

INDIAN OCEAN STUDIES SERIES



Cargoes in Motion

MATERIALITY AND CONNECTIVITY

ACROSS THE INDIAN OCEAN

Edited by Burkhard Schnepel and Julia Verne

CARGOES IN MOTION

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Cargoes in Motion

*Materiality and Connectivity
across the Indian Ocean*

EDITED BY

Burkhard Schnepel
and Julia Verne

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Preface

Indian Ocean Cargoes

Thinking Transoceanic Connections through Things

JULIA VERNE

TO SOME, the Indian Ocean is just an area on a map encompassing the world's third largest ocean, the islands within it, and the adjacent coastal states. For others, however, it is a prime example of a region that is held together not by physical proximity but by relations and a sense of togetherness that has emerged out of the mobility of people, ideas, and things. Transoceanic exchange has woven together the different ends of the Indian Ocean, leading to what Chaudhuri called "a basic underlying structure, the ground floor of material life."¹ In effect, scholars have long appreciated that trade and commerce are central to understanding the connectivity that underpins the complex human experience in the Indian Ocean world.² However, studies of this mercantile and commercial activity have tended to pay rather little attention directly to the cargoes that were transported across the Indian Ocean and the role these cargoes played in connecting the disparate parts of this vast oceanic world.³

This volume seeks to fill this lacuna by focusing on the ways in which the cargoes themselves have informed and continue to shape processes

of exchange across the Indian Ocean. More specifically, by paying attention to the materiality of cargoes in motion across both space and time from a multidisciplinary perspective, this volume seeks to enrich our understanding of the ways in which the particular nature of things (e.g., their size, composition, (in)visibility, perishability, or their being alive) has influenced and challenged common modes of transport across the Indian Ocean and the nature and dynamics of the connections that have developed between the disparate parts of the Indian Ocean world.

Responding to Haidy Geismar's call to examine "the interpretive and analytic purchase of thinking through things,"⁴ this volume engages with two major theoretical and methodological approaches to material objects, which are outlined and discussed in a thematic and methodological introduction by Burkhard Schnepel. The first of these reflects Arjun Appadurai's⁵ attention to the "the social life of things" and his attendant call for us to see commodities as more than just inanimate, mute things. The second of these approaches, which draws on so-called *Actor Network Theory* and the *new materialism*, emphasizes the co-constitution of the material and immaterial dimensions, as well as the vitality of matter.

The influence of Appadurai's edited volume has far transcended the disciplinary boundaries of anthropology as it has become a seminal contribution to material culture studies. *New materialism* can be considered a genuinely interdisciplinary endeavor, as many of its core contributions were written by scholars focusing in particular on the relation between scientific approaches and disciplines.⁶ In this vein, this volume also builds on an interdisciplinary engagement with cargoes in motion, which aims to bring together thorough historical and even linguistic analysis with deep ethnographic insights from both anthropology and cultural geography. The field of Indian Ocean Studies as it has developed in recent decades seems to have formed different disciplinary clusters, with those involving historians, archaeologists, anthropologists, religious scientists, and literary scholars being the most pronounced. They have shaped different and fairly separate streams of work, which we build on with the aim to stimulate future discussions and more interdisciplinary work on the Indian Ocean world. This may also revitalize area studies more generally, as it further encourages the link between regional expertise and conceptual as well as methodological reflections.

Offering empirically grounded contributions to the debates that revolve around these two interdisciplinary approaches, the chapters in

this book go beyond classic examinations of material exchange, which usually focus on either economic aspects or social ties. By foregrounding the materially demanding dimensions of transoceanic mobility and looking at how different cargoes are formed and made, adapted, appropriated, put to use, and transformed in the course of their journeys, it becomes possible to improve understanding of the ways in which the Indian Ocean world's "mental" and material frameworks are closely intertwined.⁷ Consequently, this volume does not restrict itself to engaging with commodities alone, as it also looks at noncommercial items, such as gifts and personal belongings, as well as objects like invasive species that arrived unintentionally in different parts of the Indian Ocean world on board ships.

The volume's unique engagement with animal cargoes reflects both the conceptual interest in understanding things as animate and vital, as outlined above, and the increasing attention being paid to human-animal entanglements, which can currently be observed in the social sciences and humanities.⁸ As animals demand specific care on board ships if they are to reach their destinations alive, they provide powerful examples illustrating the ways in which cargoes in motion are closely intertwined with other things and actors, thus conveying a vivid image of the multiple efforts that go into creating and sustaining transoceanic connectivities. Tracing the origins, processes of formation and improvisation, and emerging trajectories of diverse "things-in-motion"⁹ allows unique insights into the diverse meanings of these objects over time and space.¹⁰

In the first section, the contributions place a specific emphasis on the efforts that go into *the making of cargoes*. While Pedro Machado points out the decisive role of maritime governance structures and labor markets in turning pearls into the "brilliant cargoes" that linked the Bay of Bengal and parts of South India to Southeast Asia and the South China Sea, Kunbing Xiao examines the material efforts made to turn Bohea, a Chinese tea originating in the Wuyi Mountains, into a commercial product of historical significance, preferred by the British from the seventeenth to the nineteenth centuries. Shifts in significance and the resulting (im)mobilities are also highlighted by Steven Serels, who analyzes how salt from the southern Red Sea region was turned from a simple form of ballast into the largest export product by volume through an elaborate political and technological infrastructure that proved robust enough to withstand changing tastes and political dynamics until it was ultimately

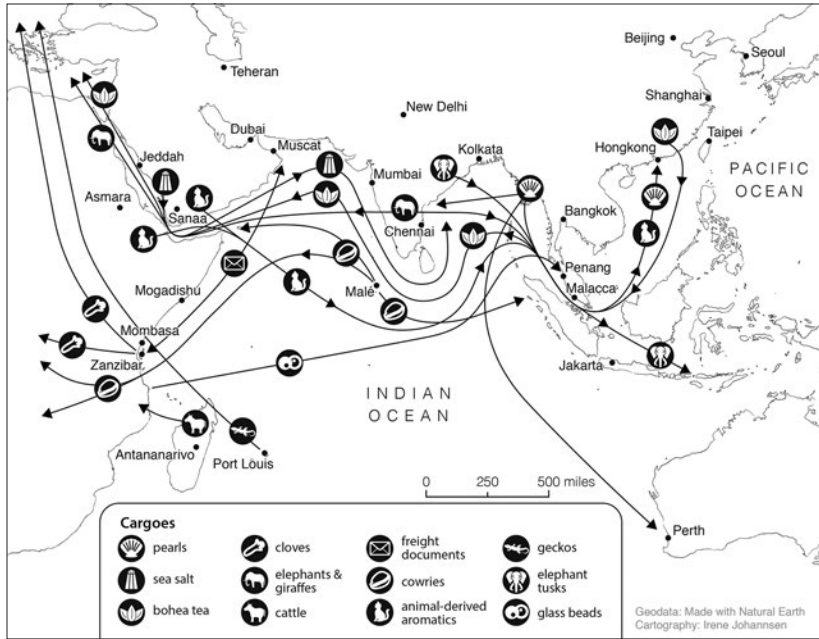
dismantled through war in the early twenty-first century. Linking historical narratives with contemporary market dynamics is also crucial with regard to the Indian Ocean spice trade. Here, Rupert Neuhöfer and Hannah Pilgrim illustrate how current practices of biocertification are (re)defining the material capacities of cloves in Zanzibar in a tense context of local economic development, cultural preservation, global competition, and changing consumer trends in Europe. Together, by following these different cargoes over time, as well as along their routes, these four chapters reveal continuities and ruptures with regard not only to the popularity of these objects, but also to the Indian Ocean and its spatial extensions.

The contributions in the second section of this volume focus on *cargoes on board*, which have generally been somewhat neglected because they were not the prime objects of economic exchange. These chapters highlight the relevance of diplomatic cargoes, letters and legal documents, currencies, and food provisions as important facilitators of trade. However, not all things on board travel equally smoothly;¹¹ therefore, this section highlights the ways in which the objects' particular materialities may have enhanced or challenged mobility across the Indian Ocean. Focusing on live animals transported as gifts as part of diplomatic overtures, often combined with the aim of establishing or expanding trading relations, Tansen Sen examines the *longue durée* phenomenon of animal diplomacy by foregrounding the affordances of large animals, such as giraffes and elephants, on maritime routes. Edward Alpers also concentrates on the challenges of living cargoes by exploring the maritime transportation of cattle across the Mozambique Channel to provision Mozambique Island and the European shipping plying the East African coast. On the other hand, the chapters by Fahad Bishara and Eva-Maria Knoll turn attention to less active and rather inconspicuous cargoes that have often been overlooked in accounts of trading. While Bishara analyzes the crucial role of trading documents and letters carried on dhows in the late nineteenth and early twentieth centuries, Knoll sheds light on the handling of twelve thousand cowries, the saltwater-resistant and almost unbreakable shells that served as both ballast and currency.

Finally, the chapters in the third section exemplify how a focus on particular objects also allows *cargoes in use* to be contextualized within prevailing cultural practices to better understand their utilities, meanings, and symbolism from within the frame of reference of those who interact

with them. This entails developing an understanding of the mobility of cargoes in the sense of their adaptability and the different ways in which they come to be appropriated and even “nostrified,” thus changing the nature of the object itself.¹² By focusing on scientific samples of geckos collected on the Mascarene Islands and shipped to German laboratories, Lisa Jenny Krieg examines the ways in which organic tissue is transformed into information about the evolutionary history of these small animals, which is considered crucial in filling in the gaps in the geological histories of these islands. Hanne Schönig portrays the trade in, and use of, an animal-derived aromatic, the secretions of the civet cat, emphasizing the impact of an apparently minor cargo on cultural transfer in the Indian Ocean world. The chapters by Mareike Pampus and Karl-Heinz Kohl also illustrate the process whereby transoceanic commodities may become an intrinsic part of local material culture. Investigating the local demand for, and domestic use of, glass beads and beadwork in Penang, Pampus shows how an item of cargo can be transformed into a key material for an emergent local heritage while remaining highly interwoven with external, transoceanic influences. Similarly, by following the passage of elephant tusks as bridewealth within a closed system of asymmetric alliance in East Indonesian Lamaholot culture, Kohl points to the material and immaterial afterlives of a gift of transoceanic origin. Overall, the contributions to this section emphasize how, in and through such different and highly symbolic material objects, a variety of complex connectivities is being forged at different scales.

It is certainly not the aim of this volume to produce a complete overview of all the things that are transported across the Indian Ocean. Nonetheless, by covering a large array of different cargoes, we are able to examine the implications of their various affordances and show how these have shaped Indian Ocean connectivities in particular ways. First, offering insights into cargoes that have so far hardly received any scholarly attention, and in line with Lambourn’s engagement with “Abraham’s luggage,”¹³ we wish to provide “a new place to think about dwellings and identities made in, and negotiated through, movement.”¹⁴ Second, by placing the cargoes and their materiality center stage, we aim to direct attention to their specific properties and characteristics regarding, for example, their transportability, storage requirements, and preservability, as well as their dispensability and (un)controllability, and how these impact the journeys they take. Finally, we wish to demonstrate both the



Map 00.1. Cargoes in motion across the Indian Ocean. Geodata: Made with Natural Earth; Cartography: Irene Johannsen.

mobility and mutability of cargoes. By following them over time and space and identifying their translations in meaning, value, and materiality, we show how they often mean very different things to different people at different times in different places.

Overall, by treating cargoes as providing empirical access to Indian Ocean connectivity, the contributions assembled here draw attention to how not only humans but also material objects on the move play decisive roles in the creation of transoceanic connections, thus bringing to the fore the “binding quality” of nonhuman flows.¹⁵ First, by complementing existing scholarship focusing on human mobility, such as merchants, religious scholars, slaves, and indentured laborers, this volume “dehumanizes” the Indian Ocean by foregrounding the nonhuman. In addition, however, by emphasizing the variety of relationships and entanglements between cargoes and people, it ultimately “rehumanizes” the Indian Ocean by highlighting actors who have so far been rather neglected by scholarship, such as those who help make and prepare particular cargoes, those who care for the safety of live cargoes, and those who, in using

cargoes, turn them into indispensable items for local customs and identities. Their skills in handling particular materialities have played and continue to play a decisive role in shaping the fluid extensions of the Indian Ocean as a maritime region. Accordingly, we are convinced that thinking through the materiality and connectivity of cargoes in motion opens up a new window for acquiring a better understanding of the dynamic and vital nature of the Indian Ocean as a relational space.

NOTES

1. Kirti Narayan Chaudhuri, “The Unity and Disunity of Indian Ocean History from the Rise of Islam to 1750: The Outline of a Theory and Historical Discourse,” *Journal of World History* 4 (1993): 1. Chaudhuri refers directly to Braudel’s approach to the Mediterranean, discussing its transferability to the Indian Ocean.

2. See, for example, Sebouh D. Aslanian, *From the Indian Ocean to the Mediterranean: The Global Trade Networks of Armenian Merchants from New Julfa* (Berkeley: University of California Press, 2011); M. Reda Bhacker, *Trade and Empire in Muscat and Zanzibar* (London: Routledge, 1992); Kirti Narayan Chaudhuri, *Trade and Civilisation in the Indian Ocean: An Economic History from the Rise of Islam to 1750* (Cambridge: Cambridge University Press, 1985); Erik Gilbert, “Coastal East Africa and the Western Indian Ocean: Long-Distance Trade, Empire, Migration, and Regional Unity 1750–1970,” *The History Teacher* 36, no. 1 (November 2002): 7–34; Devleena Ghosh and Stephen Muecke, *Cultures of Trade: Indian Ocean Exchanges* (Cambridge: Cambridge Scholars, 2007); Rudrangshu Mukherjee and Lakshmi Subramanian, eds., *Politics and Trade in the Indian Ocean World: Essays in Honour of Ashin Das Gupta* (New Delhi: Oxford University Press, 1998); Denys Lombard and Jean Aubin, eds., *Asian Merchants and Businessmen in the Indian Ocean and the China Sea* (New Delhi: Oxford University Press, 2000); Uma Das Gupta, compiler, *The World of the Indian Ocean Merchant, 1500–1800: Collected Essays of Ashin Das Gupta* (New Delhi: Oxford University Press, 2001); Roxani Eleni Margariti, *Aden and the Indian Ocean Trade: 150 Years in the Life of a Medieval Arabian Port* (Chapel Hill: University of North Carolina Press, 2007); Kenneth McPherson, *The Indian Ocean: A History of People and the Sea* (New Delhi: Oxford University Press, 1993); John Middleton, *The World of the Swahili: An African Mercantile Civilization* (New Haven, CT: Yale University Press, 1992); Abdul Sheriff, *Dhow Cultures of the Indian Ocean: Cosmopolitanism, Commerce and Islam* (New York: Columbia University Press, 2010); Abdul Sheriff and Engsang Ho, eds., *The Indian Ocean: Oceanic Connections and the Creation*

of *New Societies* (London: Hurst, 2014); Krish Seetah, ed., *Connecting Continents: Archaeology and History in the Indian Ocean World* (Athens: Ohio University Press, 2018); Burkhard Schnepel and Edward A. Alpers, *Connectivity in Motion: Island Hubs in the Indian Ocean World* (Cham, Switzerland: Palgrave Macmillan, 2018).

3. For a pair of recent exceptions, see Pedro Machado, Sarah Fee, and Gwyn Campbell, eds., *Textile Trades, Consumer Cultures and the Material Worlds of the Indian Ocean: An Ocean of Cloth* (New York: Palgrave Macmillan, 2018); and Pedro Machado, Steve Mullins, and Joseph Christensen, eds., *Pearls, People, and Power: Pearling and Indian Ocean Worlds* (Athens: Ohio University Press, 2020).

4. Haidy Geismar, “‘Material Culture Studies’ and Other Ways to Theorize Objects: A Primer to a Regional Debate,” *Comparative Studies in Society and History* 53, no. 1 (2011): 210–18, <https://doi.org/10.1017/S001041751000068X>.

5. Arjun Appadurai, “Introduction: Commodities and the Politics of Value,” in *The Social Life of Things: Commodities in Cultural Perspective*, ed. Arjun Appadurai (Cambridge: Cambridge University Press, 1986), 3–63.

6. Karen Barad, “Posthumanist Performativity: Toward an Understanding of How Matter Comes to Matter,” *Signs: Journal of Women in Culture and Society* 28, no. 3 (Spring 2003): 801–31, <https://doi.org/10.1086/345321>; Jane Bennett, *Vibrant Matter: A Political Ecology of Things* (Durham, NC: Duke University Press, 2010); Donna Haraway, “Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective,” *Feminist Studies* 14, no. 3 (Autumn 1988): 575–99; Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network-Theory* (Oxford: Oxford University Press, 2005); Tim Ingold, “Materials against Materiality,” *Archaeological Dialogues* 14, no. 1 (2007): 1–16, <https://doi.org/10.1017/S1380203807002127>.

7. Michael Pearson, *The Indian Ocean* (London: Routledge, 2003).

8. See e.g., Kristin Asdal, Tone Druglitrø, and Steve Hinchliffe, *Humans, Animals and Biopolitics: The More-than-Human Condition* (New York: Routledge, 2017); Donna J. Haraway, *When Species Meet* (Minneapolis: University of Minnesota Press, 2008); Pru Hobson-West, “Beasts and Boundaries: An Introduction to Animals in Sociology, Science and Society,” *Qualitative Sociology Review* 3, no. 1 (April 2007): 23–41; Margo DeMello, *Animals and Society: An Introduction to Human-Animal Studies* (New York: Columbia University Press, 2012).

9. Claire Dwyer and Peter Jackson, “Commodifying Difference: Selling EASTern Fashion,” *Environment and Planning D: Society and Space* 21 (2003): 270.

10. Martha Chaiklin, Philip Gooding, and Gwyn Campbell, eds., *Animal Trade Histories in the Indian Ocean World* (Cham, Switzerland: Palgrave Macmillan, 2020); Ian Cook, “From ‘follow the thing: papaya’ to followthethings.com,” *Journal of Consumer Ethics* 1, no.1 (2017): 22–29; Philipp Schorch, Martin Saxer, and Marlen Elders, *Exploring Materiality and Connectivity in Anthropology and Beyond* (London: UCL Press, 2020); Sophie Woodward, *Material Methods: Researching and Thinking with Things* (London: Sage, 2020).

11. John Law, *Organizing Modernity: Social Order and Social Theory* (Oxford: Blackwell Publishers, 1994), 102; Yrjö Engeström and Frank Blackler, “On the Life of the Object,” *Organization* 12, no. 3 (2005): 310, <https://doi.org/10.1177/1350508405051268>.

12. T. Benfoughal, “Ces objets qui viennent d’ailleurs,” in *Voyager d’un point de vue nomade*, ed. H. Claudot-Hawad (Paris: Editions Paris-Méditerranée, 2002): 113–35.

13. Elizabeth A. Lambourn, *Abraham’s Luggage: A Social Life of Things in the Medieval Indian Ocean World* (Cambridge: Cambridge University Press, 2018).

14. *Ibid.*, 11.

15. Tim Bunnell, “Post-maritime Transnationalization: Malay Seafarers in Liverpool,” *Global Networks* 7, no. 4 (2007): 412–29; Julia Verne, *Living Translocality: Space, Culture and Economy in Contemporary Swahili Trade* (Stuttgart, Ger.: Franz Steiner Verlag, 2012).

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It should also be mentioned that the conference that led to this volume was attended and enriched by a large number of persons who do not appear as authors in the volume but who still contributed, in various functions and ways, to enriching and deepening our insights into the conference theme: Anne Alpers, Ildiko Beller-Hann, Fay and Timothy Brook, Ulrike Freitag, Jean-Claude Galey, Chris Hann, Michael and Michaela Jansen, Peter Kneitz, Kai Kresse, Anu Krishna, Hermann Kulke, Elizabeth Lambourn, Jasmin Mahazi, Prita Meyer, Muati al

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Burkhard Schnepel and Julia Verne
Halle and Mainz, February 2021

INTRODUCTION

Cargoes in the Indian Ocean World

A Thematic and Methodological Introduction

BURKHARD SCHNEPEL

INTRODUCTION

This book is about “things” that were and are transported across the Indian Ocean.¹ It offers empirically based studies of the ways in which certain material objects (to use an alternative term for “things”) have been instrumental in establishing links and networks across the Indian Ocean world. Placing more emphasis than is usual on the *transport* dimension to which most but not all material objects are subjected, the subject matter of this volume is best captured by the word “cargo.” Methodologically and theoretically, our aim is to explore the materiality of “connectivity in motion” across the Indian Ocean world. This concept—and here the addition of “in motion” to the more fashionable word “connectivity” is vital—indicates a dynamic approach that is less concerned with the analysis of structures, systems, or networks than

with the examination of processes of networking and exchange. Such a perspective looks at the mobility of people, animals, material objects, and immaterial phenomena across and beyond the Indian Ocean world, and seeks to trace the transformations that all these “passengers” have experienced passively or have themselves actively put into effect.

Certainly, the notion of mobility in the emerging field of Mobility Studies covers more than just the migration of people or the transportation of goods. Rather, it looks at movements in an all-encompassing way, taking into account all the things that move or are being moved, both animate and inanimate, and focusing on specific ways of traveling, as well as the various modes and technologies of transport. Now, while emphasizing mobility across the Indian Ocean, it also seems necessary to rein in the overexalted celebrations of “circulation” and “flow” that have entered the humanities during the last couple of decades. In concentrating exclusively or predominantly on these ideas, there is a danger of ignoring those places and times where and when people, things, and ideas do *not* move and are being stopped, and of overlooking where and when encumbrances and stagnation exist instead. *Overemphasizing* mobility, etcetera, may also fail to acknowledge and address the politics and power structures of (im)mobilities. It is therefore also necessary to identify the crucial points in space and time where and when things stop and start to move (again)—where and when connectivity is created or severed though motion.

