Pollock, A. *Synthesizing Hope: Matter, Knowledge and Place in South African Drug Discovery.* Chicago: University of Chicago Press. 2019. 191pp $82.50 (cloth) $27.50 (pbk) $10.00 to $27.50 (ebk) ISBN 978-0-226-62918-6

Synthesizing Hope draws on the example of iThemba pharmaceuticals, a small South African start-up company, to examine issues of place and matter in global pharmaceutical knowledge making, and their role in maintaining or disrupting differences between Global North and Global South knowledge production.

The empirical basis of the monograph is rich and detailed ethnographic research, involving multiple interviews with the scientists who worked at iThemba over a 5-year period. iThemba was set up by an elite group of international scientists with the goal of discovering drugs for malaria, TB and HIV in South Africa. The company was funded by a combination of public and private investment and it had dual aims of developing "inexpensive therapy for infectious disease through innovative chemistry" and of creating capacity for "African solutions to African problems". Ultimately, iThemba was unsuccessful as a pharmaceutical company because the public investment was discontinued, but the aspirations of iThemba offer an alternative vision for how new treatments for neglected diseases could be discovered and developed but also of what the practical constraints of this vision are.

Theoretically, Pollock combines ideas from global health and postcolonial science. She highlights limitations of prominent global health discourses by problematising pervasive conceptual divides between Global North and Global South such as the implicit assumption that knowledge flows unidirectionally from knowledge makers in the Global North to recipients in the Global South. iThemba serves as a model for disrupting these dichotomies by setting research agendas and producing pharmaceutical knowledge in the Global South. The knowledge produced was situated knowledge, grounded in the local context, but it was also part of global scientific knowledge production. Thus, the iThemba case study takes us beyond aiming for knowledge transfer based on ideas of diffusion and translation to building scientific knowledge making capacity in the Global South.

Pollock frames the iThemba case study as "a sociotechnical imaginary organized around locally discovered, innovative drugs for infectious diseases" (p.16) with the hope of changing South African scientific research both materially and in terms of how it is perceived globally.

More specifically, focussing on the role of place in pharmaceutical knowledge making, Pollock observes that the iThemba scientists were strongly committed to developing cheap drugs for neglected diseases, not just discovering molecules, because they were aware of the urgent needs of the South African population in which they were embedded. To take another example, for the very poor, the requirement to take antiretroviral medication with a meal is problematic if regular meals are scarce and therefore one line of research for iThemba scientists was to develop weekly medication for HIV rather than daily medication. These are examples of how place matters in guiding research agendas.

Turning to materiality, pharmaceutical knowledge making is necessarily material, requiring access to reagents, equipment, electricity, water, and trained scientists. Global health discourses often focus on intellectual property (IP) barriers in the form of patents, but Pollock highlights how material barriers matter as well. Unlike many other African countries, South Africa does have good infrastructure including good universities and a good IP regime, but it was still challenging for iThemba to secure and manage supplies of reagents.

Pollock also argues that matter and meaning are entangled. For example, iThemba, despite being geographically distant from the centres of global science, was not peripheral both in terms of scientific processes, because the scientists were doing synthetic chemistry in globally standard ways using state-of-the-art equipment, and symbolically in terms of "scientific authority and social power", because they were closely connected with the elite international scientists who founded the company.

As we can see from these examples, Synthesizing Hope is strongly grounded empirically but this does mean that the context is very specific. However, the author successfully links the specificities of the case study with broader global issues and theories. I particularly enjoyed the problematisation of

global health discourses and the discussions of the role of infrastructure in relation to pharmaceutical knowledge making.

On one level, the book could be described as a detailed analysis of a failed experiment. However, although iThemba failed as a pharmaceutical company, it succeeded in terms of capacity building for South African drug discovery because the scientists who worked at iThemba continued to work on similar projects in South Africa. Following work by Marres and McGoey on failure, Pollock describes iThemba as a "generative failure" because it not only highlights the difficulties in changing the way pharmaceutical knowledge production is organised globally but also offers ideas for how it could be different and why it matters.

This book is of particular interest to anyone with an interest in pharmaceutical knowledge making in South Africa specifically, but more generally it should appeal to anyone with an interest in novel ways to organise drug discovery for neglected diseases in the Global South, the problematisation of dichotomies between Global North and Global South in global health discourses which perpetuate inequalities, and the ties between pharmaceutical knowledge making and infrastructure including how materiality and place matter.

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