asserting a right to interpret and 'modernise' on its own terms a colonised culture deemed passive and inferior. Humanitarian intent was thus not inherently incompatible with imperialist assumptions. Additionally, in light of scholarship on the transformations of science in cross-cultural translation, it could be valuable to investigate what, if any, mutations this medical practice underwent in its adoption by College graduates. Certainly, other medical figures in Hong Kong not only received medical knowledge diffused from the metropole, but also innovated and experimented. Governor H.A. Blake and the government bacteriologist William Hunter, both of whom have mentions here, conducted such experiments. These are questions of further research, however, which will now stand on solider ground thanks to Ho's thorough and insightful work.

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doi:10.1017/mdh.2018.55

Ilana Löwy, *Imperfect Pregnancies: A History of Birth Defects and Prenatal Diagnosis* (Baltimore: Johns Hopkins University Press, 2017), pp. xv + 277, $44.95, hardback, ISBN: 9781421423630.

Ilana Löwy's *Imperfect Pregnancies* is one of the latest additions to the rapidly-expanding literature on the history of reproductive technologies and, specifically, prenatal diagnosis. In this work, Löwy examines how the search for foetal abnormalities has transformed from a diagnostic protocol once reserved for older parturients and women with a family history of birth defects into a routine component of prenatal care. In fact, due to its relative non-invasiveness compared to older techniques, such as chorionic villi sampling (CVS) and amniocentesis, serum testing for Down Syndrome (Trisomy 21) has become so commonplace that many women agree to it unquestioningly, equating it with being a 'good' mother. As Löwy underscores, very few think about the reality of pregnancy termination as the end of their prenatal journey, and even fewer contemplate the ways in which their pregnancies are pathologised by an endless technological trajectory that is part of the larger apparatus that medicalises women's bodies and scrutinises foetuses. Even those women who are able to escape prenatal screening – usually through active rejection – are cornered by another form of surveillance, ultrasound, which in the past couple of decades has become a handmaiden to genetic testing since it can now detect a whole range of physical manifestations associated with genetic foetal abnormalities. For example, an enlarged foetal nuchal fold and elevated nuchal fluid levels are strong anatomical ultrasound markers of Down Syndrome, signalling an increased probability of the disorder long before its confirmation by prenatal testing.

As Löwy suggests, the latest technological turn in prenatal diagnosis – the analysis of free-floating foetal DNA in maternal blood (cell-free or cfDNA) through non-invasive prenatal testing techniques (NIPT) such as a simple blood draw – is even more alarming since it has created new opportunities for the expansion of maternal-foetal genetic screening into ethically murky directions. NIPT has, unsurprisingly, alarmed feminists, bioethicists and disability rights advocates who fear that the simplicity and inevitable widespread accessibility of this technology could lead to a resurrection of the spectre of eugenics – specifically of genocide against imperfect ('abnormal') and undesired (female) foetuses. Moreover, its non-invasiveness could also mean that perhaps in the very near future, it will become such a banal procedure that women might be screened without their

explicit consent (for example, we do not consent to each individual test in a routine blood panel; allowing our blood to be drawn implies consent).

Organised into six chapters, *Imperfect Pregnancies* augments the work of Ruth Schwartz Cowan, Rayna Rapp, Lynn Morgan and Barbara Katz Rothman by tracing the development of recent reproductive technologies – mostly out of what Löwy calls 'widely diffused "ordinary" technologies' (p. 11) – and investigating their implementation and impact in industrialised countries. Invariably, this framework exposes both the strengths and weaknesses of the publication. In an effort to provide a global survey of prenatal testing and congenital disorders, Löwy presents a broad cross-section of efforts in North America, Europe, Israel and Brazil. However, at various points in the work, this approach oversimplifies the nuanced histories of birth defects and genetic testing in very different countries and conflates the social and political contexts of reactions and responses. The strongest moments in the work are those in which Löwy compares and contrasts the United States with Canada, and western European countries with each another (Israel and Brazil deserve their own work(s) and seem out of place here). Moreover, the first three chapters and chapter five of *Imperfect Pregnancies* – on birth defects before prenatal diagnosis, karyotyping, human malformations and sex chromosome aneuploidies (an abnormal number of sex chromosomes), respectively – cover material that already exists in the medical history, sociology and anthropology literature, as well as in the medical literature itself (the latter is written mostly by healthcare professionals involved in these areas). Nevertheless, Löwy blends these multidisciplinary sources quite adeptly throughout the chapters, which essentially serve as the context to her unique contributions in chapters four and six on the transition from selective prenatal diagnosis to routine prenatal screening and new genomic approaches.

The narrative of how prenatal screening became routine practice (chapter four) is notable not only because it traces the gendered power relations involved in this cluster of reproductive technologies, but also because it examines the diffusion of specific medical technologies, which is a subject of interest to most historians of medicine. While, as Löwy herself acknowledges, chapter six covers subject matter – twenty-first-century developments in prenatal genetic testing, such as the use of serum testing versus cfDNA/NIPT – that is so recent that her analysis may be obsolete in a few years, it is a significant contribution to the field for two reasons: it is an informative explication of the early history of these new technologies, especially in terms of how they emerged out of previous medical practice; and the end of chapter six segues into a thoughtful conclusion in which Löwy considers some of the moral qualms and ethical dilemmas that await prenatal diagnosis. The conclusion is also valuable for its suggestions of future areas of research, particularly at the intersection of medical history and feminist/queer theory, such as rethinking sex chromosome aneuploidies (like Turner and Klinefelter Syndromes) as alternative sexes (rather than pathological states) and transgender expressions.

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https://doi.org/10.1017/mdh.2018.55 Published online by Cambridge University Press