

photography" (pp. 5–6), but most of the argument actually deals with published works.

The reader continually stumbles over statements that are challengeable, or entirely too absolute, and tend to vitiate the strengths of the work. Early on, we read that "[t]here is a strict division of labour: it is women who produce perishable bodies, while men make lasting cultural artefacts" (p. 10): *not* placed as a rhetorical trope evoking question. We are apparently meant to take on bare assertion the statement that "[w]ithin the male psyche, woman bears a close resemblance to death" (p. 123). Nineteenth-century anxieties over male masturbation and spermatorrhoea rather problematize the claim that "women's bodies, rather than male ones . . . are perceived as leaky" (p. 138).

Certain phenomena are positioned, somewhat arguably, as unique. Photography may be "an impure art of uncertain beginnings" (p. 7), but most "eureka" narratives decay into fuzzy uncertainty when interrogated. Was radiography really "the last modern invention to be haunted as much by popular belief and superstition, by the irrational . . . as by scientific or rational thought" (p. 117)? The argument that the "much less ordered place" of the nineteenth century, in which people lived in material and spiritual "worlds that were not modern at all", was swept away by the process of modernity (p. 22), fails to recognize the persistence of "magical" thinking (even if expressed in the rhetoric of "science"). Analogues and continuities are ignored. The concern that technology erodes attention to the individual patient's story and creates a "distanced, increasingly remote and technologically mediated gaze" (p. 11) has recently been expressed vis-à-vis computer software packages for recording clinical case-histories. Stockdale's exploitation of Dr John Robertson's "medical works of a sexual nature" (p. 47) has parallels in the constant re-circulation of out-of-copyright sexological texts that persists to this day.

The narrowness of focus detracts from the value of the arguments. It might be helpful to locate anatomical representations of reproductive women within the wider tradition: were male bodies never shown as detached parts? Was a head and shoulders portrait photograph really cutting off "threatening knowledge of what lies below"—or was it following a long-standing (less gendered) portraiture convention? Indeed, does close attention to the part, the detail, the microscopic microcosmic, necessarily mean lack of awareness of the whole? There is an uneasy sense that the males visually probing the reproductive female can never be in the right: condemned for obliterating the identities of the women depicted (pp. 132, 137), would it not also be offensive and intrusive to have named the women, according to current ideas about patient confidentiality?

In a curiously mimetic (perhaps self-reflexive?) way, Roberta McGrath has produced a narrative itself heavily framed and over-determined and the product of assumptions about gender and visibility.

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Eilidh Garrett, Alice Reid, Kevin Schürer and Simon Szreter, *Changing family size in England and Wales: place, class and demography, 1891–1911*, Cambridge Studies in Population, Economy and Society in Past Time, Cambridge University Press, 2001, pp. xxiii, 526, £60.00, \$90.00 (hardback 0-521-80153-2).

Infant mortality is widely thought to be a barometer of national health, and the onset of fertility decline the sign of a shift towards modern family life. In England and Wales turning points to both came rather

late, the fertility decline long after that in France or the United States, and the decline in infant mortality long after that in the Nordic lands despite England's claim to a leading position in economic development and socio-political modernization. A demand for better insight into changes in infant mortality and fertility in England and Wales has been building for years among social scientists. Suspecting that national averages conceal more than they reveal about these turning points, successive British scholars have tried to compensate for missing information. This quest has spilled over into the comparative history of infant and child mortality in England and Wales, Germany, and the US. Many scholars have wanted to be able to gauge the relative importance of environment and social class as determinants of mortality risk.

Among the sources to which historical demographers have looked is the 1911 census, in which mothers were asked about the offspring of their current marriages and the survival of those children. Although this census is not yet in the public domain, the authors of this volume were provided with a substantial body of individual-level data concerning people in thirteen communities, of course with identities concealed. A multidisciplinary team representing history, geography, and demography, they devised techniques for analysing these data, summed up in a mortality index that assesses the risk of dying in infancy and childhood. It is a useful rather than a perfect measure, since it cannot be used to extract separate rates of infant and early childhood mortality.