There are various angles from which this intellectual challenge might be pursued. In preceding conferences and publications we have focused, among other themes, on the history of Mauritius, port cities, island hubs, diseases, and the politics of cultural heritage in a mobile Indian Ocean world.² In this volume, we have chosen to focus on cargoes transported across the sea, arguing that the ever-changing and dynamically shifting web of relations across the Indian Ocean world has been substantially *mediated by* the handling and transportation of material objects.³ To provide empirical studies supporting this claim is one of the main aims of this collection; to develop methodological and theoretical ideas that form the basis of these empirical studies and build on them is another.

The theme of maritime transport, especially of commercial transactions, across the Indian Ocean world has, of course, long played a



Map o.i. The Indian Ocean. Cartography: Jutta Turner © Max Planck Institute for Social Anthropology, Halle/Saale, Germany.

dominant part in Indian Ocean Studies. Equally obviously, these studies also identify and examine the main material objects that have been produced, transported, exchanged, and consumed in the Indian Ocean world.⁴ But how exactly can one approach the study of cargoes and the materiality of connectivity in motion across the Indian Ocean world more deeply? To provide an answer or, better, some answers to this question is the main aim of this introduction. In the following I shall identify a total of twelve possible perspectives in, or approaches to, the study of cargoes and the materiality of connectivity in motion in the Indian Ocean world. The first nine perspectives—the *list perspective*, the *inanimate-animate perspective*, the *raw-manufactured perspective*, the *luxury-necessity perspective*, the *categorical perspective*, the *roots and routes perspective*, the *exchange perspective*, the *one-boat perspective*, and the *transport perspective*—are all dealt with in the second section. The remaining three perspectives, which are more pertinent for the general approach that informs this volume, are dealt with more extensively in separate discussions, before I conclude in a final section.

NINE PERSPECTIVES IN THE STUDY OF CARGOES OF THE INDIAN OCEAN WORLD

If one were to attempt to identify all the cargoes that have crossed the Indian Ocean in the course of its millennia-long history of maritime exchanges, taking all its shores and hinterlands into account, a possible list would include (in alphabetical order): amber, ambergris, areca nuts, arms, bananas, beads, bird's nests, camphor, cardamom, carpets, cattle, ceramics, cinnamon, citrus fruits, cloth, coconuts, coffee, coolies, copper, cotton, cowrie shells, dates, diamonds, drums, ebony, fish, fleas, frankincense, ginger, glass, gold, grain, gum, gunpowder, honey, hookworms, horses, indigo, iron, ivory, jewels, lacquer, letters, liquefied natural gas, limestone, mace, mangrove wood, myrrh, oil, opium, pathogens, pearls, pepper, plants, porcelain, prisoners, prostitutes, rats, rhinoceros horns, rice, saffron, salt, saltpeter, sand, sandalwood, shark fins, shrimp, silk, silver, slaves, soldiers, sugar, tea, teakwood, timber, tortoise shells, tourists, trees, vanilla, water, wine, wives, and ylang-ylang. This incomplete list provides only a glimpse of the rich and varied nature of the material objects, both animate and inanimate, that have been transshipped across the Indian Ocean world, though it certainly contains some of the more prominent ones. Similar enumerations, whether in the form of straightforward lists or embedded in textual arguments, can be found in most books on Indian Ocean exchanges. Some of these publications refer to specific periods, places, or thematic interests only, while others seek to provide a more general overview. All the listings found in these publications add important empirical dimensions to an understanding of the maritime exchanges in the Indian Ocean world down the centuries to the present day.⁵ However, it is hard to avoid the feeling that such lists can never be complete. Perhaps the only insight they can offer, though certainly a significant one, is an awareness of the large number of things that have been circulated. In order to refer to it later, I call this perspective the *list perspective*.⁶

To bring order to this alphabetically arranged but still chaotic multitude of material objects, authors have, of course, developed some broader categorizations, such as the distinction between living and inanimate things. From among the living cargoes, one can produce other lists (drawn from the incomplete list above, but also extending it) such as the following: horses, slaves, fleas, rats, leeches, marriage partners,

monks, prostitutes, plants, tourists, and, at times, even giraffes and elephants. It is immediately obvious that this is still an ill-fitting collection, even when the animate category is subdivided between human and non-human and the latter between flora and fauna. Thus, the *inanimate-animate perspective* hardly provides any additional insights beyond the merely empirical. Without wishing to anticipate our later working definition of *cargo*, it should already be clear at this point that “cargoes” can be both animate and inanimate, and that they include humans.

Another distinguishing criterion has been to classify cargoes into those that are *produced* or *manufactured* on the one hand and *raw* material objects on the other. In the existing literature, this distinction is sometimes coupled with the notion that manufactured goods (such as boats, textiles, or pottery) hail predominantly from the north of the Indian Ocean world (meaning West Asia, South Asia, and East Asia), while raw products (such as ivory, mangrove poles, or spices) predominantly come from its south (East Africa, Southeast Asia, and especially the Malayan archipelago). This observation may have empirical support,⁷ but even the rawest of material objects, such as jute, cloves, oil, or sugar, need some sort of specialized labor, often highly organized, to be produced. Conversely, manufactured goods can, in some cases, be fabricated at home using simple technologies, such as the rather basic handloom in an Indian weaver family’s hut. This sometimes useful, sometimes misleading perspective can be called the *raw-manufactured perspective*.

Yet another way of coming to grips with the multitude of cargoes in the Indian Ocean world is to distinguish between luxuries and necessities (alternatively, for the latter, primary, staple, or bulk goods). Again, this sort of distinction is not without some heuristic value, as it points to social and economic hierarchies, to different evaluations of the things that are consumed, and to emerging, increasing, or changing tastes. However, it must be asked, as it repeatedly has been in the relevant literature so far,⁸ whether this distinction is as straightforward as it might seem at first glance. What is luxury and what is necessity is, more often than not, dependent on the situation at hand, and it changes dynamically depending on the actors involved. It should also be kept in mind that some goods which, at one point in time and in some places, were luxuries may cease to be so in later periods and other places. Thus, this *luxury-necessity perspective*, though not without its insights, needs

to be applied with care and flexibility, its heuristic value being limited and, here too, possibly even misleading.

Those who wish to bring order to the study of cargoes in the Indian Ocean world may manage to find a higher level of abstraction or classification that would subsume some individual cargoes under larger and more meaningful entities or categories, such as spices, textiles, materia medica, musical instruments, or plants. This *categorical perspective*⁹ further helps us to bring order to the chaotic multitude of traveling things, but its heuristic value, both in itself and beyond the empirical, is relatively limited.¹⁰

One could and should also inquire, of course, where cargoes originate and where they go from a *roots and routes perspective*. One would then have a list like the following (to give only a few random examples from across the centuries and between different areas): horses from West Asia to India; Adidas shoes from Shanghai to Hamburg; sugar from Mauritius to Britain; dates and honey from the Gulf going as far as China; textiles from Gujarat in all directions; camels from India to Australia, porcelain and silk from China being transported to Amsterdam; spices from the Moluccas traveling both east and west; the plague spreading from Bengal all over the macroregion by land and sea; pearls and incense from southern Arabia going east by sea and west on camels; rice from Java to the Moluccas; slaves from East Africa to the Tigris-Euphrates marshes or to Mauritius; pepper from Malabar or north Sumatra to Alexandria, Lisbon, or Canton; etc.¹¹ This angle on cargoes will invariably also determine whether the movements involved are long or short, repeated or single. Here, the relevant literature has identified different levels of trade and movement: local and along the coast, for example, down the East African Swahili coast or from Egypt down the Red Sea; transregional or sectoral, as within the archipelagic Malayan world or connecting the littoral communities of the Bay of Bengal; or even long-distance transcontinental movements that link diverse regions like the Red Sea and the Malabar coast or the Persian Gulf with Guangzhou. The roots and routes perspective offers valuable insights into the socioeconomic and sometimes also the political and religious situations into both the producing and the consuming sides of exchange. It throws light on the contexts of production, as it does on the demands, tastes, preferences, and, last but not least, financial capacities in the sites of consumption. It also offers insights into the temporality of exchange, that is,

into the questions of if, when, and how much of a certain type of cargo went on its way and/or arrived, with factors depending not only on the seasonal winds but also on the seasonal availability of a given item.¹²

The roots and routes perspective can be readily extended into and refined by what one can call the *exchange perspective*, which examines what these articles, after their long journeys and at their final or intermediate destinations, are exchanged for. Consider the following examples: Roman gold for Tamil pearls and Malabar pepper; Indian textiles for African slaves or Chinese porcelain; Persian raw silk for Malabar pepper; Chinese stoneware for Indonesian delicacies; and almost everything from the East for silver from Europe, Japan, and the Americas. To continue this enumeration at a more abstract level, one finds the following exchanges: commodities for money; gifts for royal favors or as tribute; daughters as wives for good business; tax payments and customs for safe and efficient harbors. In general, then, these exchanges are not just commercial in nature, but they include gifts, services, and other transactions which may have diplomatic, political, religious, social, or cultural dimensions as well. Sometimes these exchanges are bilateral and take place directly; sometimes they move around larger orbits involving the circulation of more than two objects in indirect forms of exchange and even more complex, interlocked exchanges.¹³ This exchange perspective almost automatically also poses the question of what were and are the more standardized and widely accepted means of commercial and financial transactions. How did some material objects acquire the capacity to function as money and capital? Here one finds, of course, silver, copper, or gold in the form of ingots or coins, but at times also objects such as salt, silk, cloth, carpets, or cowrie shells.¹⁴ The exchange perspective sooner or later links up with the study of those agents and places through and at which exchanges are interacted: bankers, merchants, trade companies, and port cities.

One further way of approaching the complex issue of cargoes in the Indian Ocean world is to examine how different cargoes are assembled in one boat. This includes the container and bulk-load vessels of today, which are comparatively monofreighted. They carry standardized containers¹⁵ or have special holds in which to carry oil, sand, limestone, cement, or liquified natural gas. Historically, in the age of sail, one can also find such single-cargo boats that carried, for example, only slaves, timber, or foodstuffs. But, more often than not, existing documents and archaeological findings reveal a strategy of enterprising ship owners and

merchants diversifying the types of cargo with which their boats were loaded. Furthermore, these mixtures brought together different categories of cargo: some of these were high-value goods while others were cheap; some were manufactured, others raw; some were alive, others inanimate. The various arrangements also had to acknowledge the fact that ships needed ballast to stabilize them. Among the various ballast goods we find hewn stones, heavy metals, cowrie shells, water jars, and baskets; earthenware, salt bars, and even porcelain of inferior quality also acted as ballast.¹⁶ This *one-boat perspective* makes possible an understanding of a number of related issues, especially if one also follows one boat using the roots and routes perspective and relates it in comparative ways to the list and exchange perspectives. Who are the entrepreneurs? What kinds of ownership are in force? In what relative quantities did the cargoes start their journeys and in what quantities were they received? Why and how are different cargoes often brought into larger and mixed conglomerates before they start on their journeys? And consequently, what profits can be realized just by buying here and selling there?

The one-boat perspective readily provides more concrete insights into the means and modes of transportation, such as boatbuilding and navigational techniques, as well as the question of who “mans” a ship and spends their life on board.¹⁷ This, which could be called the *transport perspective*, makes possible important insights in Indian Ocean Studies, especially for those wishing to contribute to the emerging field of Mobility Studies.¹⁸

THE PERSPECTIVE OF PUTTING CARGOES FIRST

In order to tackle the problematic of the materiality of connectivity in motion across the Indian Ocean, it is suggested that the term “cargo” be used. Cargoes, to pinpoint their most salient characteristics, are loaded onto a means of transportation (or otherwise enter or cling to a vessel) and then transported. This transport and travel characteristic quite naturally comes to the fore given the importance of maritime mobility for an understanding of the Indian Ocean world as a whole, and the term “cargo,” therefore, better captures what is at issue here than the words “thing” or “material object.” In sum, cargoes are things or material objects that are moved. We also prefer the term “cargo” to the once immensely popular word “commodity.” To be sure, commodities (and

“goods”) often travel too, but sometimes they do not and are sold on the spot. In any case, the mere fact that they are *transported* is not the chief characteristic of commodities, as it is for “cargoes.” Furthermore, using the term “cargo” also makes it feasible to include noncommercial stuff, such as gifts or personal belongings, in the perspective. One is also free to include in one’s investigations not only those passengers that have no commercial value (at least not directly), but also those that participate in journeys without being detected, such as unwanted fleas in a passenger’s luggage, contraband goods in the duffel bags of ordinary sailors and soldiers, mussels clinging to a ship’s planks or crabs in its ballast waters, and even human stowaways in the darkness of a storeroom.

Furthermore, while we include both commercial and noncommercial cargoes, we wish to concentrate only on the material things (animate and inanimate) that are transported and that sometimes even transport themselves, not on all the *immaterial* things that certainly also travel. This self-inflicted restriction does not mean that we wish to ignore the significance of, for example, dances, musical styles, technologies, rituals, art forms, tastes, languages, architectural styles, kinship systems, intangible heritage, services, craftsmanship, credit, debts, news, political systems, or other immaterial cargoes. Undoubtedly, these were and are important parts of maritime exchanges in the Indian Ocean world, and indeed it is precisely these kinds of immaterialities which are the most intriguing exchanges to investigate. In fact, they form the main concern of all the contributions collected here. However, in this volume we do not wish to study sociocultural, religious, political, or technological exchanges and circulations throughout the Indian Ocean world *directly*. Instead, we focus on the materiality that gives substance to and (in)forms these immaterialities and their circulation. We are convinced that many innovative insights into these immaterial dimensions can be acquired, not in spite of concentrating on the materiality of connectivity in motion across the Indian Ocean, but exactly because we do so. We wish to contribute to the study of the “mental framework”¹⁹ of the Indian Ocean world, but we wish to do so by giving empirical and analytical preeminence to its “material framework,” that is, by foregrounding things on the move.

Putting things or material objects of the cargo type first, as proposed here, offers an often neglected though extremely insightful degree of access to an understanding of what Hodder calls the “human-thing entanglement.” This relationship is qualified by Hodder as tripartite in

nature: 1) humans depend on things, 2) things depend on other things, and 3) things depend on humans.²⁰ The resulting “entanglement” is certainly complex and also determined by the fact that there is a temporal dimension leading to changes in, and disappearances of, things, as well as to historically varying forms of human-thing entanglements, sometimes manifesting themselves as “entrapments” in which people become domesticated by things.²¹ In the context of the studies collected here, one needs to add that there is also an important spatial dimension determining the forms of human-thing entanglements and changes. This is why we wish to study cargoes, that is, transported (and thereby transformed) things, which link not only distant events and processes but also distant places.

In order to qualify further the problematic of human-thing entanglements in such a “putting cargoes first” perspective and the overriding issue of the materiality of connectivity in motion, it is helpful to remind ourselves of two interrelated schools of thought. One is the “social life of things” approach set out and exemplified by Appadurai and his fellow contributors three-and-a-half decades ago.²² The other is the Actor Network Theory (ANT), which, among its many and often explicitly pronounced tenets, emphasizes the materiality of social life. While these two approaches seem to turn each other upside down—one stressing the social life of material objects, the other the materiality of social life—they are, of course, very much in congruence with each other insofar as an understanding of the strong entanglements and interdependencies between the sociocultural and material worlds are concerned. They look at the same issue from two complementary sides, but both stress that things are alive or enlivened.

THE PERSPECTIVE OF “LIVING THINGS/THINGLY LIVES”

In his “Introduction” to *The Social Life of Things*, Appadurai (1986) focuses on commodities—the volume is significantly subtitled *Commodities in Cultural Perspective*—and not really on “things.” In Appadurai’s view, commodities (including services) are things made for, and used in, commercial exchanges. Furthermore, while analyses of the *social* life and *economic* value of things, as well as a *cultural* perspective, appear to be prominent in this approach, Appadurai ultimately invokes a Foucauldian concept of politics, proposing “to discuss the strategies . . . that make the creation of value a politically mediated process” and “to show that

consumption is subject to social control and political redefinition.”²³ Elsewhere he stresses that “the politics of value is in many contexts a politics of knowledge,” and he regards “politics as the mediating level between exchange and value.”²⁴ In sum, Appadurai wants to study the “political economy” of the social life of things.

In this vein, Appadurai also urges us to see commodities as more than just inanimate things that are “inert and mute.”²⁵ Instead, one should view them as somehow being alive, having a life of their own and being imbued with “social potentiality.”²⁶ What is required, therefore, as a correction to “the view that things have no meanings apart from those that human transactions, attributions, and motivations endow them with” is a kind of “methodological fetishism” that promotes “a semiotically oriented interest in material culture.”²⁷ Here, Appadurai explicitly acknowledges his indebtedness to Marx’s analysis of the commodity, including the latter’s key concepts of use value, exchange value, and, last but not least, capital and capitalism. However, he also suggests transcending and altering the Marxist view in two key respects. First, he wishes to see commodities not just as things that are manufactured under “the capitalist mode of production,” but as appearing throughout human history. Secondly, he argues that the value of a commodity is not produced through labor in the realm of production, but only comes into existence in and through exchange: “Let us start with the idea that a commodity is anything intended for exchange.”²⁸ And further, “it is exchange that is the source of value.”²⁹

Hence, when using the concept of *cargo* instead of *commodity*, we deviate from Appadurai in some respects that are implicitly carried along with these concepts. Cargoes, to repeat the most basic criterion, are transported, while commodities are not (or, not characteristically and necessarily so), even when they follow “paths and diversions,” as Appadurai elaborates at length.³⁰ Cargoes can also have noncommercial value, while commodities, in the conventional view, are, by definition, things produced and intended for commercial exchange. Certainly, a noncommercial dimension is clearly entailed in Appadurai’s notion of commodity as well when he warns us against distinguishing too strictly between barter, gift exchange, and commodity exchange.³¹ What is important to him is whether things “at a certain *phase* in their careers and in a particular *context*, meet the requirement of commodity candidacy”;³² that is, whether they have “commodity potential” and possess “exchangeability for some

other thing,”³³ at one point—at least—in their social lives. So, the difference between the concept of *cargo*, as suggested here, and Appadurai’s “commodity” lies in the fact that, although we are often dealing with commodities in the (wider) Appaduraian sense (including gifts, etc.), we also wish to include material objects that never enter a “commodity phase.” They may not even have “commodity potential,” like rats or pathogens, or they might never be intended for exchange, such as memorabilia, crown jewels, *sacra*, or cherished personal belongings, which are intended to stay put and be kept, sometimes so as to facilitate other things to circulate.³⁴ By using the term “cargo,” we also wish to go beyond the Appaduraian point of view that tends to see value as a predominantly (politico)economic thing made for and realized through commercial exchange. With cargoes, this does not necessarily have to be the case.³⁵ This also means that, while respecting Appadurai’s stress on exchange at the expense of production, we no longer consider it necessary to heedlessly give away the heuristic potential of also paying close attention to the dimensions of production and consumption in the life cycle of an object.

This is the point where material objects as envisaged in Actor Network Theory enter the picture.³⁶ ANT urges its adherents to take “objects” more seriously and to focus more strongly on the “material stuff” that mediates or even constitutes the ever-changing, endlessly contested, and always precarious relations between heterogeneous elements. The slogan is: “Objects too have agency.”³⁷ Latour expands on this as follows:

In addition to “determining” and serving as a “backdrop to human action” things might authorize, allow, afford, encourage, permit, suggest, influence, block, render possible, forbid, and so on. ANT is not the empty claim that objects do things “instead” of human actors: it simply says no science of the social can even begin if the question of who and what participates in the action is not first of all thoroughly explored, even though it might mean letting elements in which, for lack of a better term, we could call *non-humans*.³⁸

ANT’s acknowledgement of the importance of objects in human-things entanglements clearly resonates with some of the intellectual motives that lie behind this volume. However, this emphasis on agency,

whether human, individual, or nonhuman, needs to be supplemented with, and rebalanced by, an awareness and analytical inclusion of the “patency” of things (again, human as well as nonhuman). In other words, it is necessary to complement the worn-out agency-versus-structure debates by identifying not only the agents but also the “patients” of actions. One needs to acknowledge the nonagentive victims and passive subalterns, those that do not or cannot act but are acted upon. It is *actio* in its dialectic relationship to *passio* that is at stake.³⁹

Finally, in this line of thought, more often than not the “material stuff” only appears in the rather ephemeral forms of “materiality,” “material agency,” or “material semiotics.”⁴⁰ This lack of interest in the material properties of material objects has been noted and criticized, especially by Ingold, who asks himself why it is “that the ever-growing literature in anthropology and archaeology that deals explicitly with the subjects of *materiality* and *material culture* seems to have hardly anything to say about *materials*.”⁴¹ Books written in this tradition, Ingold holds, are not engaged “with the tangible stuff of craftsmen and manufacturers but with the abstract ruminations of philosophers and theorists.”⁴² Ingold then warns against the “slippage from materials to materiality”⁴³ and makes a plea that one looks more closely at “what makes things ‘thingly.’”⁴⁴ As a result, he adopts a view according to which things have inherent properties, qualities, and affordances whereby these “things are in life rather [than] that life is in things.”⁴⁵

THE BIOGRAPHICAL PERSPECTIVE

In this section I want to address one final perspective, which can be labeled the *biographical perspective*. This perspective has to be distinguished from a social-historical perspective. There already exist numerous excellent investigations into the histories of certain material objects. Most prominently, there is Mintz’s (1985) study of sugar.⁴⁶ This now-classic study sets the tone because, as the title immediately makes clear, what is at stake is not the cane alone, but also “sweetness and power,” or, if you will, the historical combinations of politics and taste associated with, and mobilized through, sugar.⁴⁷ Another striking example of how cargoes do not just have utility and economic value is textiles, no matter in which of their manifold guises they appear. While no one would deny their pragmatic usefulness in covering and protecting the body, the

questions of what you wear and of how and when you wear it have a lot to say about who you are, what status you have, what taste is currently dominant, and how people identify and present themselves socially, religiously, ethnically, culturally, or politically to both others and themselves.⁴⁸ All these and other social or cultural histories of material objects⁴⁹ show the embeddedness of “things” within social, cultural, political, economic, or religious domains, highlighting human-thing entanglements as well as the historical changes these entanglements undergo.

