

Book Reviews

Patrick Manning and **Mat Savelli** (eds), *Global Transformations in the Life Sciences, 1945–80* (Pittsburgh, PA: University of Pittsburgh Press, 2018), pp. vii + 314, \$45.00, hardback, ISBN: 9780822945277.

If we had to think about the effects that the dropping of the two atomic bombs in 1945 had on post-war life sciences, immediately genetics and molecular biology would come to mind. Indeed, the aftermath of the war triggered a process of genuine soul searching for many physicists that were involved directly or indirectly in the Manhattan Project. Biology, in this sense, constituted a field where many scientists could ‘redeem’ themselves by working on questions related to life and the physical and chemical mechanisms of biological systems. The rest is history: one that has been extensively documented. Yet, the life sciences involve a vast number of fields and subfields that are often not part of the stories being told. So, what about them? What was the impact of the world war on, say, cancer research, sexology or even anthropology? *Global Transformations in the Life Sciences, 1945–80* provides an account of the scientific consequences brought about by major post-war processes in numerous fields and subfields of the life sciences. Combining perspectives from the history of science and world history, the essays that make up this excellently curated volume contain, thorough analyses of how the post-war and decolonisation contexts, along with the formation of international organisations, shaped scientific practices, research agendas and aspirations in many fields of the life sciences beyond molecular biology and genetics.

The book’s methodological backbone involves uncovering numerous connections between localities and global historical processes, allowing contributors to trace interactions leading to the production and circulation of scientific knowledge in all directions. According to Patrick Manning, this approach challenges traditional centre-periphery explanations of the diffusion of knowledge and seeks to reveal elements of a globally tightening knowledge network about life in the post-war era (p. 5). In my view, this approach has even wider implications as it illustrates new pathways in the relationship between the fields of history and science studies.

In early contributions from historians to the social study of science, locality was not considered a significant factor in the conceptual development of science. George Basalla’s renowned diffusionist model (expounded in his article, ‘The Spread of Western Science’, *Science*, 156, 3775 (1967): 611–22), for instance, paid no attention to how local settings shape scientific knowledge and emphasised the international nature of scientific inquiry. Later reactions to the linearity of Basalla’s model came from postcolonial science scholars who emphasised instead the relevance of locality and called for the replacement of centre-periphery models with notions of mutual interdependence and contact zones (see Warwick Anderson and Vicanne Adams, ‘Pramoedy’s Chickens: Postcolonial Studies of Technoscience’ in Edward J. Hackett, Olga Amsterdamska, Michael E. Lynch and Judy Wajcman, (eds) *The Handbook of Science and Technology Studies* [Cambridge, MA: MIT Press, 2008].) The postcolonial reaction entailed a risk nevertheless. As David Chambers noted, the lack of a general framework in the postcolonial response increased the risks for researchers to sink into a ‘sea of local stories’ (David Wade Chambers, ‘Period and Process in Colonial and National Science’ in Nathan Reingold and Rothenberg, Marc (eds) *Scientific Colonialism: A Cross-Cultural Comparison* [Washington, DC/London:

Smithsonian Institution Press, 1987], p. 314). This book, however, emphasises localities as components of the global history of science and as such – to expand on Chambers' metaphor – it constitutes a *boat to navigate* across the seas of the *local* and the *global*.

The linking of localities and global processes provides new perspectives to revisit well-established notions of brain drain and brain gain, and expose the complexity of scientific migration flows. David Wright, Sasha Mullally and Renée Saucier (Chapter 1), for instance, show how brain drain phenomena, exemplified in the migration of Indian physicians, are best understood as co-operation processes that combine deteriorating conditions in the countries of origin and the adoption of absorptive policy mechanisms in receiving countries. In Chapter 8, Frank Stahnisch analyses the individual biographies of three German neuroscientists and psychiatrists to uncover the variability of adaptation processes amongst those who migrate in forced circumstances.

Moreover, in the world history approach decolonisation is seen as a complex context activating both threats and opportunities. While decolonisation did not end former colonies' dependency on metropolises' science and technology – in some cases it even increased it – it also enabled nation-building processes where life sciences constituted a tool for delivering development promises. Some of the book chapters are quite illustrative of these complex dynamics. In Chapter 9, Audra Wolfe reveals the tensions between internationalism and nationalism in the spread of American biology textbooks. In the 1960s, biology textbooks constituted a tool to advance American hegemony, yet at the same time, they also expressed national ambitions of postcolonial societies in Asia and Latin America. In Chapter 2, Daniele Cozzoli describes how the transition from a colonisation context to a decolonisation one allowed the establishment of transnational networks between already independent countries, such as Brazil, and countries that had abruptly lost their colonies, such as Italy, thereby advancing research – in this case on *curare*, a substance introduced in anaesthesia as a muscle relaxant.

The world history approach does not only help in the investigation of global transformations that took place in the post-war life sciences; it also exposes the responses to such transformations. Reactions in the form of conservationism are analysed in diverse life sciences subfields such as dermatoglyphics (Chapter 4), urgent anthropology (Chapter 10) and animal species (Chapter 11) showing the extent to which post-war historical dynamics brought novel interconnections to the life sciences. The restructuring and integration of relations in the life sciences is considered by the editors of this volume as one of the key driving forces of post-war transformations along with an impulse to foster social welfare worldwide. This restructuring is said to have the effect of reducing the importance of internal-external and basic-applied dichotomies that had characterised pre-war science. Although the authors acknowledge this idea has been contested, its acceptance is nevertheless implicit in many of the book's chapters. This is perhaps the point where the world history approach fails short in its explanatory capacity as it blurs asymmetries between the meaning of these dichotomies in centres and peripheries. In many 'peripheral' countries, these dichotomies continued shaping local research that was often assessed for its social relevance and its connection with national development needs. This revived debates not only around basic-applied dichotomies but also about autonomy–dependency. Nevertheless, the emphasis on multi-directionality of historical interactions provides readers studying science with a pair of fresh lenses to study historical transformations, in the life sciences and beyond.

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