, the universal health insurance programme for citizens over sixty-five, relied on pitching the claim that the private health insurance market had failed this specific group of citizens (but no other). No surprise, argues Rothman, that Congress extended this same programme seven years later to cover the treatment expenses of patients with end-stage renal disease. Money was no obstacle in rescuing "young and productive" citizens (p. 102), and taxpayers would pay for the technology to do so. By the 1980s, money for health care had become an appreciable obstacle, but efforts to ration care were restricted to low-income recipients of public programmes. And, argues Rothman, plans to extend rationing to middle-class citizens doomed President Clinton's initiative to get national health insurance for all.

Most of these episodes have been dealt with at greater length by previous scholars (some but not all acknowledged by Rothman): Paul Starr, Alan Derickson and Rashi Fein on the rise of private health insurance; the political scientists Ted Marmor and Jim Morone on Medicare; Rosemary Stevens on the modern hospital; Renée Fox, Judith Swazey and Richard D Rettig on ESRD; Theda Skocpol and Jacob Hacker, among others, on the failure of the Clinton health plan. Rothman's contribution is to focus attention on the public rhetoric and symbols of these policies, noted but not always emphasized in earlier work.

The originality of Rothman's treatment lies in its simplicity. If other scholars (Starr, Fox and Swazey, Stevens, Morone) have observed the class biases of US health care policy, none has emphasized it as single-mindedly as Rothman, nor more vividly connected class to the marketing of technology. At times, however, Rothman oversells his case. The NFIP was hardly the first agency to rely on publicity and mass philanthropy. Both the Red Cross and the National Tuberculosis Association did so twenty years earlier, equally successfully and without the NFIP's technological appeals. Rothman makes passage of the ESRD legislation seem inevitable, rather than the highly contingent political event analysed by Richard Rettig, subject to political ambitions, Congressional structures and strategies. He unaccountably omits discussions of the place of community and technology in the hospital policies of the 1920s and 1940s, so ably analysed by Rosemary Stevens.

Rothman emphasizes the costly, high-tech character of middle-class America's appetite for medical innovation. Yet he devotes relatively little attention to the superficially "low-tech" innovation of polio vaccine in the 1950s, which put an end to the iron lungs of the 1940s. Similarly, the celebrated technologies of the 1950s were penicillin and its successors: low cost, mass produced and available at your corner drug store. Perhaps it is not "technology" which middle-class Americans desire but the promise of freedom from disease and mortality. And Rothman largely ignores the corporate role in directing the turn toward rationing and stinting of health care, preferring

to concentrate his rancour on the evils of bioethics. Yet whatever the reservations of his fellow historians, Rothman's impassioned analysis of class and medical technology may deservedly win more readers to history than drier, more circumspect tomes.

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Wolfgang U Eckart, Christoph Gradmann (eds), *Die Medizin und der Erste Weltkrieg*, Pfaffenweiler, Centaurus, 1996, pp. 377, DM 58.00 (3-8255-0066-7).

Until recent years, medicine in the First World War has been a neglected topic of social historical research, especially concerning the German side. The present volume, fruit of a conference organized by the Heidelberg medical historians Eckart and Gradmann in 1994, makes a substantial contribution to this just emerging field. In seventeen papers (all with English abstracts and three entirely in English) three major areas are addressed: medical perspectives on the experience of the "Great War"; epidemics and the war; and the transformation of medicine through wartime challenges.

Within the first area a divide between "official" medical voices and personal assessments by individual doctors can be observed. As Ingo Tamm shows, the medical professional press in Germany declared its unstinting loyalty to the government throughout the war. But German doctor-poets such as Gottfried Benn and Wilhelm Klemm, analysed by Ingrid Kästner, expressed the horrors of the war with painful "clinical" sharpness and, according to a paper by Udo Benzenhöfer, the Heidelberg physician Viktor von Weizsäcker (then a young medical officer) was led through his experiences towards his "anthropological medicine". Also the Russian scientists Vladimir Bechterev, Elie Metchnikoff, and Ivan Pavlov saw the world war as a social and moral catastrophe, as Natalja Decker documents.

Differentiated perspectives arise further from the contributions on epidemics. Bernardino Fantini gives an account of the disastrous effects of malaria on the Macedonian front despite prophylactic and therapeutic uses of quinine. The precise relation between the war and the pandemic of Spanish influenza in 1918/19 remains debatable. While Jürgen Müller argues that the virulence of the new influenza subtype was more important than the spread of the disease through transports of troops, Lion Murard and Patrick Zylberman suggest in a study of the health conditions in France that the shift of medical services in favour of the army, together with wartime hardships, made the civilian population especially vulnerable to death from infection. Views of contemporary scientists on the war epidemics are elucidated by Wolfgang Eckart and Paul Weindling. The former shows how German hygienists regarded epidemics as grand *in vivo* experiments and claimed beneficial results for their field after the lost war. His historical judgement acknowledges some successes, for example, in research on typhus, gas gangrene, and especially in the prophylaxis of tetanus and typhoid fever, but also stresses that they helped to prolong the war. Moreover, in the case of typhus control in the occupied East, Eckart identifies racist notions among German hygienists, who targeted the Jewish population as a "focus of epidemics". Antisemitism and racial prejudice in the German delousing campaigns against typhus are also topics of Weindling's paper. He furthermore distinguishes a German approach to the typhus problem which concentrated on mass delousing with hydrocyanic acid, from a British approach which emphasized the need for personal hygiene.

Eckart's and Weindling's contributions thus reach also into the third major area of this book, the transformation of medicine by World War I. One change, with reference to German medicine, can be described as a move by doctors towards a harsher and more biologistic view of their patients. Cases in point are provided by Paul Lerner's discussion of German psychiatrists' understanding of war