Consulting these and other studies, one soon encounters questions regarding the different meanings, functions, and values of things in different historical periods and in their historical transformations. However, there is yet another temporal dimension to be observed: material objects have their own biographies or life histories, which in themselves are characterized by significant translations in meaning, function, status, and value. In this context, it is useful to look at Kopytoff’s remarks concerning “the biographical approach.”⁵⁰ After distinguishing between an “actual biography” and a (culturally and socially predetermined) “typical biographical model,” he argues that “a more theoretically aware biographical model . . . presents the range of biographical possibilities that the society in question offers and examines the manner in which these possibilities are realized in the life stories of various categories of people.”⁵¹ What is most relevant for us here is Kopytoff’s claim that “we can probably ask the same range and kinds of cultural questions to arrive at biographies of things.”⁵² He elaborates on this as follows:

In doing the biography of a thing, one could ask questions similar to those asked about people: What, sociologically, are the biographical possibilities inherent in its “status” and in the period and culture, and how are the possibilities realized? Where does the thing come from and who made it? What has been its career so far, and what do people consider to be an ideal career for such things? What are the recognized “ages” or periods in the thing’s life, and what are the cultural markers for them? How does the thing’s use change with its age, and what happens to it when it reaches the end of its usefulness?⁵³

Such biographies of things may well be guided by the conventional triad of production, distribution (exchange), and consumption—three

dimensions (and successive steps), each with their own significance. However, the real heuristic value of this life history perspective is only realized if and when the whole trajectory is followed. In order to identify these itineraries, one may “follow the thing,” a plea which, not surprisingly, was first made by Appadurai when he argued that “. . . we have to follow the things themselves . . . It is only through the analyses of these trajectories that we can interpret the human transactions and calculations that enliven things.”⁵⁴ These travel histories need to be studied with all their sequential dynamics, from the very beginning to the end, and taking all stages equally into account. It is therefore important to break away from both the view that favors production (as in Marx) and the view that focuses chiefly on exchange (as in Appadurai). Furthermore, the tripartite but integrated phenomenon of production-distribution-consumption clearly has more than just an economic dimension: it has social, cultural, aesthetical, political, and religious dimensions as well.

CONCLUDING REMARKS

In line with my discussion of the last three perspectives, it will be remembered that the cargoes under consideration here are not necessarily or even primarily characterized by their being commodities or having commercial value. Consequently, their life histories do not, at least not in all instances, lead them in and out of a commodity phase, as Appadurai and Kopytoff suggest. Some of them do not even have commodity potential; they cannot and will not be commoditized. If, therefore, we seek to trace the varying affordances, functions, meanings, statuses, biographies, and trajectories of a given thing, we become more concerned with the ways in which, throughout their life histories, material objects connect with other things, especially how they function in human-thing entanglements. Finally, it should be remembered that the material objects under consideration here do not just move in time but also from place to place along often well-established terrestrial and maritime routes. They are material objects of the cargo type. Hence, their life histories are also travel histories, and quite saliently so; their trajectories are not only temporal but also spatial.

Putting an emphasis on things as cargoes instead of as commodities, therefore, is a matter of redirecting the usual focus in Indian Ocean Studies thus far. While this sharpens our understanding of the

transformations and translations that a material object undergoes during its transport history, a focus on cargoes also sensitizes one to the fact that the life histories of cargoes entail significant phases before and after their travel histories. These pre- and post-travel histories in the biography of a cargo are important because they point to the potentialities and limitations that cargoes have.

As far as pretravel histories are concerned, closer empirical investigations reveal vital aspects relative to the mode of production and the power structures that operate within it. These all become integral parts of the life of a cargo, not only its commercial valorizations and transformations. Furthermore, one will also find things that actors quite intentionally and seriously mean to stay put and not to circulate. As pointed out above, in their pretravel histories, many of these things have cargo potential (and indeed eventually become cargoes), but some of them are items like “family silver” and have a “not-to-be-sold-or-given-away” mode of existence.

At the other end of the journey, the termination of a cargo’s travel history is not necessarily the end of its life history. Circulation does not necessarily end in consumption, terminal or otherwise. Some material objects enter a new phase of life after their journeys, which may entail another journey and hence life as a cargo in another commercial or non-commercial circuit with new meanings, values, and functions. For other things, however, this new life is a (re)singularized and immobilized one. This, for example, is the case with the pieces of Chinese porcelain that are conspicuously fixed to and embedded in Swahili stone houses, while, significantly, other pieces of ceramic are kept to be sold and exchanged by the East African merchants. Similarly, elephant tusks are transported from East Africa to the small Indonesian island of Flores, whose inhabitants henceforth display them ceremoniously in special huts. However, interestingly enough, some of these tusks start to circulate again when they are exchanged between village communities in exchange for wives. Some trade commodities that have come a long way, even crossing continents, may become salient parts of local heritage and “inalienable possessions,”⁵⁵ such as when European glass beads are made into ornamental shoes by Nyonya women displaying their skills, patience, and marriageability.⁵⁶

These final examples indicate that all the perspectives addressed here so far only have heuristic value when they are related to well-defined

temporal and spatial contexts—that is, when they are embedded empirically in their specific cultural and historical milieus. Only then can one attempt to compare and connect the different periods and regions of the Indian Ocean world, let alone arrive at some more general analytical conclusions concerning connectivity in motion across that ocean. Given these aims, all the various perspectives and approaches mentioned so far are no doubt necessary and insightful, especially when they are combined with, and inform, one another. They therefore constitute the inevitable background against which the papers collected here tackle and study the problem of the materiality of connectivity in motion across the Indian Ocean.

NOTES

1. In accordance with Ian Hodder, I am using the word “thing” very generally “to refer to human-made objects, but . . . just as well to naturally occurring objects, animals, plants, and humans . . . in which humans have an interest.” “Human-Thing Entanglement: Towards an Integrated Archaeological Perspective,” *Journal of the Royal Anthropological Institute* 17, no. 1 (March 2011): 154–77. For a “theory of things,” see also Bill Brown, “Thing Theory,” *Critical Inquiry* 28, no. 1 (Autumn 2001): 1–22.

2. The two most recent publications are *Connectivity in Motion: Island Hubs in the Indian Ocean World*, edited by Burkhard Schnepel and Edward A. Alpers (New York: Palgrave, 2018); and *Travelling Pasts: The Politics of Cultural Heritage in the Indian Ocean World*, edited by Burkhard Schnepel and Tansen Sen (Leiden, Neth.: Brill, 2019).

3. It will be argued that this “human-thing entanglement” is complex and reveals dependencies in many directions. So, the expression “mediated by” has various alternatives, such as “dependent on,” “manifested in,” “enacted through,” “created by,” etc.

4. Among the more specialized studies of cargoes in the Indian Ocean world, see Kirti Narayan Chaudhuri, *Trade and Civilisation in the Indian Ocean: An Economic History from the Rise of Islam to 1750* (Cambridge: Cambridge University Press, 1985), especially chapters 8, 9 and 10; Michael N. Pearson, ed., *Trade, Circulation, and Flow in the Indian Ocean World* (Basingstoke, UK: Palgrave Macmillan, 2015); Om Prakash, *The Dutch East India Company and the Economy of Bengal, 1630–1720* (Princeton, NJ: Princeton University Press, 1985); Om Prakash, *Precious Metals and Commerce: The Dutch East India Company in the Indian Ocean Trade* (Aldershot, UK: Variorum, 1994); Om Prakash, *Asia and the Pre-modern World Economy* (Leiden, Neth.: International Institute for Asian Studies, 1995); Om

Prakash, *European Commercial Enterprise in Pre-colonial India* (Cambridge: Cambridge University Press, 1998); Om Prakash and Denys Lombard, eds., *Commerce and Culture in the Bay of Bengal, 1500–1800* (New Delhi: Manohar, 1999); Roderich Ptak, *China's Seaborne Trade with South and Southeast Asia 1200–1750* (Aldershot, UK: Ashgate, 1999); Niels Steensgard, *The Asian Trade Revolution in the Seventeenth Century: The East India Companies and the Decline of the Caravan Trade* (Chicago: University of Chicago Press, 1974); Sanjay Subrahmanyam, *The Political Economy of Commerce: Southern India 1500–1650* (Cambridge: Cambridge University Press, 1990).

5. For a few examples, see Edward A. Alpers, *The Indian Ocean in World History* (Oxford: Oxford University Press, 2014), 22–39, the early period; John Middleton, *The World of the Swahili: An African Mercantile Civilization* (New Haven, CT: Yale University, 1992), 15–20, Swahili coast; Jürgen G. Nagel, *Abenteuer Fernhandel. Die Ostindienkompanie* (Darmstadt, Ger.: Wissenschaftliche Buchgesellschaft, 2007), 14–20, 82–90, Southeast and East Asia during the time of East India Companies; Michael N. Pearson, *The Indian Ocean* (London: Routledge, 2003), 8–9, 80–86, 164–69, more generally; Michael N. Pearson, *Port Cities and Intruders: The Swahili Coast, India, and Portugal in the Early Modern Era* (Baltimore: Johns Hopkins University Press, 1998), 47–51, on East Africa under the Portuguese; and Anthony Reid, *Southeast Asia in the Age of Commerce, 1450–1680, vol. 2, Expansion and Crisis* (New Haven, CT: Yale University Press, 1993), 1–61, on Southeast Asia in the Age of Commerce.

6. For the great insights which a study of lists may bring forth, see especially Elizabeth A. Lambourn, *Abraham's Luggage: A Social Life of Things in the Medieval Indian Ocean World* (Cambridge: Cambridge University Press, 2018).

7. See Pearson, *Indian Ocean*, 162.

8. See Kenneth McPherson, *The Indian Ocean: A History of People and the Sea* (New Delhi: Oxford University Press, 1993), 78–2; and Pearson, *Indian Ocean*, 55–56, 87–89.

9. See, for example, Roderich Ptak, *Die maritime Seidenstraße. Küstenräume, Seefahrt und Handel in vorkolonialer Zeit* (München, Ger.: Beck, 2007), 315–25.

10. That categorizations can change historically is well exemplified by sugar, which in medieval Europe was classified (and used in dishes) as spice.

11. For more detailed schemas, see Chaudhuri, *Trade and Civilisation in the Indian Ocean: An Economic History from the Rise of Islam to 1750, 186–87*; Pearson, *Port Cities and Intruder*, 101–28.

12. For example, the harvesting and packaging of dates in the Gulf had to be finely coordinated with the monsoon-dependent sailing times of outgoing ships. See Chaudhuri, *Trade and Civilisation in the Indian Ocean*,

184. One must not forget that, from the seventeenth century onward, if not earlier, plants and fruits from the Americas also entered the Indian Ocean world with some impact, as Grove especially points out in numerous places in his excellent study: Richard H. Grove, *Green Imperialism: Global Expansion, Tropical Island Edens and the Origins of Environmentalism, 1600–1860* (Cambridge: Cambridge University Press, 1995).

13. See, among others, Pearson, *Indian Ocean*, 127–31; and Reid, *Southeast Asia in the Age of Commerce, 1450–1680, vol. 2: Expansion and Crisis*, 22–24.

14. On this issue, see Chaudhuri, *Trade and Civilisation in the Indian Ocean*, chap 10.

15. On the “revolution” introduced by containers, a topic in its own right, see Marc Levinson, *The Box: How the Shipping Container made the World Smaller and the World Economy Bigger* (Princeton, NJ: Princeton University Press, 2006).

16. For a vivid illustration of the mixing of cargoes in one boat, a visit to the *Musée de la Compagnie des Indes* in Lorient, France, can be recommended for its large-scale replica of an eighteenth-century French merchant vessel. Numerous archaeological findings of shipwrecks also permit reconstructions of the variety and mixing of loads, above all from the famous Belitung wreck. For other one-boat lists see also Chaudhuri, *Trade and Civilisation in the Indian Ocean*, 192–94; Harold J. Cook, *Matters of Exchange: Commerce, Medicine, and Science in the Dutch Golden Age* (New Haven, CT: Yale University Press, 2007), 65–66, 122; Timothy Brook, *Vermeers Hut. Das 17. Jahrhundert und der Beginn der globalen Welt* (Berlin: Edition Thiamat, 2009), 69, 73.

17. See, for example, Ravi Ahuja, “Mobility and Containment: The Voyages of South Asian Seamen, c. 1900–1960,” *International Review of Social History* 51, supplement 14 (2006): 111–41; and Nigel Worden, “‘Below the Line the Devil Reigns’: Death and Dissent aboard a VOC Vessel,” *South African Historical Journal* 61, no. 4 (2009): 702–30.

18. Here one should especially mention those studies which, in recent years, have been guided by the concept of translocality. See Ulrike Freitag and von Armin von Oppen, eds., *Translocality: The Study of Globalising Processes from a Southern Perspective* (Leiden, Neth.: Brill, 2010); and Julia Verne, *Living Translocality: Space, Culture and Economy in Contemporary Swahili Trade* (Stuttgart, Ger.: Franz Steiner Verlag, 2012).

19. Pearson, *Indian Ocean*, 5.

20. Hodder, “Human-thing Entanglement,” 154–77.

21. Hodder, “Human-thing Entanglement,” 164–74. See also Nicole Boivin, *Material Cultures, Material Minds* (Cambridge: Cambridge University Press, 2008).

22. Arjun Appadurai, "Introduction: Commodities and the Politics of Value," in *The Social Life of Things: Commodities in Cultural Perspective*, ed. Arjun Appadurai (Cambridge: Cambridge University Press, 1986), 3–63; Arjun Appadurai, ed., *The Social Life of Things: Commodities in Cultural Perspective* (Cambridge: Cambridge University Press, 1986).

23. Appadurai, "Introduction: Commodities and the Politics of Value," 6.

24. Ibid.

25. Ibid., 4.

26. Ibid.

27. Ibid., 5.

28. Ibid., 9.

29. Ibid., 4.

30. Ibid., 16–29.

31. Cf. especially *ibid.*, 11–13.

32. Ibid., 16, author's emphases.

33. Ibid., 13.

34. On this point, see Kopytoff (1986: 73–77), who speaks of the "singularization" of objects as a means to resist commoditization; Igor Kopytoff, "The Cultural Biography of Things: Commoditization as Process," in *The Social Life of Things: Commodities in Cultural Perspective*, ed. Arjun Appadurai (Cambridge: Cambridge University Press, 1986), 73–77; also Maurice Godelier, *L'enigme du don* (Paris: Libraire Arthème Fayard, 1996). Admittedly, even though these things are not meant for circulation and exchange, they can nevertheless become prone to transportation, translation, and exchange, as when they are stolen or when their proprietors move or branch out.

35. In order to underline this different emphasis, the term *circulation* may be preferable to that of *exchange*. However, we hesitate to overemphasize this point. Exchange is a very useful concept in many ways, as long as one is ready to challenge a purely politico-economic view of what it signifies. The term *circulation*, so popular these days, has its pitfalls too, suggesting a complete circle of a given object's movement, which, however, is seldom the case. The routes of some, if not most, cargoes are quite straightforward and terminal. Furthermore, the term *circulation* too easily assumes "flows." Arguing "against flows" in agreement with authors like Salazar (Noel Salazar, *Envisioning Eden: Mobilizing Imaginaries in Tourism and Beyond* [Oxford, UK: Berghahn Books, 2010]) or Ferguson (James Ferguson, *Global Shadows: Africa in the Neoliberal World Order* [Durham, NC: Duke University Press, 2006]), it is suggested that many movements ought to be considered as hopping or leapfrogging (in time and space) rather than as flowing. See Burkhard Schnepel, "Introduction," in *Connectivity in*

Motion: Island Hubs in the Indian Ocean World, Burkhard Schnepel and Edward A. Alpers, eds. (Cham, Switzerland: Palgrave Macmillan, 2018), 24–26.

36. A convenient collection of seminal texts from ANT is Andréa Belliger and David J. Krieger, eds., *ANThology. Ein einführendes Handbuch zur Akteur-Netzwerk-Theorie* (Bielefeld, Ger.: transcript Verlag, 2006). For those who do not read German, John Law and John Hassard, eds., *Actor Network Theory and After* (Oxford: Blackwell Publishers, 1999); and John Law, “Actor Network Theory and Material Semiotics,” in *New Blackwell Companion to Social Theory*, ed. Bryan S. Turner (Oxford: Blackwell, 2009), 141–58, may be consulted instead.

37. Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network-Theory* (Oxford: Oxford University Press, 2005), 63–86.

38. *Ibid.*, 72, author’s emphasis.

39. The great heuristic value of the concept of *passiones* has been known to social anthropology since Godfrey Lienhardt’s path-breaking *Divinity and Experience* (Oxford: Clarendon Press, 1961), especially chapter 4. It was made use of, and extended by, among others, Alfred Gell, *Art and Agency: An Anthropological Theory* (Oxford: Oxford University Press, 1998); Fritz Kramer, *Der rote Fes. Über Besessenheit und Kunst in Afrika* (Frankfurt, Ger.: Syndikat Verlag, 1987); and Burkhard Schnepel, “Zur Dialektik von *agency* und *patiency*,” in *Handlung und Leidenschaft. Jenseits von actio und passio*, ed. Klaus-Peter Köpping, Burkhard Schnepel, and Christoph Wulf (Berlin: Paragrana, 2009), 15–22.

40. See, for example, Law, “Actor Network Theory and Material Semiotics.” Latour’s “objects,” cited later in the study, become rather philosophical “matters of concern,” Latour, *Reassembling the Social*, 70.

41. Tim Ingold, “Materials against Materiality,” *Archaeological Dialogues* 14 (2007): 1–16, author’s emphasis. See also Tim Ingold, “Writing Texts, Reading Materials: Materials-based Analysis in Theory and Practice,” *Archaeometry* 46 (2007): 327–38.

42. Ingold, “Materials against Materiality,” 2.

43. *Ibid.*, 7.

44. *Ibid.*, 9.

45. *Ibid.*, 12.

46. Sidney W. Mintz, *Sweetness and Power: The Place of Sugar in Modern History* (New York: Penguin, 1985).

47. On taste, see also Cook, *Matters of Exchange*, 13–17.

48. See especially Pedro Machado, Sarah Fee, and Gwyn Campbell, eds., *Textile Trades, Consumer Cultures, and the Material Worlds of the Indian Ocean: An Ocean of Cloth* (New York: Palgrave Macmillan, 2018); Edward A. Alpers, “Indian Textiles at Mozambique Island in

the Mid-Eighteenth Century,” *Textile History* 48 (2017): 31–48; and Ruth Barnes, *Textiles in Indian Ocean Societies* (London: Routledge, 2012).

49. See Charles Ralph Boxer, *The Dutch Seaborne Empire, 1600–1800* (London: Penguin Books, 1965), 195–97; Brook, *Vermeers Hut*, 63–94; and Robert Finlay, “The Pilgrim Art: The Culture of Porcelain in World History,” *Journal of World History* 9, no. 2 (Fall 1998): 141–87 on porcelain; Brook, *Vermeers Hut*, 129–64 on tobacco; Reid, *Southeast Asia in the Age of Commerce*, vol. 2, 93–107, and Brook, *Vermeers Hut*, 165–98 on silver; Charles Corn, *The Scents of Eden: A History of the Spice Trade* (London: Kodansha International, 1999); Madeleine Ly-Tio-Fane, *Mauritius and the Spice Trade: The Odyssey of Pierre Poivre* (Paris, 1970); Michael N. Pearson, ed., *Spices in the Indian Ocean World* (London: Ashgate, 1996); John Keay, *The Spice Route: A History* (London: John Murray, 2005); and Jack Turner, *Spice: The History of a Temptation* (New York: Knopf, 2004) on spices; Lucy Inglis, *Milk of Paradise: A History of Opium* (London: Macmillan, 2018) on opium; Markman Ellis, Richard Coulton, and Matthew Mauger, *Empire of Tea: The Asian Leaf that Conquered the World* (London: Reaktion Books, 2018) on tea; Anna Winterbottom and Facil Tesfaye, eds., *Histories of Medicine and Healing in the Indian Ocean World*, vol. 1, *The Medieval and Early Modern Period* (London: Palgrave Macmillan, 2015); Anna Winterbottom, and Facil Fesfaye, eds., *Histories of Medicine and Healing in the Indian Ocean World*, vol. 2, *The Modern Period* (London: Palgrave Macmillan, 2015) on materia medica; Cook, *Matters of Exchange*, 304–38; and Tom Hoogervorst, “If Only Plants Could Talk . . . : Reconstructing Pre-Modern Biological Translocations in the Indian Ocean,” in *The Sea, Identity and History: From the Bay of Bengal to the South China Sea*, ed. Satish Chandra and Himanshu Prabha Ray (New Delhi: Manohar, 2013), 67–92 on plants; James Heimann, “Small Change and Ballast: Cowry Trade and Usage as an Example of Indian Ocean Economic History,” *South Asia* 3, no. 1 (1980): 48–69; as well as Hans Ulrich Vogel and Sabine Hieronymus, “Cowry Trade and its Role in the Economy of Yünnan: From the Ninth to the Mid-Seventeenth Century,” part 1, *Journal of the Economic and Social History of the Orient* 36, no. 3 (1993): 211–52 on cowrie shells; David Arnold, “The Indian Ocean as a Disease Zone, 1500–1950,” *Journal of South Asian Studies* 14, no. 2 (1991): 1–21 on pathogens; Edward A. Alpers, *Ivory and Slaves: Changing Pattern of International Trade in East Central Africa to the Later Nineteenth Century* (Berkeley: University of California Press, 1975) on ivory and slaves; Sven Beckert, *King Cotton. Eine Geschichte des globalen Kapitalismus* (Munich, Ger.: C. H. Beck, 2019) on cotton; and Grove, *Green Imperialism*, on trees/timber and plants.

