

as PTSD was not discovered, but rather was created, or “glued together”, “by the practices, technologies and narratives with which it is diagnosed, studied, treated and represented . . .” (p. 5), a claim he convincingly supports in this thought-provoking, though uneven book. Significantly, Young does not deny the “reality” of post-traumatic suffering; rather his goal is to lay bare the construction of that reality through the discourses and practices of contemporary psychiatry.

Composed of three somewhat disjointed sections, which Young fails to integrate adequately, the book documents three ways in which PTSD has been constructed: by the (inaccurate) assertion of a continuous history; in the “political” and diagnostic struggles of post-war American psychiatry; and, most interestingly, through current psychiatric practice and psychiatric science.

The historical section, the weakest part of this book, analyses theories of trauma and memory from John Eric Erichsen’s “railway spine” diagnosis of the 1860s through the so-called war neuroses of the First World War. The highlight of the section is Young’s discussion of W H R Rivers and the treatment of shell-shock, in which he undermines the common view that celebrates the English neurologist as a “progressive” precursor to contemporary thinking on PTSD. However, other than refuting the linear histories written by psychiatric insiders, Young adds little new material to a subject that will be familiar to most specialized readers and was thoroughly covered over two decades ago by the Swiss medical historian, Esther Fischer-Homberger (who, strikingly, does not appear in his bibliography). Furthermore, his historical section pays regrettably little attention to national context and occasionally makes false claims, such as the assertion that the inter-war period saw little medical interest in psychic trauma, when, in fact, the so-called “accident neuroses” inspired vigorous debate among Continental doctors throughout the 1920s.

Skipping ahead thirty years, Young moves onto firmer ground in the second section, which is devoted to the creation of the PTSD

diagnosis in the post-war American psychiatric profession. Recounting the victory of the neo-Kraepelinians in their struggle against psychodynamic psychiatry, he assesses the impact of positivistic psychiatric classification on theories of traumatic memory. Diagnostic technologies, Young suggestively argues, rather than better classifying “real” conditions, actually help form the maladies they purport to identify and describe.

The third section contains a fascinating—and often disturbing—glimpse into daily life at a centre for the treatment of traumatized Vietnam war veterans. By recounting case histories and revealing the dynamics of group therapy sessions, Young shows how patients’ experiences are moulded into narratives that fit the accepted symptomological and chronological criteria for PTSD, and how the centre’s “ideology” functions to produce the desired psychiatric knowledge. His ethnographic method and the absorbing case histories make this the most compelling and persuasive section of the book.

While it is now standard for historians to show how psychiatric knowledge has been constructed by the discourses, professional contexts and social practices of past periods, it is a far more serious challenge to unveil these same processes at work in contemporary settings. That is the achievement of this flawed, but richly provocative book.

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**Louis Galambos with Jane Eliot Sewell**, *Networks of innovation: vaccine development at Merck, Sharp & Dohme, and Mulford, 1895–1995*, Cambridge University Press, 1995, pp. xii, 273, illus., £35.00 (0-521-56308-9).

People will ask: is this a commissioned company history? Yes and no. The authors, an American business historian and a British medical historian, say they first wrote an “internal” history of vaccine and anti-toxin development in these companies, then expanded their study with wider research and

contextualization to produce a scholarly volume. Company personnel are praised for co-operation without any attempt at control over the authors' interpretations. The title, impeccably in tune with recent trends in the history of science, medicine and technology, promises a bold contribution to the historiography of an undoubtedly neglected area. How well does the text measure up to this promise?

The book succeeds in conveying broad sweeps of innovation and stagnation, linked to changes in science, together with political and economic shifts that affected markets for "biologicals", with vaccines as the epitome of preventive medicine. Galambos and Sewell locate the success of Mulford's company in two networks which grew towards the end of the nineteenth century: public health in big American cities, and biological therapies based on ideas imported from Europe. From business history, the notion of long cycles has been adapted to give "long cycles of innovation" in research, development and marketing of biologicals, which yielded diminishing returns. Why was this? Did scientific paradigms "wear out" as they were superseded by further innovations? The authors blame lack of vigorous leadership for Mulford's stagnation, leading to takeover by Sharp & Dohme in 1929. However, the new bosses seem also to have lacked innovative vigour in the vaccine field, being more attracted by the sulfa drugs and antibiotics.

Military research features prominently among the networks offering a way forward in the 1950s, together with virology's expansion through electron microscopy and tissue culture. Following merger with Merck (1954), the joint company's vaccine production was transformed from 1957 by Maurice Hilleman, whose experience in paediatric and military respiratory virus research and vaccine development nurtured a new cycle of innovation. The central chapters describe an exciting period of product development under Hilleman, crowned with a joint measles, mumps and rubella vaccine licensed in 1971.

Fluctuating fortunes in the 1970s are vividly illustrated by the swine influenza fiasco, "a drama in medical, public health and political history" (p. 138), followed by an internal study querying the future of the company's involvement in vaccines. Recovery came through innovation in vaccines against bacterial diseases such as meningitis; plus two lines of hepatitis B vaccine, the second of which led Merck into recombinant DNA biotechnology. The story ends in the 1990s with a brief critique of Clinton's policy on immunization, depicted as counter to the successful mixed economy of vaccine production in the U.S. A difference of opinion between the two authors on mixed public/private systems is attributed to their nationalities (p. 229, n. 53) but might also be explained in part by their different disciplines, with the (American) business historian perhaps more partial to a company's-eye-view of the public sector as interfering and cumbersome.

There are particular quibbles, for example trials on institutionalized children and extra-U.S. populations need to be explained, not glossed over; and Merck's difficulties in providing cheaper vaccines for developing countries merit fuller exploration. A more general problem is over-reliance on personality as explanation, which might have been modified with more attention to recent historical studies. Networks are often mentioned but insufficiently explicated: more is needed especially on the separate but connected world of government-funded vaccine research. But this is after all principally an account of one firm's work, in itself a highly complex story told here with admirable poise.

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