

Hugh Cagle

Assembling the Tropics: Science and Medicine in Portugal's Empire, 1450–1700. Cambridge: Cambridge University Press, 2018. Pp. 364. Hb, \$49.99.

In *Assembling the Tropics: Science and Medicine in Portugal's Empire, 1450–1700*, Hugh Cagle sets out to demonstrate that the construction of the concept of the “tropics” dates back to the days of the great Portuguese voyages of exploration of the fifteenth–seventeenth centuries. More than limiting himself to analyzing a uniform and inhospitable “torrid zone” as described by Aristotle, Cagle argues that this letters, reports, summaries perception resulted from agents of the Portuguese crown observing an ecological, environmental, and epidemiological cohesion across the vast empire. This coherence seemed to be at odds with the plurality suggested by the accounts of chroniclers, sailors, and pilots and the extraordinary variety of animals and plants, products and exotic objects, peoples and cultures that, from the middle of the fifteenth century, were unloaded in Lisbon. Asserting the unity of the intertropical world was, according to Cagle, part of an imperial plan that was consolidated over centuries. As he argues: “The tropics—its nature and its characteristic qualities—was not a discovery but a political project. Intertropical objects and their varied provenances had to be imbued with new meaning” (12).

To support his thesis, the reader is invited to trace the reports of the Portuguese who, as they disembarked on the west African coast, roamed through Asia or entered the regions of Brazil, witnessed a natural world as beautiful as pestiferous. In describing the coherence of the intertropical world, Hugh Cable focusses his analysis on fevers. These become the common thread in *Assembling the Tropics*. From the letters, reports, summaries, and accounts written by the agents of the king of Portugal, to the analysis of the treatises of seventeenth-century metropolitan doctors, Cagle has drawn out the data, which, from his point of view, most contributes towards validating his ambitious argument. As he states, “In Portugal's empire, global geography, febrile disease, and professional medicine proved mutually constitutive” (16).

To illustrate his thesis, he has divided his book into three parts. In “The Coast of Africa, 1450–1550” (27–55), he focuses on the Portuguese progress along the coast of western Africa. Beyond the Senegal River, contrary to the uniform aridity suggested by Aristotelian texts, the Portuguese found a lush and magnificent natural world. However, in addition to the stunning nature, they were surprised by the pestilent fevers raging there. This led seamen and some royal agents to interact with local people in search of the most effective therapies from amongst the regional products and knowledge.

In his second section, “The Indian Ocean World, 1500–1600” (59–165), Cagle analyzes the testimonies of the Portuguese who, throughout the sixteenth

century, moved around or settled in the Orient. Using maps, logbooks, itineraries, and reports, he emphasizes the important wealth of information on Asian lands, peoples, routes, markets, drugs, spices, and other oriental products, which, albeit discreetly, circulated among the elites of Goa and Lisbon from the first decades of the 1500s onwards. This section also focuses on Garcia de Orta's book, *Colóquios dos simples e drogas e coisas medicinais da India* (Goa, 1563). As recent studies have shown, much of the new information carried by royal agents or entrusted by voyagers, men of religion or merchants, having been analyzed and validated by this Portuguese physician, were incorporated into *Colóquios dos simples*. Adapting the model for knowledge acquisition inherited from antiquity to his own life circumstances, Orta—about whom some of the biographical information recorded should be treated with reservation—reconfigured knowledge relating to the drugs, spices, and products of the East. The fevers, which frequently plagued Goa, also came under his analysis. However, tucked away in the distant Asian world, the physician sought, using only the drugs of Asia, a solution for the maladies that he came across and treated there.

In the third section, “The Portuguese Atlantic, 1550–1700” (169–303), Cagle analyzes the case of the Atlantic, revisiting the knowledge of the Brazilian nature recorded by various agents stationed there. In this context, in addition to the texts referenced, some other surveys of the natural world carried out by the missionaries of the Society of Jesus could deserve attention. These include, for example, the detailed letter by Brother José [Anchieta], *Descrição das cousas naturais da Capitania de São Vicente* (1560) and the writings of Father Fernão Cardim (1580s) Cagle only mentions in passing. Furthermore, an examination of the intercontinental transference of plants that took place between different colonial regions, led largely by missionaries and which resulted from their early understanding of the ecological coherence across the various overseas territories, might have been considered.

In this third part, Cagle highlights the contribution of Aleixo de Abreu's book *Tratado de las siete enfermedades* (Lisbon, 1623), which seems to be the first treatise dedicated to the diseases of the Atlantic. This physician, who lived in Angola and Brazil, regions in which he had to cope with pestiferous and deadly fevers, described the Atlantic as an epidemiologically coherent region. In addition to this treatise, Cagle highlights the writings of Ambrósio Fernandes Brandão, author of the landmark work *Diálogos das grandezas do Brasil* (c.1618), a text which, along with Abreu's, allowed for the “possibility of the epidemiological and environmental coherence of the Atlantic” (234).

Lastly, Cagle looks at various medical texts of the 1600s, some less well known amongst the scholars, such as Manuel de Azevedo's *Correcção de abusos introduzidos contra o verdadeiro methodo da medicina* (Lisbon, 1668), Simão

Pinheiro Mourão's *Tratado único das bexigas, e sarampo* (Lisbon, 1683), or João Curvo Semedo's collection *Polyanthea medicinal* (Lisbon, 1697). Examining the concern common to the treatises (the description and cure of tropical fevers), Cagle highlights the congruence of viewpoints held by metropolitan doctors. In these, he finds support for his argument for a unity in a cohesive intertropical world and for an ecological, environmental, and epidemiological coherence which, in the Portuguese empire, was described from Asia to the Atlantic. As he concludes in the Epilogue: "it took two centuries to assemble the tropics" (306).

Pleasant to read and extensively annotated, revealing an analysis of a vast and specialized bibliography and profound archival research, *Assembling the Tropics: Science and Medicine in Portugal's Empire, 1450–1700*, is a stimulating read and an interesting working resource for those who, in their research, seek an innovative perspective on the knowledge of the colonial natural world and the healing arts practiced in the Portuguese empire up to the dawn of the 1700s.

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Agustín Udías

Jesuits and the Natural Sciences in Modern Times, 1814–2014. Brill Research Perspective in Jesuit Studies, 1, no. 3. Leiden: Brill, 2019. Pp. 104. Pb, \$84.00. Also available in Open Access at <https://brill.com/view/journals/rpjs/1/3/rpjs.1.issue-3.xml>.

This short paperback is an abridged, corrected, and updated reorganization of the second half of Udías's *Jesuit Contribution to Science: A History* (Dordrecht: Springer, 2015), which provided an overview of the Society of Jesus's scientific contribution from the sixteenth to the twenty-first century. The present book, as its title indicates, is narrower in scope: its focus is on the post-restoration efforts of Jesuit astronomers, meteorologists, geophysicists, mathematicians, and biologists to reconnect with the long-standing (albeit briefly interrupted) tradition of Jesuit natural philosophy. It also surveys the ways through which the Society of Jesus, as an institution, has been responding to the shifting educational and scientific landscapes of the modern era. This response, Udías shows, took the form of a global network of astronomical, meteorological, and geophysical observatories, as well as a renewed involvement in public