50. Kopytoff, “The Cultural Biography of Things.”

51. *Ibid.*, 66.

52. Ibid.

53. Ibid.

54. Appadurai, "Introduction: Commodities and the Politics of Value,"

5. This maxim was also propounded a decade later by Marcus in his seminal article on "multi-sited ethnography": George E. Marcus, "Ethnography in/of the World System: The Emergence of Multi-Sited Ethnography," *Annual Review of Anthropology* 24 (1995): 106–108.

55. See Annette B. Weiner, *Inalienable Possessions: The Paradox of Keeping-while-Giving* (Berkeley: University of California Press, 1992).

56. With these examples, I am referring to the case study presented by Vera Simone Schulz at the conference in Berlin, mentioned in the Acknowledgements to this volume, and to the contributions by Karl-Heinz Kohl, this volume, and Mareike Pampus, this volume.

PART I

Cargoes in the Making

ONE

Brilliant Cargoes

*Pearls, Shell, and Exchanges of Marine
Products in the Indian Ocean*

PEDRO MACHADO

INTRODUCTION

The waterways and oceanic circuits of the Indian Ocean have been indelibly shaped by the multiple movements and mobilities of people, things, and objects. Ships sailing along coastlines, through channels, straits, and gulfs, and across vast stretches of the ocean, carried wide assortments of goods that were consumed and used in multiple ways by diverse numbers of people along littorals and in interior societies. Transported as commodities, gifts, and objects, these cargoes established trajectories that bound different producers, markets, and consumers to one another. Their movement, and the merchant networks, institutions, legal spheres, and mechanisms that undergirded it, created dense translocal social and commercial geographies whose contours were highly dynamic and mutable.

An enduring aspect of scholarly interest in this oceanic space is the study of the exchange of cargoes across its waters—from large shipments of pepper from Malabar to Aden that were transshipped via the Red Sea to Egypt in the twelfth and thirteenth centuries; the wide variety of aromatics, dyeing, and medicinal herbs that were transported around the ocean; the trades in elephant tusks involving communities from Burma, Siam/Thailand, and elsewhere in Southeast Asia, including those from islands such as Sumbawa, Sumba, and Flores in eastern Indonesia that created a large regional economic network; to the precious metals imported into South Asia in the forms of plate and coins from the Mamluk kingdom of Egypt, Syria, and the Rasulid kingdom of Yemen; the many thousands of human beings transported as slaves between and across Asian and African coasts, hinterlands, and interiors; and the ceramics that were traded and exchanged in China and carried in large volumes by European Company and private vessels to Lisbon, Amsterdam, and other destinations, where they established new forms and designs in the seventeenth and eighteenth centuries. Their study has created a vast corpus of published work illuminating a broad range of the economic, social, political, and cultural dynamics that have shaped mercantile life in the Indian Ocean.¹ Equally, study of the ocean's many and longstanding cloth and textile exchanges has been the focus of a great deal of scholarly attention because of their critical importance in fostering oceanic commerce over the course of many centuries.²

Yet, while this scholarship has established the centrality of the exchange of cargoes to Indian Ocean histories, largely absent from many of these accounts has been any consideration of the ocean itself. Treated overwhelmingly as a watery surface across which goods, people, texts, and ideas were transported, the ocean and its materiality recede into the background. If and when it appears, it often does so through generalized discussions of the well-known monsoon weather system that shaped wind and sea patterns of vital importance to shipping across the ocean. Material engagement with the ocean, an exploration of what lies beneath its waves and surface as constitutive elements of its histories, is thus rarely considered, nor has it been subject to sustained enquiry.³ The result of this privileging of surface over depth has been an incomplete understanding of the place of the ocean itself in the dynamics that have shaped its plural pasts. But the ocean is not just a horizontal space—it is also a vertical one.

In this chapter, I propose that one way of addressing this stark occlusion is to focus on the histories of marine product exchange that were a feature of many of the ocean's littoral and island communities. Cargoes of tortoiseshell, trepang (edible holothurians, known also as *bêche-de-mer* in French, sea cucumbers in English, and *haishen* in Chinese), ambergris, and shark's fin were among the many sea products that were traded both locally among various groups and shipped across longer distances to markets, where they were inscribed with particular social and cultural meanings while also satisfying myriad medicinal needs.⁴ Among the cargoes culled from the sea life of the Indian Ocean's undersea, pearls and pearl shell were especially valued in exchanges of marine products. Their iridescence and brilliance marked them as key objects expressing the social, cultural, religious, and moral values according to which societies and peoples organized their lives and made sense of the world they inhabited.⁵

The Indian Ocean was home to many of the great pearl fisheries and pearl shell collecting zones of the world, with several dating back at least to classical times. These marine resources had been harvested for centuries in the subtropical and tropical seas of this vast ocean, stretching from the Red Sea and Arabian Gulf to the Palk Strait and Gulf of Mannar between India and Sri Lanka, the Andaman, Sulu, and Celebes Seas in insular Southeast Asia, and Australia's northern seaboard. Pearl-bearing oysters were found in significant quantities across all of these regions, and communities relied on their harvesting and on the collection of myriad shell species for a variety of medicinal, subsistence, and other purposes. These communities and areas were linked through medium- and long-distance mercantile exchange, migration, kinship, and networks of political and economic power to centers of wealth and authority often far removed geographically from the pearling waters themselves. Pearls and pearl shell thus represent some of the earliest objects and cargoes exchanged across the ocean, forming an integral part of the larger commercial worlds of goods from the fifteenth and sixteenth centuries; their extraction and the translocal circuits along which they were traded became constitutive elements of both a growing global economy and deepening marine product extraction, which accelerated in the eighteenth and nineteenth centuries.

While being attentive to the plural pearling worlds that together made up the ecological marinescape of the Indian Ocean, in this chapter



Map 1.1. Mergui and Bay of Bengal.⁶ Geodata: Made with Natural Earth
 SRTM-Tiles: Jarvis et al. (2008); Cartography: Irene Johannsen.

I focus on the histories of pearl and especially shell harvesting in one particular zone: the coastal waters of Burma and its archipelago of islands, which contained many rich oyster beds. These increasingly attracted translocal and global commercial interests from the early decades of the eighteenth century, as merchants and shippers transported large cargoes of shell between regional ports. Through distinctive practices of marine extraction, Burmese pearling waters reflected patterns of interaction and processes of connection that linked them as much to the Bay of Bengal as a marine environmental and peopled space as to Southeast and East Asia as important markets for pearls and pearl shell. The chapter thus underscores the significance of both the undersea regions of the ocean to the establishment of exchange relations above the surface of the water, and of the place of marine life in shaping these relations in specific ways. Moreover, its focus on extraction, rather than on the consumer markets that existed regionally and globally for pearls and shell, is intended to highlight the often obscured historical processes attending the harvesting of marine life and the complex governance structures that enabled it as a feature of empire in the eighteenth and nineteenth centuries.

HARVESTING THE OCEAN

The pearling economies of coastal Burma, including, importantly, those of the Mergui Archipelago located in its southern reaches, were primary sites of marine extraction and trade representing vital nodes in the many flows of goods that linked the Bay of Bengal and parts of South India to Southeast Asia and the South China Sea, and ultimately also to pearling's globalizing markets in the nineteenth and early twentieth centuries. The pearl shell exchanges and commerce of the Mergui islands, involving the shipment of significant quantities of shell (*Pinctada maxima*) in the second half of the nineteenth century to and through Penang, Singapore, the northern Australian coast, and particularly southeast China, illuminate the vitality of the role of vernacular networks in sustaining intra-Asian trade. While these networks operated from the late eighteenth and, especially, the nineteenth century through ports such as Singapore that had been established by an expanding British imperium in Southeast Asia and along the coast of China, they were structured around self-sustaining circuits that traversed the waterways of the Straits of Malacca and the southern reaches of the Malay Peninsula. Much of

the pearl shell extracted from the Mergui Archipelago was shipped to Chinese markets, but the marine product cargoes reached their destination through multiple circuits that were constituted by various merchant groups, while shell was shipped also to other, though often overlooked, regional consumer markets.⁷

Comprising a vast area of over eight hundred islands of varying size scattered over an extensive maritime area, the Mergui Archipelago had rich fishing waters, while the coral reefs that were to be found in its southern reaches were especially rich in pearl oyster banks. Shell was found throughout these waters at depths of between thirty-three and forty-six feet that could be reached without the use of any diving apparatus, enabling their extraction with relative ease. This had been the work historically of Moken fisherfolk and sea people, whose lives were intimately bound to the waterways of the archipelago's maze of small and medium-sized islands, which had been their home since at least the late seventeenth or early eighteenth centuries. They utilized most of their energies in food collection for their own subsistence needs, gathering fish, crustaceans, and oysters from the sea as they navigated the islands' varied maritime geography.⁸ Shell harvesting, though not always the focus of their maritime existence, was an aspect of food collection and formed part of a larger maritime economy in exchanges of sea products. While some harvesting was possible in shallow waters, experienced and skilled divers could reach depths of approximately forty-six feet in search of shell as an item in which they could gather by collecting food from the sea for their own livelihoods, as well as to supply the local economy.

From the early decades of the nineteenth century, however, this began to change, as the Mergui Archipelago became integrated as a node in the larger Chinese marine goods economy that dominated insular Southeast Asia. Moreover, later in the century, demand for shell from the islands also attracted Australian pearling investments supplying primarily European and American demand for shell. Chinese commercial interests were drawn initially and overwhelmingly to coastal southern Burma in the first decade or so of the century by the search for esculent birds' nests (*yen-wo*), a translucent edible delicacy made from the glutinous secretion of swallows and swifts. These were highly sought after both in China and among overseas Chinese communities and settlements throughout Southeast Asia—areas that were also an important source of *yen-wo*—for their perceived restorative and therapeutic

qualities.⁹ Growing demand drove the trade beyond the Gulf of Thailand and the Straits of Malacca and into the eastern Bay of Bengal, where these nests were found in coastal rocky crags. They were also abundant among the hilly islands of the Mergui Archipelago, where their exchange had become an entrenched element of regional commercial trade by the early nineteenth century.¹⁰

Chinese merchants were able to monopolize the trade in such important commodities as esculent bird's nests in the Mergui Archipelago and elsewhere in the region in part by establishing cooperation with royal courts and securing supplies through payments to these courts for the farms (i.e., the right to collect products in a given area in exchange for an agreed-upon rent for a specified period of time) of gathering and trading in these avian products, whose extraction was labor-intensive due to the significant physical difficulties involved in locating the nests.¹¹ It is likely that it was the expanding trade in bird's nests conducted on several of the Mergui islands and elsewhere that brought the potential of their pearling waters to the attention of Chinese merchants in the eighteenth and early nineteenth centuries. Moreover, the farms covered all products from the Mergui Archipelago, including, of course, pearl shell. Its extraction was done by Moken divers working from their own vessels and harvesting shell for specific Chinese traders, who appear mostly to have paid for these hauls in kind.¹² Although Moken may also have been involved in the esculent bird's nest trade, possibly contributing the labor required to climb up the rocky crevices where the nests were found, the evidence suggests that they focused their broadening translocal exchange circuits primarily on pearl and pearl shell extraction. They also collected trochus shell and trepang for foreign traders in a diverse marine goods economy reliant on both the natural and human resources of the Moken during the broad and rapidly expanding exploitation of ocean resources across the Indian and Pacific Oceans.¹³

SITES OF IMPERIAL GOVERNANCE

Along with the intensification of Chinese interest in Burma's marine products in the nineteenth century, British imperial state and private capital interests also began to invest in the harvesting of Mergui pearls and pearl shell. These interests coalesced in significant ways around the compulsions of increasing—and increasingly complex—imperial territorial

and maritime commitments in the Bay of Bengal and throughout many parts of insular and mainland Southeast Asia. Political and military interventions by the East India Company in the early 1820s had resulted in the acquisition of Burmese territory, including Tenasserim province in the far south of the empire. Together with control over the districts of Mergui and Tavoy, occupied by the British in 1825, the imperial presence experienced a significant expansion in Lower Burma and brought the Mergui Archipelago under nascent British imperial jurisdiction.¹⁴

British imperial reach into coastal southern Burma reflected and, in some ways, helped reinforce the reality and idea of imperial acquisition then taking place in the region. This occurred concurrently with the deepening commercial commitments of British merchant capital that had been developing markedly since the final decades of the eighteenth century. In particular, the intensification of trade with China—clearly visible, for instance, in the growth of tea imports in Britain as the result of reduced import duties created by the Commutation Act of 1784—brought unprecedented opportunities, but also presented significant challenges.¹⁵ None were more pressing in these early decades of deepening Company commitments than how to pay for Chinese exports. With the opium boom still some years in the future, one provisional answer was marine products. A key part of this strategy was the acquisition of the offshore island of Penang from the Sultan of Kedah in 1786 with the explicit aim of operating as a marine products mart along the sea route to Canton. Within a few years, Penang was attracting an increasingly greater share of regional and transregional shipping, with even Malay and Bugis *prahus* (sailing boats) from South Sulawesi, which had once gone to Junk Ceylon (Phuket Island) for ocean produce (trepang and tortoise shell, among many others), now preferring to sail to Penang for their cargoes.¹⁶

Likewise, the value of the Mergui Archipelago for the emergent British colonial state lay precisely in its potential to contribute to the costs of administration and commercial expansion in southern Burma as a site of expanding interests in the Bay of Bengal and Southeast Asia.¹⁷ British officials thus encouraged the trade in marine products and sought the continued involvement of Chinese merchants already active along coastal Burma, as well as those trading from Penang, which would remain a key node for the Mergui trade. The Chinese continued to control the farming of bird's nests at Tavoy in the early years of

the British takeover of Tenasserim, with an unnamed merchant owning the farm from 1835 to 1840. However, the Mergui farm for bird's nests was separated from the Tavoy farm, and, in a reflection of the cosmopolitan nature of the interest that the marine goods trade was attracting in these years, it was contracted out to an Armenian merchant and included the right to trade in all marine products from the archipelago. Overall, though, British officials sought to maintain Chinese involvement in this commerce. This was overwhelmingly due to its well-established structures, its prominence at Penang (where many merchants were increasingly based) and throughout the Straits of Melacca, the threat of an adverse reaction from the Qing state should Chinese merchants be actively impeded (resulting potentially in British interests in Canton being threatened in response), and the imperial revenue generated through the duties charged on Chinese trade.¹⁸

The increasing activity of Chinese and other vessels in and around the islands of the Mergui Archipelago, notwithstanding their focus on esculent birds' nests, reflected the regular harvesting of pearl shell throughout the islands, as they became ever more deeply integrated into the regional marine products commercial economy. From the second half of the century, its pearling waters became subject to intensified extraction that would eventually industrialize the process in the 1890s but never entirely undermine the local Moken harvesting methods. In the limited scholarly literature on pearling in Burma, these changes are often attributed to the "discovery" of deepwater beds by British imperial interests, coupled with the involvement of Australian pearl-ers as they expanded their search for pearl shell that was targeted primarily at European markets. While it would be hard to deny the impact these developments had on the islands and other pearling zones of the Burmese coast, as, indeed, elsewhere in the region, we should be careful not to overstate them. The importance of the establishment of the Straits Settlements in 1826—as an imperial arrangement that integrated Penang, Singapore, and Malacca into a single administrative unit—is clear. For instance, it resulted in the trade in marine goods passing increasingly through Penang and, from the 1820s, Singapore, which emerged as a prominent transshipment port for pearl shell, along with a variety of other marine products. However, local associational networks of commercial exchange that included Chinese merchants and South Asian entrepreneurial capitalists remained vital to the financing and movement

of these ocean cargoes across the waterways of the eastern reaches of the Indian Ocean.¹⁹ It was these individuals, with their detailed knowledge, access to financial capital, and commercial structures and mechanisms, who were largely responsible for organizing the purchase, transportation, and sale of marine products in the Chinese market.²⁰ In the Mergui Archipelago, therefore, it is not surprising that Chinese and Malay merchants continued to play a prominent role in procuring pearl shell in the 1840s, the 1850s, and the decades thereafter, working extensively and exclusively with Moken diving families, as they had in the earlier years of the century.²¹

At the end of the diving season, pearl shell was exported to Penang and, in some cases, to Singapore, before being shipped on to coastal China. Perhaps due to its proximity to the Mergui Archipelago, Penang remained an important transshipment and financial center for the movement of pearl shell south from the coast of Burma, notwithstanding the clear dominance of Singapore as a port of call for junks and *prahus* (and, of course, European shipping) by the 1830s.²² There was one other important transshipment node through which pearl shell, together with a host of other marine products, such as green snails, reached markets in China, namely Ranong. Although its beginnings are unclear, Moken vessels sailed there sometime in the latter half of the nineteenth century to deliver cargoes of shell to specific Chinese merchants with whom they maintained regular and long-term relationships. These were then either transported directly to China or, as seems to have occurred in the majority of cases, shipped first through Penang before being transported further east. Ranong would remain a significant node through which the marine products of the Mergui Archipelago would reach Chinese markets throughout the twentieth century.²³

It was this level of activity in the Mergui pearling waters, along with their revenue-generating potential, as mentioned earlier, that drew and sustained British interest; a likely source of the first information received by imperial officials about the archipelago was Chinese merchants. Indeed, almost as soon as the British formalized their presence in Mergui in the 1820s, they began to take practical measures to exploit the pearl banks. Initially, they sought to do so through efforts to import pearl divers into Mergui “from Madras,” likely recruited from the divers working in the Tuticorin or other pearl fisheries of South India.²⁴ Clearly, lacking a proper appreciation of Moken divers or their skills,

the British drew on a labor pool with which they were familiar from decades of managing the various pearl fisheries under the governments of Company Madras and Crown Ceylon, and whose labor they had sought to discipline since assuming control over these fisheries from the late eighteenth century. The aim behind the shipment of the unspecified number of divers from Madras to the Mergui Archipelago was to search specifically for pearls rather than pearl shell, a strategy that was once again informed by prior imperial experience. Yet, after establishing that only “seed pearls were secured” and determining that the banks would yield “an insignificant revenue,” interest in developing the fisheries through further imperial endeavor was initially abandoned.²⁵ At first, therefore, British officials did not pursue or encourage the exploitation of the Mergui pearl banks, and they appear to have been relatively satisfied with their continued extraction by Chinese capital and Malay and South Asian merchants amid the robust vibrancy of Asian markets for pearls, shell, and seed pearls.²⁶

These Asian capitalists operated through a system structured around the farming of rights to collect shell, a model and practice that the British inherited from the Burmese court in its dealings with traders operating along coastal southeastern Burma. Given the seemingly modest nature of the trade in pearl shell and other marine products, it appears that the imperial authorities were content to maintain the status quo. Farming generated enough revenue to subsidize the cost to the British of superintending the Mergui Archipelago as part of a territory—Burma—that was becoming increasingly tied to broader imperial ambitions in the Indian Ocean, particularly in insular and mainland Southeast Asia.