Garrett, Reid, Schürer and Szreter find that both environment and social class mattered, but not quite in the ways that scholars have supposed. True, cities were unhealthier than villages, and big cities unhealthier than small cities. But the economic orientation of a locale mattered also, as did its economic structure, with more diversified locales faring better than

locales dependent on a single industry. On balance "living in insalubrious physical surroundings was . . . more lethal to young children than being born in poor circumstances" (p. 337). Thus economic activity and occupations, sanitation, housing, and the like, influenced infant and child survival more than did social class. This is an important conclusion arrived at by a team of talented and resourceful researchers. But, for two reasons, it is unlikely to put the issue to rest. First, analysis of the census does not offer opportunities to assess the effects of individual diseases, access to health services, parental knowledge about health, educational attainment of parents, and other factors important to infant and child survival. Many of these things are entwined with environment, so it may be that the factors this research team has measured capture some of the effect of the factors they cannot observe. Second, where should we draw the boundary between environment and social class? Another research team might decide that some of the characteristics these authors put under environment are better interpreted as markers of social class.

On the national level, the authors suggest that the urban-rural dichotomy, which has long dominated discussion of mortality differences, is too heavy handed and should be replaced by distinctions more sensitive to environmental circumstances. "Crowded places were not *necessarily* unhealthy, but it is probable that mortality in unhealthy places was exacerbated by overcrowding" (p. 365, their italics). On fertility, the authors argue that there were many fertility transitions, some abrupt and others protracted.

There is also an interesting philosophy of history. These authors prefer "the kind of awkward, complicated findings" (p. 436) reported in this book to generalizations about revolutionary change, such as in the demographic transition. Medical historians may be puzzled, however, by the inherent

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difficulty posed by complicated results: confronted by mixed findings about lethal matters, what is one to do?

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Kathryn A Neeley, *Mary Somerville: science, illumination, and the female mind*, Cambridge Science Biographies, Cambridge University Press, 2001, pp. xvi, 263, £40.00, US\$64.95 (hardback 0-521-62299-9), £14.95, US\$22.95 (paperback 0-521-62672-2).

If asked to describe Mary Somerville, the renowned scientist and popularizer of science, one could do worse than follow the lead of her most recent biographer and plump for the notion of counterpoise.

According to Kathryn Neeley, Somerville both recognized and articulated the principle of counterpoise in nature, where many forces act with each other in various ways to maintain equilibrium. Although she did not necessarily apply the term to herself, Neeley argues that Somerville successfully negotiated her position as a female scientist in the highly gendered world of nineteenth-century science by an astute awareness of the balancing act required. The author believes counterpoise might in fact be a useful model for the historical analysis of gender, being more sensitive than the usual dualities, which involve only two opposing forces. That is a general project for the future, but her exposition in Somerville's case is well made.

Neeley shows that despite her gender, Somerville was not just the passive recipient of male favour, but was able to set some of the terms by which she interacted with her fellow scientists and conducted her scientific life. For instance, early in her career Somerville earned the praise of fellow astronomer William Whewell for her translation and exposition of La Place's work because it was not written with the

usual trappings of female discourse, particularly an apologetic and deferential tone. Somerville had from the first established her own ungendered written style, which contrasts with the highly feminine presentation in the self-portrait reproduced as the frontispiece to the book.

In her private life, Mary enjoyed more happiness after the death of her first husband and subsequent second marriage to William Somerville. This brought greater domestic harmony and support for her science, even if the family moved to Italy for health and financial reasons. Mary's writing contributed significantly to the Somerville domestic economy. Although there was always correspondence and visits, Italy removed Mary from the informal scientific networks in which she had participated. However, Neeley is not much interested in the domestic details of the Somerville home, covering the outline of her life in a few early pages. What fires her interest is Mary's writing, its reception and what this can tell us about science and gender in the nineteenth century.

Although famous in her long lifetime, with a stream of revised and undated texts, Somerville has been partially excluded from histories of nineteenth-century science, particularly those concerned with original discoveries. Somerville, says Neeley, makes us think again about what the practice of science involved in the nineteenth century and how historical analysis can reflect current notions where popularizers are distinct from the doers of science. Indeed she challenges the categorization of Somerville as "popularizer" given the complexity of the mathematics and astronomy explicated in her texts.

Seeking to draw together the Somerville corpus as a whole, Neeley emphasizes the importance of the scientific sublime. The majesty of the universe, as revealed through astronomy, and the telescope, and the minutiae of life brought to our senses by the microscope, are unified by Somerville's love of nature. She translates her response