CLAIMING MARITIME SPACE AND RATIONALIZING EXTRACTION

However, this changed beginning in the 1870s with the revival of interest among British officials in the potential of the Mergui Archipelago’s pearl banks as an integral area in the administration of Lower Burma. Attention was also paid to other areas of the burgeoning colony, such as the Bassein coast and rivers, and the Arakan coast, as the demand for pearls and pearl shell among European and American consumers in the late nineteenth century continued to expand. Moreover, the modest success in harvesting pearls in the Gulf of Mannar in the 1850s seems

to have revived a belief that the Mergui Archipelago could be at least as productive. Nonetheless it was difficult to escape the reality that, as had been the case in the 1820s, even when pearls were found (about one in every fifteen shells, according to one source), they were relatively small, and therefore it was unlikely that Mergui would be as profitable a source as the other pearling zones in the Indian Ocean with which the British were becoming increasingly involved in the nineteenth century.²⁷

Equally, in pearling areas beyond Mergui, the reality for British officials and private interests seeking to profit from Burmese pearl banks was just as disappointing, though still important in generating local imperial revenues and an element of imperial governance.²⁸ Nonetheless, as in the Mergui Archipelago, other districts were sources of large amounts of “small pearls” that were being harvested from hundreds of thousands of oysters taken annually from the sea as among the most readily available and abundant marine products of coastal and riverine Burma.²⁹ Along with other marine products, such as green snails, *bêche-de-mer*, and particularly pearl shell—which continued to supply Chinese and Indian markets and from the final quarter of the century was increasingly being shipped west to meet the rising European demand for objects fashioned from or incorporating mother-of-pearl—they essentially constituted the backbone of Burma’s marine trade. Moreover, the pearl banks represented another site for the projection of imperial authority amid growing British terraqueous ambitions in the Bay of Bengal and beyond, and were thus important to the project of colony-making.³⁰

Yet it was only once Burma had been incorporated administratively as a province of British India in 1886 that efforts to rationalize extraction actually took shape.³¹ By this time European and Australian pearlery had begun to appear on the Lower Burmese coast in search of pearls and pearl shell, joining the continued presence of Chinese pearling interests in Mergui’s marine economy.³² Rights to harvest shell in these waters were now being sold by public auction at the court of the deputy commissioner at Mergui; in the decade of the 1890s, if not earlier, this included the trepang and green snails that often made up shippers’ sea cargoes.³³ Auctions created a regular if variable source of income for the imperial authorities that also benefited the colonial state in deflecting the risk associated with the extraction of marine products away from itself and onto the winning bidder.³⁴ Reflecting differences in Burma’s pearling and marine zones, however, the auction-lease system was not

necessarily uniformly applied across its waters; for instance, in Bassein, leases were granted for only a year and included “the right to work the turtle banks.” This also underscores how the harvesting of pearls and shell in Burma was inextricably bound up with a larger marine products economy, of which it had always formed an integral part.³⁵

However, being guided by an administrative praxis of “managing” Burma’s pearl banks as a particular “environment” and resource over which the government sought to exert its authority and mediate use and access, as well as reflecting notions of liberal improvement, further interventions were made in how the extraction of pearls and shell would be organized. In the case of the Mergui Archipelago, the Burma provincial government set about dividing the pearl banks they believed to be scattered across its vastly dispersed islands into five “blocks” or “districts” that were sold, either singly or in groups, at public auction.³⁶ A winning bid guaranteed unrestricted access to that particular block’s banks, sometimes extending over extraordinarily vast areas, for an extended period of time. Each block was understood as “an area of sea within which the exclusive right of pearl fishing is leased.”³⁷ These were defined along demarcated maritime lines of division that brought particular islands together into one or another discrete grouping that was nonetheless to be managed as part of a larger ecological whole. The block system thus retained leases as the mechanism through which rents were collected from the pearl banks, with the deputy commissioner being able to “grant a lease of a pearl fishery for one year, or with the previous sanction of the Financial Commissioner, for any number of years not exceeding five.”³⁸ Although dominated by South Asian, Chinese, and other regional capital, the imperial logic informing the block system in Mergui was applied to other parts of Burma, though with some qualifications to account for the harvesting of pearl shell in rivers and estuary areas.³⁹

With the block system, British authorities had devised an extractive structure capable of meeting the revenue needs and governance aims of the incipient colonial state. Rights to each of the blocks in Mergui and Bassein, for instance, could be leased either separately or together, and, especially when there were several interested parties, could generate competitive bidding that would thus drive up the rent on the banks. When, as rarely happened, no bidders presented themselves at an auction, monopoly rights for each of the blocks could be awarded to any

bidder whose price the district commissioner deemed appropriate for that particular block. Moreover, rights to each or all blocks could be transferred to third parties in what became, essentially, a subleasing arrangement that could ameliorate the financial risks involved.⁴⁰

Coinciding with the establishment of the block system, a likely contributing factor was the intensification of colonial Australian interest in Burma's shell. Pearlers working especially in the Torres Strait were drawn overwhelmingly if not exclusively to the islands of the Mergui Archipelago as a "comparatively new pearling ground" because of their potential as a source of mother-of-pearl in particular. Pearling merchants had been making considerable profits from this since the 1870s through shell exports from Australia to London and other European markets as consumption began to rise sharply. British authorities openly invited Australian pearlers to Burma, even requesting a report from one on the fisheries to gauge their commercial viability.⁴¹

While links with Australian pearlers in Burma appear to have been facilitated by the block system, they served an even more critical purpose in the dynamics of colonial governance—the consolidation of claims to maritime space. Territorialization of ocean space had become an increasingly dominant feature of British and other European imperial claims from around the middle of the eighteenth century, particularly throughout the many islands and coastal areas of insular Southeast Asia. The idea of extending imperial jurisdiction over maritime space was, of course, one with a very long history in the trajectory of European empire.⁴² In the nineteenth century, the territorialization of oceanic space and all that lived within it resulted in the incorporation of islands and coastal areas into an imperial legal framework that would also expose unresolved tensions and lay bare the limits of imperial jurisdiction. These limits would be tested by pearlers as they explored the waters of the Mergui Archipelago and challenged the reach and enforcement of the Burmese government's jurisdiction over what it claimed was the extend of its territorial waters.⁴³

In raising questions of territoriality and maritime jurisdiction over zones of marine product extraction, these challenges exposed the further anxieties of an incipient colonial state that was struggling to solidify the porous maritime boundaries of the region.⁴⁴ Yet, as with pearl oyster beds located elsewhere in the British Empire—for instance, in the Gulf of Mannar—the islands of the Mergui Archipelago constituted a

fluid frontier, an amorphous space that found its meaning in the permeability of its surrounding waters and coastlines.⁴⁵ This would remain a fact of life for the British authorities into the twentieth century, as demonstrated by the practice of Moken regularly sailing to Ranong to deliver prearranged cargoes of pearl shell to Chinese merchants in the 1920s and 1930s, while “Siamese” poachers would also sail to certain blocks regularly to harvest pearls and shell.⁴⁶

The struggle to come to terms with this reality and to ensure that the islands were “formally [brought] into the province of Tenasserim and under the Chief Commissioner’s administration” must also be read as part of the larger imperial project of boundary-making that had been deepening since the late 1860s around the demarcation of space between Tenasserim (as the southernmost region of Burma) and Siam. Emerging from attempts earlier in the century to establish boundaries with the court of Siam after the British conquest of southern Burma had turned it into Tenasserim Province—and reflecting particular notions of space that differed from local understandings of the constitution of borders—the delineation of frontiers increasingly became key to imperial visions.⁴⁷ Given the uncertainty over the status of the islands of the Mergui Archipelago, there was thus great concern at the end of the nineteenth century that they be included “with the British government.”⁴⁸ Moreover, in the face of competing French imperial interests in Siam, border-making was an integral strategy in consolidating a notion of imperial boundedness and incorporation that was seen to both reflect and engender the power of the state and render this power visible through its enforcement.⁴⁹

If the block system had been one of strategies used to territorialize pearling waters and signaled deepening European and Australian participation in the Mergui Archipelago, it also encouraged the involvement of local and regional merchants and pearl entrepreneurs. These ranged from ethnic Burmese, locally born Chinese, and Tamil-speaking South Indian traders in Bassein and Arakan to Bombay merchants and “Surati traders,” Penang-based Chinese entrepreneurs (many of whom by the end of the nineteenth century were locally born or Peranakan Chinese), “Malay” merchants, Nattukottai Chettiar financiers, and Tamil Marakayar Muslims with ancestral ties to South India who by the late nineteenth century were hailing from Penang as Jawi Peranakan and were active throughout the Mergui Archipelago. It was these vernacular merchants, embedded in local and regional associational networks, who

were most heavily invested and engaged in the exchange of marine cargoes that linked sites in the Bay of Bengal with those in Southeast Asia and the South China Sea.⁵⁰

PROTECTING YIELDS, BALANCING PROFITS

While the block system became the dominant structural apparatus through which the colonial state sought to manage—and profit from—the extraction of pearls and shell from Burma’s banks by all interested parties, it did not go unchallenged. Within a few years of its implementation, misgivings began to be expressed in Mergui about certain aspects of its extractive effects, specifically related to questions about the regeneration of oyster stocks and the impact this could have on yields. This resulted, in 1898, in government officials limiting the sale of “all the fishing rights” from a three-year period to two years amid concerns over the deleterious effects of overharvesting.⁵¹

However, not all officials were convinced that selling rights to marine cargo extraction posed a threat to the marine environment. Some, for instance, were firm in the belief about the Mergui Archipelago that “although several of the first-worked beds have been temporarily abandoned they are not in anything approaching a worked out condition.” This supported a notion more broadly that the archipelago’s waters held great and untapped potential for large-scale exploitation by pearlers, an idea that appeared to be confirmed by the dramatic rise in the volume of shell collected over a five-year period as a result of the creation of the block system.⁵² Still, and reflecting the tensions around competing narratives, for the authors of a report on the archipelago in 1907, there was little doubt that the block system “was undoubtedly detrimental to the pearl banks, inasmuch as individuals of companies leasing these blocks recklessly exploit them.”⁵³ The implication in this statement was that companies displayed rapacious disregard for the complexities of balancing a search for profitability with the need to protect the regenerative capacities of pearl oysters in an ecological environment that was still poorly understood by the colonial state and its scientific apparatus.

Others worried how extraction of shell elsewhere along the coast of Burma—such as on the Bassein and Arakanese coasts—may have been depriving local populations and the local economy of a valuable food source through the intense harvesting of seed pearls that resulted

in oysters being discarded in great number.⁵⁴ With these considerations in mind, several pearling merchants were denied access to the banks “because in order to obtain any quantity of pearls, a number of oysters out of proportion to the value of the pearls found would have to be opened which would cause considerable waste and deprive the people, resident in the vicinity, of food.”⁵⁵ For imperial administrators, high estimates of the number of oysters that were being extracted crystallized the potential dangers of rampant collection for the local industry. Consequently, with the exception of harvesting oysters for “home consumption,” officials recommended that banks should remain “unworked” for a few years until around 1900 when, despite uncertainty over how quickly stocks would be replenished, it was hoped that harvesting could be resumed in areas where it was possible to do so.⁵⁶

Nonetheless, even as concerns over overfishing remained a consistent theme in imperial correspondence, there remained a firm commitment to finding all possible ways of making the collection of shell as profitable as possible in Bassein and Arakan. Seemingly influenced by the continued successful extraction of pearls and shell in the Mergui Archipelago, colonial administrators sought similar gains in these fisheries, and this aspirational thinking would continue to influence their approach to pearling in these northern Burmese waters well into the twentieth century.⁵⁷ It would also ensure the continuation of the block system as an institutional structure for managing Burma’s pearl fisheries as a marine resource. There was, however, one significant change of fundamental importance that was implemented to ameliorate concerns about overfishing and to guarantee continued revenue from the fisheries in the archipelago: the auction system, whereby blocks were put up for public auction, was abolished in the late 1890s and replaced by one of fees or licenses on each of the pumps being used by pearlery on diving vessels.⁵⁸ Pumps were an integral apparatus of the new technology that had been introduced into the Mergui Archipelago toward the end of the nineteenth century. This involved the “diving dress” or “suit,” which required pumps to provide air to divers who were going down to far greater depths than was possible through “naked” diving, in which none of this technology was utilized to extract shell. Indeed, the introduction of a licensing system for individual pumps was also a move to accommodate the elaborated use of the diving suit in Mergui pearling, while the rights to collect shells, green snails, and trochus shell “without apparatus” continued to be sold by auction.⁵⁹ While

not embraced by all officials in the colonial administration, licenses were generally agreed to be the most expedient way forward for government, and they were endorsed both by the colonial state's revenue department and by local pearlers, who claimed that it would "induce more people taking up the concern."⁶⁰

The licensing system was predicated on the adoption of the diving suit (introduced by European and Australian pearling capital around 1894 as an element of "modern" maritime technology) that allowed divers to go down to far greater depths than was otherwise possible. Any technological advantage that would allow divers to reach these greater depths was, unsurprisingly, an attractive, if costlier, proposition for pearlers who embraced its use. For the colonial state, it introduced a vertical dimension to the territorialization of oceanic space by making it possible to claim and exploit beds at unprecedented depths. Naked diving, however, was never fully supplanted as a type of labor but continued to exist, often as a complementary form to the extraction of pearl shell, as well as an array of other marine products. In the Mergui Archipelago (the diving dress was not used elsewhere in Burma), naked diving thus remained a vibrant endeavor practiced exclusively by Moken divers who were engaged by merchants, including in blocks where pumps and dress diving were being used simultaneously to collect shells, green snails, and trochus shell found in shallower waters.⁶¹

But in diving "without apparatus," the Moken raised a fundamental question for the colonial state about how the right to collect marine products should be apportioned—should the right to collect shell without the use of diving equipment be sold separately, "along with other rights," or should naked diving be somehow incorporated into a fee structure that linked to what was levied on the pumps?⁶² Concerned that naked diving had been rendered "free" by the introduction of pumps and that Moken divers were being exploited by the pearlers, local administrators decided that the "exclusive right of working without diving apparatus in the various blocks of the pearling area . . . be leased separately."⁶³ This did not entirely resolve matters from the government's standpoint, however, for "free" diving remained widely practiced among the archipelago's islands, with Chinese and other merchants operating in Mergui by engaging Moken divers "without [a] licence for pearling."⁶⁴ Moken continued either to dive for traders who sailed to the archipelago or, as appears to have been more common, sailed the relatively short distance

to Ranong, where they delivered their cargoes of assorted marine products to specific Chinese and Malay traders with whom they had prior agreements.⁶⁵

At the turn of the century, therefore, pearling and shell harvesting in the Mergui Archipelago was characterized by the coexistence of naked and dress diving. The number of pumps being used in the islands had grown from around sixty in the mid-1890s to possibly as many as eighty by the early years of the twentieth century, but it does not appear to have grown much beyond this number. As noted earlier, Indian and Chinese merchant investments contributed to this number of pumps through significant investments in boats and diving dresses. Schooners employed mostly Filipino, Malay, and Japanese divers in the small boats that actually carried the pumps and that sailed to the pearl banks before returning to a larger vessel operating as a “floating station,” where their hauls were discharged. While Australian involvement in Mergui had been prominent until around the turn of the century, many of the dress divers had been brought to the islands from the pearling grounds of the Torres Strait and Aru Islands. Thereafter, while the number of Australian- or European-owned pumps dropped significantly, dress diving remained a feature of pearling in the archipelago, with growing numbers of Japanese divers laboring to collect shell at great depths, as they would elsewhere in the region.⁶⁶

CONCLUSION

The complementarity of dress and naked diving, coupled with the investments in equipment and boats by Asian traders and merchants and the ongoing relationships of Moken divers and mariners with Chinese traders, perpetuated the thriving pearling and marine product economy in transregional Burmese waters well into the 1920s and 1930s. Even for those with wider investments—for instance, in tin mining—pearl shell and marine cargoes from the Mergui Archipelago and other coastal areas remained a significant part of their portfolio. While competition from cultured pearls in the latter decade, coupled with the effects of the global economic depression, adversely affected the industry, from the 1950s investors turned increasingly to pearl cultivation in a sign of its resilience, where, despite fluctuations, yields from mother-of-pearl were a mainstay. More recently, amid record levels of regional economic

growth that have spurred a resurgence in the large-scale shipment of ocean products between Southeast Asia and China since the 1980s, interest in the Mergui Archipelago's potential as a maritime zone of extraction has remained strong.⁶⁷

Harvesting the ocean and shipping its undersea cargoes, as much now as in the past, represents an enduring arena of business for a range of interested parties and will likely continue to do in the future. It also serves to remind us of the need to take the materiality of the ocean seriously, as its historical dynamics played themselves out as much above as below the waterline. Rather than merely refocusing our perspective away from the land and to the sea as a plane across which mobility and connectivity were structured and organized, we need to bring the materiality of the ocean as a living and breathing space into the historical narratives that we construct about the Indian Ocean. Marine life in all its forms has defined the contours of the ocean and the human relationship with it in critically important ways that require not only acknowledgement but also deepened understanding.⁶⁸ This is becoming an increasingly urgent necessity amid the irrepressible realities of rising ocean levels and the ravages of climate change.

NOTES

1. The list of works is, of course, too vast to include here, but for a broad idea of the range of studies of cargoes exchanged across the ocean, see, for instance, Om Prakash, "The Trading World of the Indian Ocean: Some Defining Features," in *The Trading World of the Indian Ocean*, ed. Om Prakash (New Delhi: Pearson, 2012), 3–50; Leonard Y. Andaya, "Eastern Indonesia: A Study of the Intersection of Global, Regional and Local Networks in the 'Extended' Indian Ocean," in *Reinterpreting Indian Ocean Worlds: Essays in Honour of Kirti N. Chaudhuri*, ed. Stefan C. A. Halikowski Smith (Newcastle upon Tyne, UK: Cambridge Scholars Publishing, 2011), 107–40; the essays in Rudrangshu Mukherjee and Lakshmi Subramanian, eds., *Politics and Trade in the Indian Ocean World* (New Delhi: Oxford University Press, 1998); and the still useful if flawed structural history of Kirti Narayan Chaudhuri, *Trade and Civilisation in the Indian Ocean: An Economic History from the Rise of Islam to 1750* (Cambridge: Cambridge University Press, 1985).

2. Here, too, the literature is voluminous, but the following works demonstrate its richness: Pedro Machado, Sarah Fee, and Gwyn Campbell,

eds., *Textile Trades, Consumer Cultures, and the Material Worlds of the Indian Ocean: An Ocean of Cloth* (New York: Palgrave Macmillan, 2018); Tirthankar Roy, Om Prakash, Kaoru Sugihara, and Giorgio Riello, eds., *How India Clothed the World: The World of South Asian Textiles, 1500–1850* (Leiden, Neth.: Brill, 2009); and Prasannan Parthasarathi and Giorgio Riello, eds., *The Spinning World: A Global History of Cotton Textiles, 1200–1850* (London: Oxford University Press, 2009).

3. It should be noted that Michael Pearson has advocated material engagement with the ocean, for instance, in *The Indian Ocean* (London: Routledge, 2003).

4. For a sense of this trade in the Indonesian archipelago over several centuries, see Peter Boomgaard, “Resources and People of the Sea in and around the Indonesian Archipelago, 900–1900,” in *Muddied Waters: Historical and Contemporary Perspectives on Management of Forests and Fisheries in Island Southeast Asia*, ed. Peter Boomgaard, David Henley, and Manon Osseweijer (Leiden, Neth.: KITLV Press, 2005), 97–119.

5. Scholars have noted the role of light and brilliance in shaping attitudes, both indigenous and European, to pearls and pearl shell, for which see, for instance, Nicholas J. Saunders, “Biographies of Brilliance: Pearls, Transformations of Matter and Being, c. AD 1492,” *World Archaeology* 31, no. 2 (1999): 243–57; and more recently Peter Sutton and Michael Snow, *Iridescence: The Play of Colours* (Port Melbourne, Aus.: Thames and Hudson, 2015).

6. A. Jarvis, Hannes Isaak Reuter, Andy Nelson, and Edith Guevara, *Hole-filled Seamless SRTM Data V4* (International Centre for Tropical Agriculture [CIAT]), 2008), available from <http://srtm.csi.cgiar.org>.

7. See the detailed discussion in Pedro Machado, “Shell Routes: Exploring Burma’s Pearling Histories,” in *Pearls, People and Power: Pearling and Indian Ocean Worlds*, ed. Pedro Machado, Steve Mullins, and Joseph Christensen (Athens: Ohio University Press, 2020), 183–231.

8. Jacques Ivanoff and Thierry Lejard, *A Journey through the Mergui Archipelago* (Bangkok: White Lotus, 2002), 3; Jacques Ivanoff, “Moken Boats,” *Nest* 22 (2003): 91.

9. Bien Chiang, “Market Price, Labor Input, and Relation of Production in Sarawak’s Edible Birds’ Nest Trade,” in *Chinese Circulations: Capital, Commodities, and Networks in Southeast Asia*, ed. Eric Tagliacozzo and Wen-Chin Chang (Durham, NC: Duke University Press, 2011), 407–31.

10. Michael Charney, “Esulent Bird’s Nest, Tin and Fish: The Overseas Chinese and Their Trade in the Eastern Bay of Bengal (Coastal Burma) during the First Half of the Nineteenth Century,” in *China and Southeast Asia*, vol. 4, *Interactions from the End of the Nineteenth Century to 1911*, ed. Geoff Wade (London: Routledge, 2009), 207–21.

11. See, for instance, the description of the considerable time and trouble it took to identify caves with viable nests, including asking local villages for information and having to confront the presence of large bat populations, in National Archives of Myanmar (NAM), 1/7/37, “Diary of Maung Ba Hein,” February 12, 1894.

12. *Selected Correspondence of Letters Issued from and Received in the Office of the Commissioner, Tenasserim Division, for the Years 1825–26 to 1842–43* (Rangoon: Superintendent, Government Printing and Stationery, Burma, 1928).

13. Walter Grainge White, *The Sea Gypsies of Malaya* (London: Seeley Service, 1922). Trepanng was an important marine product connecting Southeast Asia to China through the South China Sea, on which see Heather Sutherland, “Trepanng and Wangkang: The China Trade of Eighteenth-Century Makassar, c. 1720s–1840s,” *Bijdragen tot de taal-, land- en volkenkunde* 156, no. 3 (2000): 451–72; and James Francis Warren, *The Sulu Zone, 1768–1898: The Dynamics of External Trade, Slavery, and Ethnicity in the Transformation of a Southeast Asian Maritime State* (Singapore: Singapore University Press, 1981), which discusses the slaving expeditions organized by the Taosug datus (“princes”) of regional sea peoples in the nineteenth century expressly for the collection of trepanng. The commercialization of the Pacific’s sea products also attracted North American merchants to trepanng harvested in Fiji and exchanged for Chinese silks, jade, tea, porcelain, and lacquered goods, which were becoming increasingly popular in Euro-American markets: see Edward D. Melillo, “Making Sea Cucumbers Out of Whales’ Teeth: Nantucket Castaways and Encounters of Value in Nineteenth-Century Fiji,” *Environmental History* 20, no. 3 (July 2015): 449–74.

14. For an overview of the conflagrations between the Konbaung under Alaungpaya and the British, see Ashley Wright, *Opium and Empire in Southeast Asia: Regulating Consumption in British Burma* (Basingstoke, UK: Palgrave Macmillan, 2014), 22.

15. Eric Tagliacozzo, “A Necklace of Fins: Marine Goods Trading in Maritime Southeast Asia, 1780–1860,” *International Journal of Asian Studies* 1, no. 1 (2004): 23–48.

16. Tagliacozzo, “Necklace of Fins,” 28.

17. Charney, “Esculent Bird’s Nest, Tin and Fish”; Daw Win and Loh Wei Leng, “Regional Links: Yangon, Penang, and Singapore,” *Journal of the Malaysian Branch of the Royal Asiatic Society* 82, no. 2 (December 2009): 68.

18. The scope of Chinese involvement in Burma’s economy would continue to grow, for instance, in tin mining in the northwest and in the rice trade that brought junk fleets to the country. For further details, see Machado, “Shell Routes,” 191–92.

19. According to Eric Tagliacozzo, Singapore's advantages included a better geographical position than Penang in relation to major collecting areas for marine goods located in insular southeast Asian waters, and its status as a "free" port. See "Necklace of Fins," 29–32; 38.

20. Tagliacozzo, "Necklace of Fins," 43, where the author provides further details of these changes.

21. See Machado, "Shell Routes," for a detailed discussion.

22. Loh Wei Leng, "Penang as Commercial Centre: Trade and Shipping Networks," *Journal of the Malaysian Branch of the Royal Asiatic Society* 82, no. 2 (December 2009): 29. See also Nordin Hussin, *Trade and Society in the Straits of Melaka: Dutch Melaka and English Penang, 1780–1830* (Singapore: National University of Singapore Press, 2006); and, for a later period, Chiang Hai Ding, *A History of Straits Settlements Foreign Trade, 1870–1915* (Singapore: National Museum, 1978).

23. NAM, 1/7/1219, E. Ahmed to Deputy Commissioner, September 10, 1926; E. Ahmed to Deputy Commissioner, October 16, 1926.

24. A. D. Maingy to E. A. Blundell, Assistant Commissioner, Mergui, July 21, 1827, in *Selected Correspondence of Letters*.

25. George Frederick Kunz and Charles Hugh Stevenson, *The Book of the Pearl: The History, Art, Science, and Industry of the Queen of Gems* (New York: The Century Co., 1908), 134.

26. Machado, "Shell Routes."

27. H. Warrington Smyth, *Five Years in Siam, from 1891 to 1896* (London: John Murray, 1898).

28. Office of Indian and Oriental Collections (OIOC), British Library, Political and Secret Department Records (P&S), 1874; *Report on the Administration of Lower Burma during 1886–87* (Rangoon: Superintendent, Government Printing, Burma, 1888), 97.

29. NAM, 1/15(e)/14238, Capt. F. D. Maxwell, Deputy Commissioner, Bassein, to Commissioner, Irrawaddy Division, Bassein, August 31, 1896, and Reporter on Economic Products to the Government of India to the Revenue Secretary to the Chief Commissioner, Burma, July 21, 1896; NAM, 1/15(e)/16259, R. F. Greer, Secretary to the Financial Commissioner, Burma, to Commissioner, Irrawaddy Division, Bassein, March 24, 1910. See also NAM, 1/15(e)/13922, Secretary to Financial Commissioner, Burma, to Commissioner, Irrawaddy Division, Bassein, March 2, 1895, where it was noted that seed pearls "always [found] a ready sale."

30. Alison Bashford, "Terraqueous Histories," *Historical Journal* 60, no. 2 (June 2017): 253–72.

31. Michael W. Charney, *A History of Modern Burma* (Cambridge: Cambridge University Press, 2009); Thant Myint-U, *The Making of Modern Burma* (Cambridge: Cambridge University Press, 2001).

32. William Sutherland, "South Tenasserim and the Mergui Archipelago," *Scottish Geographical Magazine* 14, no. 9 (1898): 451.

33. *Ibid.*, 451.

34. The "intermittent character of the fisheries," i.e., the variable nature of the availability of oysters along pearling banks from one season to the next, was well established and commented upon in a report by W. A. Herdman on the Gulf of Mannar fisheries: *Report to the Government of Ceylon on the Pearl Oyster Fisheries of the Gulf of Manaar* (London: n.p., 1903), 3. I discuss the auction-lease system in greater detail in Machado, "Shell Routes."

35. NAM, 1/15(e)/13922, Secretary to the Financial Commissioner, Burma, to the Commissioner, Irrawaddy Division, Bassein, February 8, 1895, issuing "Fishing Directions for the Disposal and Regulation of the Pearl Fisheries in the Bassein District." For other instances of the regulation of turtle-egg collection in other parts of coastal Burma, see, for example, NAM, 1/7/1072, Deputy Commissioner, Tavoy, to Deputy Commissioner, Mergui, May 10, 1900; and NAM, 1/7/1094, Deputy Commissioner, Mergui, to Deputy Commissioner, Tavoy, May 29, 1902. Other marine products, such as green snails and bêche-de-mer, continued to be included with pearl shell collection, as they sometimes were with the extraction of bat guano and bird's nest.

36. Robert N. Rudmose Brown and James Jenkins Simpson, *Report to the Government of Burma on the Pearl Oyster Fisheries of the Mergui Archipelago and Moskos Islands* (Rangoon: Office of the Superintendent, Government Printing, Burma, 1907), 3; NAM, 1/7/67, H. L. Tilly to Deputy Commissioner, Tavoy, July 4, 1908.

37. NAM, 1/15(e)/14231, "Rules Regulating the Pearl Fisheries of Lower Burma, 1896," 1.

38. *Ibid.*, 1–2. Further details in Machado, "Shell Routes."

39. For further discussion of this process, see Machado, "Shell Routes."

40. I describe this further in Machado, "Shell Routes."

41. I discuss this further in Machado, "Shell Routes."

42. See, for instance, Philip E. Steinberg, *The Social Construction of the Ocean* (Cambridge: Cambridge University Press, 2001); Hugo Grotius, *The Free Sea*, trans. Richard Hakluyt, with an Introduction by David Armitage (Indianapolis: Liberty Fund, 2004); Lauren Benton, *A Search for Sovereignty: Law and Geography in European Empires, 1400–1900* (Cambridge: Cambridge University Press, 2010).

43. A case in 1893 in particular highlighted the nature of these limits, for which see Machado, "Shell Routes."

44. These kinds of anxieties have been evident at more recent historical moments, for instance, in the late 1950s, when the postcolonial Indonesian

state declared that it had “absolute sovereignty” over the waters lying within straight baselines drawn between the archipelago’s outermost islands. Despite the international outrage and alarm that this caused, ultimately the United Nations Convention on the Law of the Sea recognized that Indonesia fell under a new category of states known as “archipelagic states” with sovereignty over “archipelagic waters.” See John G. Butcher and R. E. Elson, *Sovereignty and the Sea: How Indonesia Became an Archipelagic State* (Singapore: National University of Singapore Press, 2017).

45. J. C. Heesterman, “Littoral et intérieur de l’Inde,” *Itinerario* 4, no. 1 (1980): 89; John R. Gillis and Franziska Torma, eds., *Fluid Frontiers: New Currents in Marine Environmental History* (Cambridge: White Horse, 2015).

46. NAM, 1/7/1190, Deputy Commissioner, Mergui, to District Superintendent of Police, March 8, 1924. See also various letters in NAM, 1/7/1060, and the detailed discussion in Machado, “Shell Routes.”

47. In a reflection of changing notions of space, by the end of the nineteenth and beginning of the twentieth century, the Siamese court was also seeking to solidify its frontiers as it strove to maintain the integrity of the Siamese geo-body. See Thongchai Winichakul, *Siam Mapped: A History of the Geo-Body of a Nation* (Honolulu: University of Hawai’i Press, 1994); also Eric Tagliacozzo, “Ambiguous Commodities, Unstable Frontiers: The Case of Burma, Siam, and Imperial Britain, 1800–1900,” *Comparative Studies in Society and History* 46, no. 2 (April 2004): 354–77.

48. National Archives of India (NAI), Secretary of State for India, May 2, 1894.

49. Eric Tagliacozzo has explored these dynamics in relation to illegality and the establishment of borders in Southeast Asia in the context of imperial rivalries between the British and Dutch. See Tagliacozzo, *Secret Trades, Porous Borders: Smuggling and States along a Southeast Asian Frontier, 1865–1915* (New Haven, CT: Yale University Press, 2005).

50. I discuss these merchant groups in greater detail in Machado, “Shell Routes.”

51. NAI, Shimla Records, No. 66C-2F-13, Revenue Secretary to Government of Burma to Secretary to Government of India, May 26, 1906.

52. “The Mergui Pearl Fisheries,” *Northern Territory Times and Gazette* (Darwin), May 31, 1895, 3. Further details in Machado, “Shell Routes.”

53. Brown and Simpson, *Report to the Government of Burma on the Pearl Oyster Fisheries of the Mergui Archipelago and Moskos Islands*, 3.

54. I discuss this further in Machado, “Shell Routes.”

55. NAM, 1/15(e)/16175, I.A. Offg. Commissioner, Arakan Division, to Secretary to the Financial Commissioner, Burma, October 18, 1909. Further details in Machado, “Shell Routes.”

56. NAM, 1/15(e)/14569, Deputy Commissioner, Bassein, to Commissioner, Irrawaddy Division, Bassein, January 26, 1898; and Secretary to Financial Commissioner, Burma, to Commissioner, Irrawaddy, Bassein, February 11, 1898. In at least one area of Bassein District, the pearl fishery “from Pyinkayaing Cape to the Thekke thaung creek,” this proved to be impossible, and the fishery was abolished in 1908 after having languished for the previous four years. It had been put up for auction, “but there were no purchasers . . . [and] it is not likely that the fishery can ever be sold as there are no signs of any living oysters.” See NAM, 1/15(e)/16088, Deputy Commissioner, Bassein, to Commissioner, Irrawaddy Division, Bassein, May 20, 1908.

57. For details, see Machado, “Shell Routes.”

58. NAM, 1/7/1094, Revenue Department to Commissioner of Tenneserim Division, Moulmein, June 24, 1902.

59. OIOC, P/4769, Pro. No. 1–5, “Report,” February 16, 1894; Kunz and Stevenson, *Book of the Pearl*, 136.

60. NAM, 1/7/1063, Ebrahim Ahmed, Mohamed Salim, et al. to Lieutenant Governor of Burma, Mergui, February 22, 1900. I discuss further details in Machado, “Shell Routes.”

61. See Machado, “Shell Routes,” for further discussion.

62. NAM, 1/7/1094, Revenue Department to Commissioner, Tenneserim Division, Moulmein, June 24, 1902.

63. NAM, 1/7/83, Secretary to the Financial Commissioner, Burma, to Colonel K. M. Foss, Rangoon, September 23, 1908.

64. NAM, 1/7/1094, “Salon Diving,” n.d.

65. I develop this argument in Machado, “Shell Routes.”

66. In areas “outside the open pearling grounds,” that is, the blocks into which the islands of the archipelago continued to be divided, diving was organized through leases and not the pump system, with divers working in waters where “exclusive rights of pearling and taking of green snails etc. [were granted] within a definite area.” See NAM, 1/7/83, Secretary to the Financial Commissioner, Burma, to Colonel K. M. Foss, London, September 23, 1908. I provide more details in Machado, “Shell Routes.”

67. Machado, “Shell Routes.”

68. This has recently been argued forcefully and insightfully for the Bering Strait by Bathsheba Demuth, *Floating Coast: An Environmental History of the Bering Strait* (New York: W.W. Norton, 2019).

TWO

The History of Southern Red Sea Salt in Indian Ocean Trade

STEVEN SERELS

AT THE BEGINNING of the twentieth century, salt was the largest export by volume from the Southern Red Sea Region to the Indian Ocean. The Southern Red Sea Region is a space of intensive maritime connectivity bound together by the monsoon winds that facilitated the broader Indian Ocean trade in the days of sail. In the Red Sea south of the 19th parallel, these winds allowed people, goods, ideas, and technologies to flow easily. Maritime exchanges linked heterogeneous communities in present-day Sudan, Eritrea, Ethiopia, Djibouti, Somalia, Yemen, and Saudi Arabia into a unified, multifaceted socioeconomic system.¹ Trade with the broader Indian Ocean was crucial to this system, and Red Sea salt played an important role in this trade. For the better part of a century, every ship departing from ports in the Southern Red Sea Region and traveling to the Indian Ocean carried salt as a cargo. Red Sea salt cargoes were ultimately destined for one market—Bengal. At its peak in the 1920s, Bengal imported nearly 620 million kilograms

of Red Sea salt per year.² Though the links between the Red Sea and the broader Indian Ocean world are ancient, the exportation of Red Sea salt is modern; it only began in the 1880s, and by the 2010s it had ended completely. The salt that continues to be harvested from the southern half of the Red Sea is primarily destined for local markets.

This chapter examines the complex factors that allowed salt to be transformed from a natural substance dissolved in the Red Sea's waters to an important Indian Ocean cargo and, finally, to a locally consumed product. At its core, this transformation was driven by the politics and economics of taste. Until the twentieth century's petrochemical revolution, salt was a food additive, similar to spices. In fact, salt should be considered the *ur*-spice because it is as fundamentally necessary as fire in turning harvested and gathered produce and hunted and slaughtered animals into food. Though humans require some salt to maintain proper bodily function, the amount needed is quite small and can be obtained from drinking just one-and-a-half cups of cow's milk per day.³ Nonetheless, the taste for salt appears to be universal, even though the desired salt level is clearly culturally specific, as evidenced by the variations in per capita sodium consumption across the world.⁴ Who eats how much of which salt and when is the result of specific macroforces. In the case of Bengali men and women eating Red Sea salt, these included shifting British, French, Italian, Ottoman, and Egyptian rivalries, discrepancies in the demand for low-bulk luxuries and high-bulk commodities at ports in the Southern Red Sea Region, and the adoption of new maritime technologies.

Though there are many kinds of salt, there is only one that historically humans have sought out for its salty taste—sodium chloride. The scientific definition of a salt is any electrically neutral solid comprised of positively and negatively charged ions. However, only crystalline sodium chloride both tastes salty and is edible. Other salts are either: 1) poisonous and salty; 2) edible but not salty (i.e., taste sweet, bitter, sour, or savory); or, 3) poisonous and not salty. Sodium chloride is not at all rare, being present in all seawater and in some underground fossil aquifers. There are also large deposits of crystalline sodium chloride in the beds of long dried-up prehistoric seas. However, the process of transforming seawater, spring water, or mineral deposits into food for consumption requires an elaborate social, political, and technological architecture. Though sodium chloride has been present in the Red Sea's waters for millennia, it has only relatively recently become a consumable resource.

This does not reflect a change in its physical properties. Sodium chloride now is no different than it was a few centuries ago. Rather, how humans engage with this natural substance has changed. This points to an important distinction between natural substances and resources. Natural substances have innate physical properties that are present without reference to humans. Resources are natural substances to which humans have added an additional socially determined property—value.

There is a well-established body of scholarship that recognizes that resources are “made” in the sense that they are rendered such through process of valuation. In the words of Gavin Bridge, this scholarship seeks “to understand the political, economic and cultural processes through which particular configurations of socionature become imagined, appropriated and commodified.”⁵ Nonetheless, scholars recognize that humans are not in complete control of the act of resource-making. The materiality of the natural substance matters. As a result, this process takes place, to borrow Carl Knappett’s phrasing, at “the conjunction or intersection of the social and the material, without the former swallowing the latter.”⁶ Tanya Richardson and Gisa Weszkalnys have successfully argued that this process is channeled “through technical invention and physical production, as well as through acts of epistemological and ontological creativity.”⁷ In the specific example of salt, the sodium chloride dissolved in the Red Sea was a natural substance but not a resource for most of human history because local communities found no value in it. This changed at the end of the nineteenth century when colonial officials, first from Ottoman Turkey and Egypt and then from Italy, France, and Britain, recast the salt dissolved in the sea as a resource. To benefit from this resource, these officials built a technopolitical infrastructure that allowed the salt to be extracted from the seawater and the profits from trade to be extracted from the region. This infrastructure proved robust enough to withstand changing tastes and political conditions. It was ultimately only dismantled through war, leaving the status of Red Sea salt as a resource ambiguous.

THE LONG HISTORY OF SOUTHERN RED SEA SALT AS A NATURAL SUBSTANCE

Historically, the fundamental nature of the human taste for salt has resulted in universally high levels of demand across various regions

of human settlement. This demand was generally not price sensitive. Increases in salt prices tended not to result in decreases in the quantity of consumed salt. In fact, the demand for salt was normally countercyclical. Decreases in economic standing routinely led to higher rates of salt consumption. When communities could not afford better-quality food, they typically added more salt to increase the appeal of what they could afford to eat.⁸ Ensuring supply was more of a problem. Salt is bulky: prior to the widespread adaptation of the combustion engine, it was difficult to transport overland. As a result, each community generally had a single source of supply, and people consumed what they could get. Salts of different origin did not generally compete against each other in local markets. People were unable to be discerning based on quality, even though the purity of salt can vary greatly.⁹ Salt was a monopoly trade.

Fortunately for communities in the Southern Red Sea Region, the region is home to large, high-quality surface salt deposits. These deposits formed when ancient saltwater lakes evaporated. Seawater contains a number of dissolved salts. In addition to sodium chloride, there are significant amounts of calcite, gypsum, Epsom salt, magnesium chloride, sodium bromide, and potassium chloride. Though all of these salts are edible, some do not taste salty. Calcite and gypsum, in particular, have a chalky taste. The presence of these other salts makes seawater unpalatable, as evidenced by the fact that few people use seawater to season their food. Every water-soluble salt has a salinity level at which it precipitates out as a solid. Calcite's level is 70 PSU, gypsum's is 100 PSU, and sodium chloride's is 130 PSU. As the water from these ancient lakes evaporated, the calcite, gypsum, and sodium chloride precipitated out in succession. The result was the formation of a stratum of nearly pure sodium chloride in the dried lake beds. On the Arabian littoral of the Southern Red Sea Region, there is an important salt deposit at Salif, as well as smaller ones at Jabal Quimmah, Jabal Juda, and Jabal Milh.¹⁰ On the African littoral, the deepest parts of the Danakil Depression, which was once a bay of the Red Sea, are covered in salt deposits between three and four meters thick. In addition, the depression is home to a number of extremely high salinity lakes—the most important of which is Lake Assal—which sediment out high-quality salt along their receding shorelines.¹¹ These salt deposits were mined, and, historically, they served as the main source of salt in the Southern Red Sea Region.

Other areas of human settlement elsewhere in the world did not have similar easy access to high-quality salt deposits. Since at least the Iron Age, people have engaged in artificial salt production. Archeological remains from various geographically dispersed sites reveal the widespread nature of the practice of boiling off brine in clay pots to produce crystalline salts.¹² This technique had two drawbacks. First, it was fuel intensive. Second, the resulting product was impure. After all of the water had been boiled off, a mixture of dissolved solids was left behind. If you began with a brine that contained some chalky tasting salts, the end product would also have a somewhat chalky taste. This impediment was first overcome in the sixth century at An-I-Hsien, China, through the development of successive basin solar evaporation. This process uses solar energy and the specific solubility of different salts to separate crystalline sodium chloride from saltwater. Brine is made to flow into a large outdoor shallow pan and allowed to evaporate in the sun until the calcium salts (calcite and gypsum) precipitate out. Then, the higher salinity brine is made to flow into another, similar shallow pan and the water is allowed to evaporate until the sodium chloride crystallizes. The remaining water, which still contains other dissolved salts, is then made to flow out of the pan. What is left behind is high-purity crystalline sodium chloride that can be easily collected through raking and scraping.¹³

The process of successive basin solar evaporation subsequently spread along the overland trade routes that connected China to the Middle East and continued on to Europe. By the twelfth century, a number of major saltworks were using this process around the Mediterranean basin.¹⁴ However, it would be another six hundred years before similar works were established in the neighboring Southern Red Sea Region. This lag is surprising. The Red Sea is the most saline open sea in the world. High levels of evaporation and low levels of water renewal result in an average salinity of 40 PSU, 15 percent higher than the global seawater average. The Red Sea also has a longer evaporation window. Owing to the wet/dry seasonality of the Mediterranean region, there are, on average, only one hundred days of evaporation per year. In the arid Southern Red Sea Region, there are up to 280 days of evaporation per year. This has an important impact on the amount of salt that can be produced. Whereas in the Mediterranean there can be just two salt harvests each year, in the Southern Red Sea Region there can be five.¹⁵

Despite the Southern Red Sea Region's suitability for successive basin solar evaporation, local communities did not adopt the practice. In part, this was because it was incompatible with other economic strategies. Communities in this harsh region survived and flourished because they were able to exploit a basket of resources.¹⁶ Dedicating long stretches to harvesting salt would have taken too much time away from tending to herds or fields, or to home crafts. Salt production was a secondary or tertiary activity that had to fit in alongside more central ones. For example, Tigre peasants from the Ethiopian highlands would migrate to the salt flats of southern Eritrea for just a few weeks per year to mine salt to bring back with them.¹⁷ The Afar, whose rangelands include much of the Danakil Depression, mined salt to complement their investment in transhumant pastoralism.¹⁸ Further, surface salt deposits were too plentiful and too easily accessible to warrant the investment in other forms of salt production: enough salt could be mined in the Southern Red Sea Region to meet local demand. With no significant foreign market for surplus yield, there was no reason to produce any more.

The first significant long-distance trade in salt began in Europe in the mid-sixteenth century. Initially confined to intra-European trade, this pattern of trade spread elsewhere over the next two centuries. The establishment of this trade was the result of three developments local to Europe. First, Britain began producing cotton textiles for export. Since cloth is light, ships carrying it needed ballast. Second, British salt-producers began using coal to fuel the boilers that evaporated the seawater in their saltworks. This dramatically reduced the cost of salt while increasing the output of salt in Britain. Third, the saltworks in continental Europe were destroyed during the Thirty Years' War. The emergence of the intra-European salt trade demonstrated that cheaply produced salt used as ballast in ships conveying other cargoes could be profitably sold abroad. Subsequently, British merchant ships started carrying salt to eastern Mediterranean and Indian ports in an effort to break the Portuguese and Dutch trading monopolies. They also began carrying salt to Britain's North American colonies. The use of salt as ballast then became generalized, as other North Atlantic countries industrialized and expanded their international trade.¹⁹

This important trade development had a delayed impact on the Southern Red Sea Region because it coincided with a general slowing down of trade in the region. In the middle of the seventeenth century,

the Southern Red Sea Region entered into a megadrought lasting nearly two hundred years. The endemic food crisis that resulted from uncertain grain yields in turn set off a political crisis that ultimately led to the collapse of centralized state power in Sudan, Ethiopia, and Yemen, as well as to the end of Ottoman control over the Hijaz.²⁰ Instability caused the economy of the region to contract sharply. The Indian merchant firms that controlled the long-distance maritime trade between the Southern Red Sea Region and Indian Ocean ports withdrew their representatives and concentrated their efforts on the East African littoral. By the time wet conditions returned in the second quarter of the nineteenth century, there were just a handful of Indian merchants residing at each of the Southern Red Sea Region's main ports, and just one or two Indian ships docked at the region's ports each year.²¹ As a result, there was not enough demand for salt as ballast to stimulate the construction of successive basin solar evaporation saltworks in the region.

THE RED SEA BECOMES A SALT RESOURCE

The new political architecture of late-nineteenth-century international imperial competition remade the salt dissolved in the Red Sea into resource. A chief driver of this change was the sudden rise of Egypt as an important regional power. Egypt had also been plagued by decreasing crop yields and political instability during the megadrought. Repeated famines throughout the eighteenth century were followed by the French conquest in 1798 and the subsequent British invasion. After the restoration of Ottoman power at the start of the nineteenth century, Muhammad Ali, the wali (viceroy) of Egypt, sought to strengthen the state by eliminating the remaining Mamluks, modernizing the military and developing new sources of income for the state treasury. This multifaceted program led Muhammad Ali to send his forces to drive the Saudi-Wahhabi Emirate out of the Hijaz in 1811–12, to conquer Nilotic Sudan in 1820–21, and to compel the pastoralists of eastern Sudan to submit in 1840–44.²² Though he would turn the Hijaz back over to the central Ottoman state, the newly conquered Sudanese territories formed the nucleus of Egypt's African empire. Subsequent rulers of Egypt expanded this empire and claimed the entire African Red Sea littoral up to Cape Guardafui at the tip of the Horn of Africa. Though Egypt was an Ottoman province, Muhammad Ali established effective autonomy

within the empire and installed his family as the territory's dynastic rulers. This de facto political arrangement was finally formalized in 1867, when Sultan Abdulaziz recognized Ismail Pasha, the grandson of Muhammad Ali, as the hereditary, autonomous khedive of Egypt.

Muhammad Ali and his successors introduced a new conceptualization of the state to the Southern Red Sea Region. Previously, the state was embedded in a complex web of dependence based on mutual, though unequal, obligations between ruler and ruled. The state could command tribute from its subjects because it offered protection from physical violence and economic hardship. During times of want such as famines, the state was obliged to provide assistance and acted as a kind of safety net. Under Egyptian rule, this ended. Within the Egyptian imperial state, colonial territories and all of their constituent parts (i.e., land, water, human populations, etc.) were resources to be exploited for the treasury's benefit. Alongside efforts to force farmers to turn over their land to new cash crops and to collect high levels of tribute from pastoralists, Egyptian officials sought to command the salt economy of their African empire. Reconfiguring patterns of salt production, distribution, and consumption for the benefit of the state required three operations. First, officials curtailed the consumption of mined salt. As part of a larger campaign to conquer Ethiopia, the Egyptian army occupied the salt flats in the Danakil Depression in 1845.²³ Though the campaign was ultimately unsuccessful, Egyptian officials used their control over this area to limit salt mining. The mined salt was reserved for export to the Ethiopian highlands only. As a result, communities along the African Red Sea littoral were cut off from their traditional source of supply. Second, officials had successive basin solar evaporation saltworks constructed all along the coastline. Rather than operating the saltworks themselves, officials annually auctioned the concession to work each of the saltworks. Third, officials limited local choice. Each concessionaire was granted a monopoly for selling that year's harvest to a defined population. For example, the Habab and southern Bani Amar were only allowed to purchase salt harvested at the Hasmat Harun saline.²⁴ Each of these operations represented a new extension of state power. Together, they transformed the salt dissolved in the Red Sea into a resource.

Ottoman officials similarly took over the salt economy of their Arabian territories as part of the Tanzimat reforms that sought to modernize the Ottoman Empire in the third quarter of the nineteenth century.

At the time, the Ottoman state was in debt and needed new sources of revenue. The establishment of a state salt monopoly allowed the government to profit from the production, sale, and taxing of salt within imperial markets.²⁵ However, these reforms were not enough to stave off bankruptcy. In 1881, the Ottoman state was forced to cede control over much of its finances and revenue-generating ventures to the Ottoman Public Debt Administration, a functionally independent organization staffed by representatives of the Ottoman state's European creditors. At its inception, this administration took over the salt monopoly. Immediately, the administration focused on ramping up production so as to produce salt in excess of domestic demand for export. In the Ottoman Empire's Red Sea territories, this translated into increased investment in salt mining. Rather than establish artificial saltworks along the coast, officials improved the infrastructure at the Salif salt dome and ramped up production with the goal of capturing the Indian market. Under this program, exports of salt to India from Ottoman Red Sea ports increased from nothing in 1882 to in excess of 70 million kilograms per year in the first decade of the twentieth century.²⁶

The Ottoman Public Debt Administration was able to tap an unserved demand for salt driven by the need for ballast. After over a century of contraction, the trade between the Southern Red Sea Region and the broader Indian Ocean world expanded over the course of the nineteenth century. By 1840, on average, forty-six large or medium-sized cargo ships from India, plus four hundred smaller dhows from the Persian Gulf and the East African coast, docked each year at Jidda alone.²⁷ The opening of the Suez Canal in 1869 further stimulated maritime traffic in the Red Sea. Though traditional vessels continued to carry shorter-haul cargoes, the long-distance trade to India shifted to the increasing number of steamers calling at Southern Red Sea Region ports in the final third of the nineteenth century.²⁸ But the trade at ports in the Southern Red Sea Region was one-sided. The interior of the Southern Red Sea Region was unable to produce sufficient grain to support its population. As a result, communities in the region imported large quantities of grain from centers of production in India and the Persian Gulf.²⁹ At the end of the 1870s, over 250,000 bags of grain were being imported into Jidda each year.³⁰ Yet, the Southern Red Sea Region produced few goods in demand in foreign markets. Generally, the region settled its negative trade balance by exporting specie. In addition, the establishment

of coal-bunkering facilities in the Southern Red Sea Region, a region with no significant coal deposits, ensured that ships carrying coal to these ports would have little to fill the empty space after unloading. As a result, ships leaving Southern Red Sea Region ports needed ballast. Rock salt mined at Salif quickly met this purpose.

The success of the successive basin solar evaporation saltworks on the African littoral and of the Salif salt mine on the Arabian littoral inspired European colonial agents to see the salt dissolved in the Red Sea as a resource. The commercial exploitation of this resource began shortly after the establishment of European claims to the region. Within months of taking over the port of Massawa in 1884, Italian officials began offering salt concessions at 50 lire for every one thousand kilograms produced.³¹ British officials at Aden gave the Italian firm of Messrs. Burgellas Ajola and Company permission to erect and operate a saltworks in Shaykh Uthman in 1886, just six years after they established their control over the area.³² Similarly, the new British rulers of Sawakin auctioned the concession over the saltworks in neighboring Rawayah less than two years after taking over the government of that port in 1884.³³ French officials established a saltworks near Djibouti in 1889, less than five years after construction of that new port city had begun.³⁴ Each of these ports needed a saltworks that could consistently produce large quantities of salt to attract merchant ships. Furthermore, the establishment of European colonial rule exacerbated the negative balance of trade, as it increased the demand for foreign manufactured products and initially failed to increase exports significantly. Under such trading conditions, the availability of large quantities of exportable salt was a necessary port facility.

Red Sea salt was preferable as ballast than the traditionally used rocks because it could be sold abroad for profit. The majority of sea salt produced in the Southern Red Sea Region was destined for India's Bengal Presidency. This demand was created and maintained by British imperial policy. Bengal could have produced its own salt: in fact, neighboring Bombay and Madras Presidencies were salt exporters. This difference between the salt economies of three presidencies was the direct result of official intervention. Each of these presidencies had their own salt administration. Unlike their counterparts in Bombay and Madras, the officials that ran the salt administration of Bengal gave preference to free trade over protecting local industry. This free-trade policy allowed cheap Red Sea salt to flood the local market, undermining local production.³⁵

The saltworks at Djibouti, established in 1900 on a 270-hectare concession by Les Frères La Fey, was the only one in the Southern Red Sea Region that did not initially specialize in serving the Bombay market. Until the First World War, the major market for this saltworks was Ethiopia. Less than 15 percent of its output was exported by sea.³⁶ Here, too, patterns of trade were shaped by imperial structures. While the Southern Red Sea Region salt industry was being established, British, French, and Italian officials were waging first a military and then a diplomatic campaign designed to carve up territory claimed by the Ethiopian state. Though Ethiopian emperors had long claimed some level of sovereignty over the littoral region, by the start of the twentieth century they no longer had access to the sea. At the same time, intensification of trade throughout the region increased demand for the salt bars known as *amolé* that were used as a currency in much of highland Ethiopia. *Amolé* were formed from salt mined in the Danakil Depression, and their value in their standard bar form was far in excess of the value of their constituent salt.³⁷ With mined salt reserved for their currency, Ethiopians needed another source of alimentary salt. The saltworks at Djibouti stepped in to meet this demand.

Despite a temporary contraction owing to the First World War, the market for Southern Red Sea salt increased rapidly in the first third of the twentieth century. The end of Ottoman rule in Arabia during the First World War led to the suspension of mining at Salif. As a result, the only significant source of supply for maritime export was salt produced from seawater through successive basin solar evaporation.³⁸ Already existing saltworks were expanded, and new works were constructed. By 1930, the saltworks at Djibouti had been enlarged to cover over 650 hectares and was producing around 70 million kilograms of salt per year. These saltworks were able to increase production because they, too, had captured part of the Indian market.³⁹ Other Southern Red Sea Region saltworks also profitably increased their yields because Indian markets absorbed as much as they could produce. Over the same period, producers in Eritrea increased their annual salt exports to India to 104 million kilograms.⁴⁰ Simultaneously, new saltworks were constructed in Aden in 1907 by the Indo-Aden Salt Works, followed in 1923 by Messrs. Cowasjee Dinshaw and Brothers, the Little Aden Salt Industrial Company and Hajeebhoy Aden Salt Works Limited.⁴¹ Combined, Southern Red Sea Region saltworks were exporting over 620 million kilograms of salt to Bengal each year at the start of the 1930s.⁴²

FROM ALIMENTARY TO CHEMICAL RESOURCE

The spread of nationalist ideas in the middle third of the twentieth century threatened to unmake the Red Sea's status as a salt resource. No less a figure than Mahatma Gandhi recognized that salt sat at the intersection of imperial policy and personal consumption. At Gandhi's insistence, the Indian National Congress decided that protesting the Raj's salt policy would be the first act of civil disobedience following the 1930 declaration of sovereignty. Gandhi and his followers' actions in India had important consequences for the salt producers of the Southern Red Sea Region. The nationalist's twenty-four-day protest march led British officials in India to implement a set of reforms, including levying a duty on all salt imported into India from abroad. This duty was enough to make imported salt uncompetitive in Indian markets. Salt producers in Aden successfully lobbied the government to have their salt exempted from this tariff on the grounds that, though geographically removed from the subcontinent, the colony was administered by the Bombay Presidency. However, this exemption was short lived. In 1937, Aden was turned into a colony in its own right, separate from India, to be administered through Britain's Colonial Office. As a result, sea salt produced at Aden, like that produced in Sudan, Eritrea, and Djibouti, could no longer be profitably exported to India.⁴³ The end of the trade to India was a major setback for Southern Red Sea Region salt producers. They could not easily find another export market because their salt was of inferior quality. Ships routinely left Southern Red Sea Region ports for Europe, but Europeans demanded finer, purer salt than could be produced in the region.⁴⁴

The Southern Red Sea Region salt industry was saved from collapse because salt was undergoing a revaluation. Previously, salt's main value was as a food additive; only secondarily was it a product for industry. Salt had long been used to produce sodium carbonate, a key ingredient in the production of glass, soap, and textiles. However, over the course of the twentieth century, new industrial processes were invented that needed sodium, chloride, and their respective compounds. Sodium hydroxide came to play a key role in the production of synthetic dyes, rayon, and phenolic plastics. Chlorine compounds came to be used as refrigerants, propellants, solvents, and pesticides, among other substances.⁴⁵ Southern Red Sea Region salt was well suited to these purposes. First, it was

cheaper than other salts precisely because it was considered of low quality. Second, all the infrastructure that had been erected to make Southern Red Sea Region salt available for Indian consumers remained in place, the saltworks, roads, port facilities, and cargo space were all still usable.

The main driver of the revaluation of Southern Red Sea Region salt was the Japanese state. Since the Meiji restoration in the middle of the nineteenth century, the Japanese state had been undertaking a policy of modernization that drove rapid industrialization. Increasing industrial production required the importation of ever more raw materials. Though initially Japan imported primarily from its neighbors, by the early twentieth century it was needing to import industrial inputs from further afield. Securing sufficient salt for industrial production became an issue when China placed restrictions on salt exports to Japan in the 1920s. French imperial officials, rightfully recognizing this new trade opportunity, responded by sending a sample of Djibouti salt to the Japanese government.⁴⁶ This maneuver worked, and, in the 1930s, Japan began importing salt from Djibouti. Between 1933 and the suspension of trade in 1940, 221 million kilograms of salt were exported from Djibouti to Japan.⁴⁷ France's gambit had important spillover effects for Eritrean saltworks as well. Japan went from importing no salt from Eritrea in 1930 to importing 160 million kilograms, or 92 percent of the colony's total salt exports, just four years later.⁴⁸ Though the Second World War suspended this trade, it expanded afterward. American redevelopment planning and postwar Japanese nationalist sentiment led to the implementation of a top-down investment strategy that favored big industrial corporations.⁴⁹ By 1950, increasing demand for salt in Japan was spurring investment in Eritrea. That year, new salt pans were created at Massawa and Assab, nearly tripling the territory's output.⁵⁰

The demand for Red Sea salt as a food additive did not disappear completely either. Red Sea salt was still the main source of alimentary salt for local communities. This led to a bifurcation of the salt trade. Since there were exceptionally low levels of development in the Southern Red Sea Region, the internal salt trade was driven almost exclusively by local tastes. On the other hand, the export trade was entirely a factor of global industrial demand. Though the profits of saltworks were driven by exports, the strength of the internal market was crucial for their long-term viability. This became apparent in 1955, when global overproduction of salt led the price to collapse. The resulting sharp contraction of

the international salt trade meant that producers had to rely on their local markets. Those that could scale down to meet local demand only and still be profitable survived. Those that could not, closed. Saltworks in Sudan and Yemen survived because the populations of these countries were big enough that local demand was sufficient. Although Eritrean saltworks weathered the crisis, the Djibouti saltworks failed for the same reason. On September 15, 1952, Eritrea was federated to Ethiopia under the rule of Emperor Haile Selassie. To encourage the Eritrean salt industry, Haile Selassie ended the monopoly of the Djibouti saltworks in Ethiopia. Unable to compete in Ethiopian markets without this special concession, the Djibouti saltworks were forced to rely on the local market. This proved too small, and in 1957 the saltworks closed.⁵¹

When the international salt trade ramped back up again in the 1960s, salt producers in Sudan, Yemen, and Ethiopia/Eritrea were able to resume exports. As the use of chloride compounds in industrial production became more widespread, the number of important export markets for Red Sea salt increased. In the final third of the twentieth century, Southern Red Sea Region producers exported large quantities of salt to the United States, South Korea, Kuwait, and Japan.⁵² This boom was possible because the infrastructure that allowed the production and export of salt already existed. However, political instability threatened this infrastructure. During the Eritrean War of Independence (1961–91) and the Eritrean-Ethiopian War (1998–2000), this infrastructure was largely destroyed. The infrastructure that supported sea salt production on the Arabian coast largely survived the numerous civil wars that plagued Yemen in the second half of the twentieth century. However, the ongoing Yemeni civil war and Saudi-led military intervention has destroyed the means of both extracting the salt from the sea and exporting it to distant markets. By 2017, Yemen had not only ceased to be a salt exporter, it had itself become reliant on high levels of salt imports to meet local demand.⁵³

CONCLUSION

The Southern Red Sea Region is no longer a major exporter of salt. Of the Southern Red Sea Region's seven countries, all but two are dependent on salt imports to meet national demand. The exceptions are Sudan and Saudi Arabia, but only Sudan actually extracts its salt from the Red

Sea. The majority of Saudi Arabia's salt production is located in eastern Arabia and utilizes saltwater from the Persian Gulf. The sodium chloride dissolved in the Red Sea remains a resource only for the people of Sudan. For the rest of the region, the seawater is just seawater, and salt is an imported commodity. The global political conditions that once gave this natural substance its value have changed, rendering it virtually valueless.

Ships docking at Southern Red Sea Region ports now bring with them cargoes of salt, a reversal in the previous direction of the salt trade. At its peak, all the ships leaving the Southern Red Sea Region for the Indian Ocean carried salt as a cargo. Red Sea salt literally kept these ships afloat and, as a result, saltworks were crucial trade facilities. Though the production of salt at these works involved just seawater, shallow pans, solar radiation and human labor, they required a specific set of international political arrangements to function. A world-encompassing system of colonial control and imperial privilege created the framework for the initial investment in salt production in the Southern Red Sea Region. Once the infrastructure had been built, it became resilient enough to withstand the establishment of a new global order in the second half of the twentieth century. However, under prevailing current political and economic conditions, it seems unlikely that a similar investment in rebuilding the war-damaged salt infrastructure will be made.

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THREE

The Flow of Bohea

*The Tea Trade in the Indian Ocean World
(Seventeenth to Nineteenth Centuries)*

KUNBING XIAO

THE SOCIAL LIFE OF THINGS AND THE CIRCULATION OF KNOWLEDGE

For many centuries, China has been a major supplier of tea to European markets. From the seventeenth to the nineteenth centuries, Bohea, a special tea produced in the northern mountainous region of Fujian in China, was one of its most successful international products. Of all Chinese teas, export volumes of Bohea were by far the largest. This contribution focuses on the history of Bohea, showing that, more than its allegedly superior taste, its convenient location along existing tea routes, or its supposed medical and “magical” effects, its success and global relevance depended on its affordable price and its material characteristics.

Since Bohea is still regarded as one of the finest teas in China, it is often assumed that it has always been a high-quality tea. Contemporary

commercials constantly repeat the legendary story of Catherine of Braganza's passion for this drink, which has greatly contributed to its fame. It is said that when Catherine of Braganza arrived from Portugal to marry Charles II of England in 1662, she brought with her a casket of tea.¹ She drank the red-colored liquid at her wedding ceremony, greatly impressing the British aristocrats, and in the following years she continued drinking black tea to comfort her homesickness. Catherine's fondness for tea made it fashionable in England as an elegant drink, at first within the court, and then with the British public at large. However, historical sources reveal that, in the seventeenth century, Bohea was considered an inferior tea.

From the leaves plucked from the *Camellia sinensis*, tea passed through the hands of different categories of persons: tea grower, tea maker, tea dealer, Chinese tea laborer, imperial tax official, "hong"² merchant, inspector, "supercargo,"³ captain, stevedore, tea buyer, retailer, etc., before reaching consumers' teacups. Accompanying the flow of tea across the Indian and the Atlantic Oceans, knowledge of tea also traveled, crossing the ocean to reach western countries. As Arjun Appadurai points out, long-distance intercultural flows of commodities are composed of interconnected, small-scale, homogenous, low-technology locations through which the commodities flow. While knowledge about such commodities is always potentially uneven in a population, it becomes even more so as distances between locations increase, with peoples' different knowledge (or ignorance) of particular commodities creating tensions that have to be negotiated, but which help determine their intercultural flow. Commodities like Bohea tea represent very complex social forms and distributions of knowledge, which, broadly speaking, can be of two sorts: knowledge (technical, social, aesthetic, and so forth) that goes into the production of the commodity, and knowledge that goes into its "proper" consumption. The two are quite distinct and diverge even more as the spatial, temporal, and social distance between producers and consumers increases. Knowledge, information, and ignorance are thus not just defined in terms of the production and consumption poles of the careers of commodities; they characterize the actual process of circulation and exchange.⁴ For this reason, it is particularly interesting to follow the social life of Bohea to see what actually contributed to making it the best-selling tea for almost two centuries. As this contribution will show, despite the many

attributes associated with Bohea, it is, first and foremost, its particular materiality that was the key to its success.

This chapter discusses three steps along the routes taken by this tea. It starts by looking at the tea's origin in the Wuyi Mountains in the north of Fujian. It follows its route through the Chinese treaty port cities by focusing on the handling of two major trading companies: the Dutch *Vereenigde Oostindische Compagnie* (VOC) in the early stage of the Sino-West trade, and the British East India Company (EIC) from the eighteenth to nineteenth centuries. Finally, it discusses consumption of Bohea by foreigners.

BOHEA'S ORIGINS AND THE ACCUMULATION OF COMMERCIAL TEA KNOWLEDGE

The name “Bohea,” *Wuyi* (武夷) in Mandarin, can be very confusing for present-day consumers. Bohea is the name of both the producing region and of its special tea. Furthermore, two different teas are produced in the Wuyi area: Wuyi Rock Tea (oolong tea) and Lapsang Souchong (black tea).⁵ Identifying Bohea is thus controversial, and it is not known to which category the name referred to in the early global tea trade. Since 2005, the Lapsang Souchong produced in Wuyi has gone through a cultural and commercial revival in China, where black tea was not part of the tea-drinking tradition.⁶ Not surprisingly, modern advertisements for Lapsang Souchong refer to the British craze for black tea in earlier days. Local literati and tea-factory owners all repeat this same story about its origins:

One day, during the turmoil of the late Ming Dynasty, a troop of soldiers passed through the village of Tongmu (桐木) in Wuyi Mountain during the tea-harvesting season. It was getting dark, and soldiers needed to find a place to stay overnight. A tea-processing factory along the road caught their eyes. The factory owners and tea workers had fled to the nearby mountains to hide in advance of the soldiers' arrival, leaving unprocessed tea leaves on the floors of the factory in the rush. The soldiers were very tired and the fresh leaves seemed soft, so they slept on them for one night before leaving early in the morning. After the soldiers' departure, the tea workers returned to the factory and found the tea leaves dehydrated and turning black due to the soldiers' bodily

warming. It was no longer possible to dry these leaves according to the regular method. Yet, they did not want to waste them. Therefore, they cut down some locally grown masson pine trees and dried them with a pinewood fire. The tea made in this way looked black and had a smoky flavor. The Chinese market would not like this strange tea, and so the villagers packed the tea for the nearby Xingcun fair and sold it at a very low price. This ‘special tea’ was bought by the Dutch merchants and later sold to the British. To the locals’ surprise, the smoked tea captured British hearts and resulted in a pre-order of this tea for the following year at a price two to three times higher than normal. From then on, the locals specialized in producing this black tea for the foreign trade.⁷

Although this widespread story about the origins of Lapsang Souchong is likely to have been made up just to enhance the historical tie between black tea and the British, it still reflects Chinese people’s general appreciation of tea at that time and how they imagined the British craze for black tea. Local people credited the success of Lapsang Souchong on the international market to a series of “accidents.” The earliest written record of exports of Bohea appeared in 1640: “Chongzhen 13th year of Ming Dynasty (1368–1644), black teas, including Congou, Bohea, Souchong, and Pokoe, began to be exported to Britain via the Netherlands.”⁸ In this legendary story, the Chinese and foreign markets had contrasting opinions about the quality of these teas. The value of Lapsang Souchong (Bohea) resulted from a misunderstanding and a gap in communication, but the foreigners’ ignorance benefited the business of the local tea makers. After indirect feedback from the middlemen, the local literati imagined and recorded how respectfully the British consumed Bohea: “the English said that the color of Bohea, as red as the agate, and its quality, was far superior to those produced in India and Ceylon. Whenever they were served with Bohea, the guests would stand up to show their appreciation.”⁹

The overlapping use of Bohea and Lapsang Souchong, and the use of a dialect word to name it, are significant and also reflect the connection between the tea’s origin and the port city (Xiamen) from where it was shipped. In 1684, the Qing government lifted restrictions on maritime trade and Xiamen became one of the four ports open to foreigners. Foreign traders therefore bought the tea in Xiamen and drew from the

local Minnan dialect the word “Bohea,” really the Wuyi mountainous region, to refer in general to teas from Wuyi.¹⁰

For the success of any product, two factors are crucial to middlemen and consumers alike: price and quality. Foreign merchants always complained about the poor quality and high price of the tea provided by the hong merchants. To break the imperial blockade and the hong merchants’ monopoly of the tea supply, a few employees of western companies, including Samuel Ball and Robert Fortune, who both reached the Bohea hills,¹¹ visited the tea-producing area, disregarding the Qing government’s prohibition on entering the interior of the empire. Multiple reasons explain these risky journeys. First was the need to collect as much knowledge as possible about tea to be able to negotiate better with the hong merchants, instead of depending entirely on middlemen for the deal. Secondly, there was an aim to build direct business ties with local tea suppliers, thus avoiding profit draining to agencies in the port cities. The third and most challenging reason was to transplant tea plants to British colonial possessions. This last mission, however, could be achieved only with imperial-level support. Robert Fortune, a Scottish plant hunter hired by the EIC, undertook a three-year plant-collecting expedition to southern China and eventually transplanted 20,000 tea plants and seedlings to the Darjeeling region of India. The Bohea hills were Fortune’s major destination. One of his most significant discoveries for the Western world was that black tea and green tea originated from the same variety of tea plant and simply resulted from different processing methods. Before Fortune’s visit to the Bohea hills, some British authors thought that the black teas were produced from a plant called by botanists *Thea bohea*, the green one from *Thea viridis*. Fortune had already been in the Singlo Hills, an area renowned for its green tea plants, where the Hyson, Gunpowder, Singlo, and Twankay green teas were produced. Since the Bohea region was known to produce black tea, he assumed that the plants were different. Yet, to his great surprise, he found out that the plants in the Bohea region were exactly the same as those in the green tea districts of the north. Thus, Bohea refers to tea from this region, regardless of whether it is green or black.¹² In 1836, earlier than Fortune’s expedition, a French traveler had already visited the Bohea hills and figured out that green tea and black tea originated from the same plant, being distinguished only by the length of time the leaves were dried. He also mentioned that the method of frying tea was a sort of national secret.¹³ With

the curiosity of the foreign visitor, he recorded the method of processing black tea, including the last step, the addition of calcium sulfate and indigo powder to obtain its dark color (indigo enhanced the color, while calcium sulfate fixed it). Although this French adventurer recorded it as a regular operation, fraud apparently affected Bohea from the beginning, to be followed by many other instances throughout this commodity's entire production and marketing chain.

TREATY CITIES: THE ADULTERATION OF BOHEA AND WESTERN MERCHANTS' STRATEGIES AND RESPONSES

Purchasing luxurious and exotic goods such as tea, silk, and porcelain was quite profitable, yet it was also a risky commercial activity that relied on specific expertise. On the one hand, building upon their repeated negotiations with the hong merchants and accumulated experience, foreign tea buyers gradually developed a capacity to distinguish different categories of teas and check the quality of purchased tea. On the other hand, as tea was completely unknown to western consumers, selling it in the domestic market was not just limited to selling products to retailers and housewives directly, it also involved a series of knowledge transfers on how to prepare and consume tea. As middlemen, the so-called supercargoes were not only in charge of purchasing teas from China, they also played the role of disseminating knowledge. All tea buyers had to learn the various processes of producing tea from the Chinese brokers in order to develop their own ability to assess the quality of the teas, and to carefully judge and select which knowledge had to be confined in China and which information should not be circulated beyond the cargo ship (for instance, certain blending and packaging practices involving regular adulteration had to remain confidential within the tea-importing company). They were not only learning passively but were also engaged in producing an appreciation and knowledge of tea that were beneficial to tea companies and which had to be passed on to their consumers at home. The Chinese hong merchants and the western supercargoes were two key roles representing the seller and the buyer during the period of the Canton system. The supercargoes, as the company's representatives on each voyage, enforced the terms of these agreements and were held accountable by the company's directors for any variation in the detail of the shipped goods.¹⁴

The Canton system was disadvantageous to the foreign merchants, but it benefited the Chinese hong merchants, who had direct access to information. Foreign tea buyers in the treaty cities had little knowledge of either the Chinese market for their imports or the Chinese producers of their exports, and had only a vague picture of the tea-growing areas.¹⁵ Most hong simply operated as brokers or, more commonly, as contractors who took delivery of tea for resale and export. Hong merchants basically profited from the information they had, their contacts with the tea suppliers, and the privilege of engaging in foreign trade.¹⁶ By contrast, the supercargo, who was in charge of business with the Chinese hong merchants, had to show diplomatic skills in dealing with all these extraordinary situations, having not simply the courage to resist extortionate demands, but also the ability to conduct trade in the face of the demands made.¹⁷ The supercargoes had to be really knowledgeable and very careful about tea quality in order to evaluate the various sorts of tea and decide which one would prove more profitable and be worth buying.

From 1757 to 1842, due to the Qing government's policy of banning the maritime trade, Guangzhou was the only port to remain open and deal with foreign trade. After the Sino-British Treaty of Nanking (Nanjing) in 1842, Xiamen, Fuzhou, Ningbo, and Shanghai were also opened up as treaty ports. Every spring, numerous boats full of tea leaves traveled from the Bohea region through the internal river network to reach these five port cities. A local intellectual in Chong'an (an old name for Wuyi) depicted the flourishing scene as follows:

Around Grain Rain season, to Nantai (Fuzhou) tea was shipped,
Simultaneously, Amoy (Xiamen), Guangzhou, and Chaoshan were
opened, Going to Bohea is in pursuit of nothing,
But with fresh tea leaves boats are filled.¹⁸

As demand for Bohea in western countries increased, some foreign companies were no longer satisfied with merely purchasing tea from Chinese middlemen and began sending commercial spies to tea-producing areas. Robert Fortune's mission for the EIC was unquestionably a successful example. In addition to shipping tea seedlings to British India, he also brought skilled workers on contract to India. He was keenly aware that, to transplant tea plants overseas, knowledge about cultivating and

processing the tea should not be separated from the tea plants themselves. Thus, his job was not merely collecting plants, it also involved hiring and shipping the people who carried the embodied knowledge on a long-distance voyage.

When Fuzhou became an important tea trading port in 1853,¹⁹ some foreign companies like Russell & Co. began sending their Chinese staff to Wuyi Mountain to make purchases directly from the growers. This “up-country” system soon became the standard procedure for large companies. Tea purchased up-country was available for shipment several weeks ahead of “market tea” and at a lower cost.²⁰ The crucial reason for western companies’ preference for Bohea was certainly its low price. Data from 1780 confirm that the price of Bohea was the lowest of all the tea products that the VOC purchased from China that year. Accounting for as much as 64.27 percent of total trading volume in 1780, the prices of Bohea were only 0.36–0.5 guilders per pound, while the price of Gunpowder tea, by contrast, with a trading volume of only 0.12 percent, reached as high as 2.16–2.23 guilders per pound. According to VOC purchase lists from 1757 to 1783, compared to the other eight tea products imported from China, only the home order for Bohea was unrestricted and simply described as “as much as possible,” while other teas all had a recommended amount each year.²¹ The EIC contracts for 1793 also show that, compared to the prices of 27 teals per picul for Congo, 25 teals per picul for Twankay, and 57 teals per picul for Hyson, Bohea cost only 13.5 teals per picul.²² These data from the two major western import companies demonstrate that its profitability, rather than its quality, was what attracted western tea buyers. This economic rationality is also confirmed by the low rank attributed to Bohea by George Sigmond in his famous book on teas.²³ Given its low price, it was not necessary to adulterate it with inferior tea (a rather common practice for the finest green teas). Its market cost reflected its lower status compared to other teas, disproving the local tea growers’ present-day claim that Bohea has always been a superior quality product.

The tea business traditionally involved five steps: negotiating a contract, signing the contract, examining the tea samples, packing the teas, and loading and stowing the teas on the company’s ships.²⁴ The contract steps were based on mutual trust between the supercargoes and the hong merchants and their long-term cooperation (although back-and-forth negotiations could last for months), and the trading conditions were

clearly described in the contracts. Thus, fraud normally occurred when the tea was packed and loaded. Also, the loading order of the vessels indicates that Bohea was shipped as a cheap tea, and sometimes even served as ballast.²⁵ Morse notes that the EIC put a quantity of Bohea on board every ship to serve as ballast, though later it was loaded to secure adequate flooring for the finer teas. The VOC vessels practiced a similar loading order: the more valuable porcelain was loaded at the bottom, followed by Bohea, the cheapest tea, used to fill the porcelain chests in order to protect them. Most of the time the tea leaves had already been crushed when loading at the port because of the stevedores' lack of concern and could never meet the quality described in the contract. A daily record of the loading process made by a supercargo on November 3, 1764, shows that the task of packing tea was delegated to the Chinese forced contract laborers (known as "coolies") employed by the tea-supplying agents. In packing it, the laborers rammed the tea into the chests by trampling on it with their feet. According to the daily record for November 3, 1764: "Each nation which is packing screams a thousand times a day: 'do not grind the tea to dust, but stamp it straight up and down!' and perhaps one has 100 chests which are already half-full thrown back upon the heap of tea which is not yet packed, because the tea has been ground to dust."²⁶ Since the middle of the eighteenth century, Dutch home tea buyers frequently complained to the VOC about the dusty nature of the tea, Bohea in particular.

Western tea buyers were constantly confronted with adulteration by Chinese merchants. Sigmond points out that there were many counterfeit Boheas: two kinds of Bohea were shipped from China, Bohea from Fujian, and a lower quality tea manufactured on the spot and therefore called "Canton Bohea," a mixture of refuse Congou with a coarse tea called Woping.²⁷ An 1830 source relates that one-third of the company's Bohea tea was in fact produced in Woping, northern Guangdong.²⁸ This kind of commercial deceit was more frequent in the early stages, when western supercargoes were still ignorant about Chinese tea. Western tea buyers, however, gradually developed the ability to judge the quality of tea and began returning considerable quantities of teas on the grounds that they had been wrongly packed or artificially colored, or were inferior to the declared chop, and demanding that the Chinese merchants replace them. In 1783, no fewer than 1,402 chests, many containing Bohea, were returned in this way out of the shipments from 1781.²⁹

THE HOME MARKET: BRANDING BOHEA AS A SUCCESSFUL TEA PRODUCT

Although the imported price of Bohea was the lowest amongst the teas in China, consumers abroad knew nothing about tea. Their knowledge about making, appreciating, and selecting tea was highly dependent on the advertisements of tea companies and retailers' explanations. These agencies not only sold the product, they also screened, edited, and selectively shared their knowledge with their customers. They were supposed to be knowledgeable enough to direct home consumers in how to choose and make tea properly.

During the eighteenth century, Bohea was one of three kinds of tea generally available on the British market alongside two forms of green tea, Singlo and Imperial.³⁰ Compared to them, Bohea had two obvious advantages: it was more tolerant of long sea journeys (the flavor of green tea could disappear after a year-long sea voyage), and it was regarded as more resilient when being processed. While green tea can only be served as an infusion, Bohea's robust leaves tolerate reheating or even repeated boiling. These advantages explain its commercial success, as it was much more affordable for ordinary consumers, including in the emerging working classes. The increasing supply of sugar, resulting from British colonial expansion in the Caribbean islands in the eighteenth century, also greatly stimulated the consumption of black tea. For the British public, "a nice cup of tea" needed two elements: tea and sugar, both products reliant on the development of overseas plantations and global trade. As Mintz insightfully points out, the British addiction to sugar and tea was not the result of a "natural" taste preference, but was driven instead by the huge wealth that global tea and sugar trade could bring to the Empire.³¹

The term "Bohea" first appeared in the Western world in 1696, in *A Voyage of Surat in the Year 1689* by John Ovington, where three kinds of tea are described: Bing, Singlo, and Bohea.³² The first two were green teas; only Bohea was a "red" tea. In 1755, Samuel Johnson defined Bohea in his *Dictionary of the English Language* as "a species of tea, of higher color, and more astringent taste, than green tea."³³ In 1838, Charles Alexander Bruce's *An Account of the Manufacture of Black Tea*, though not mentioning the word "Bohea," provides the first description of the method of making black teas, proving that this tea product was the most highly appreciated by the British at that time.³⁴

By the middle of the nineteenth century, teas from China had become more affordable than ever before, which resulted in tea consumption spreading from the upper class to millions of households. To meet the increasing demand for Chinese tea among ordinary British who still lacked a basic knowledge of teas, some mass publications and guide-books were put on the market. Sigmond's *Tea: Its Effects, Medicinal and Moral* provided practical knowledge for differentiating teas from one another in the form of detailed descriptions of major tea commodities from China, which became a sort of guide for British consumers in the nineteenth century. Based on Sigmond's descriptions, the classification and grading of Chinese teas is shown below:

Table 3.1. Classification and Grading of Chinese Teas (based on Sigmond, *Tea: Its Effects, Medicinal and Moral*. London: Longman, 1839)

BLACK TEAS			
Name	Meaning	Characteristics	Remarks
Bohea 武夷	“Bohea is the name of a district celebrated for the growth of black tea, and it is generally applied in China to the varieties of black tea brought from that particular part of the country, in contra-distinction to those grown elsewhere.”	“The color is a darkish brown; the best is smaller in size and has a blackish hue: there is occasionally a tinge of green at the edges. The aroma is very faint. Upon infusion this tea gives a mahogany color to the water. It has a bitter taste requiring much milk and sugar.”	“Bohea teas are grown elsewhere of lower quality, i.e. Bohea Congou, Bohea Souchong or Bohea Pekoe.”
Congou 工夫	“A superior kind of Bohea: the leaves are gathered from the shrub somewhat earlier, or it may be occasionally a selection from the best Bohea.”	“It does not yield so high a color to water as Bohea, being a pale amber color, though the leaf has a blacker appearance.”	“Three varieties: Congou, Campoi Congou, and Anky Congou.”

(continued)

Table 3.1. (Continued)

Name	Meaning	Characteristics	Remarks
Souchong 小种	“The small kind is a good tea, well flavored. A higher quality tea than the best Congou.”	“It is crisper and drier than the other black teas.”	“Two kinds of Souchong: Caper Souchong and Padre Souchong.”
Pokoe 白毫	“The most valuable of the black teas.”	“The tea leaves are the most tender.”	“It is taken in a much more palatable form when mixed with Souchong than when it is drunk alone.”
GREEN TEAS			
Hyson 熙春	“The first crop of the green-tea plant.”		
Gunpowder 珠茶	“A Hyson gathered with great attention, and rolled with much nicety and care.”		
Singlo 松萝	“The last gatherings of the green tea during the summer season.”		
Twankay 屯绿	“The last gatherings of the green tea during the summer season.”		“Paler than Singlo.”

As it was the most widely consumed tea at the time, Sigmond dedicates more pages to Bohea than to any other tea. While admitting that the Chinese are tea connoisseurs, he points out that Bohea is not widely consumed in its country of origin (China), where even the humbler classes do not purchase it. This clarification is consistent with the story of the origins of Bohea/Lapsang Souchong, which stresses that this tea was disliked by the Chinese but favored by the British.

When Bohea appeared on the London market, its scarcity and its flavorful taste made it popular with consumers and allowed it to sell at a

high price. Within a few years, London tea brokers took advantage of the relative inexperience of the smaller retailers and their customers and began selling low-quality black tea from other regions, especially the counterfeit Woping, under the name of Bohea, so causing the progressive decline of its reputation. Gradually, in the eighteenth century, oxidized Bohea became synonymous with black tea in general and even with Chinese tea, as the method of fermentation used to produce black tea progressively stabilized and spread throughout China. This decline in its reputation also resulted from the increasing knowledge of tea among home consumers and the development of more subtle marketing strategies by the tea companies. While in the 1690s tea merchants described their best products in advertisements as “extraordinary superfine tea” without giving any specific tea name, by the first decade of the eighteenth century, East India Company sales began to specify different parcels of “Fine Singlo Tea” and “Bohea Tea” and to note the difference between “Green Tea” and “Bohea Tea.” By 1712, sales records divided tea into five categories: Bohea, Pekoe, Bing, Congou, and Singlo. These distinctions between teas of different manufacture and origin, along with the increasingly complex variety of flavors, aroma, and appearance, reflected the growing sophistication of the tea market and a greater curiosity about kinds of tea and modes of description and appreciation.³⁵ Commercial secrets regarding the packing and branding of tea were inseparable from a knowledge of tea selection, grading, and screening. This doomed the tea companies and the retailers. Even though they pretended to guide local consumers by distributing instruction manuals and posting commercials, this “knowledge sharing” was necessarily reserved: they were only willing to share knowledge that was beneficial to their business and not the grading and branding secrets, as they always had to be more knowledgeable and smarter than their customers. Along the commercial chain, from the source in the Bohea hills in China to the end of the chain in western consumers’ teacups, adulteration and fraud happened at all stages. In their own interests, Chinese producers, hong merchants, and international EIC and VOC tea buyers either mixed tea with other substances or deceived the downstream middlemen in other ways. Dutch home tea buyers complained that the company’s coarsely packed “VOC teas” were heavily mixed with dust at the auctions, but in the meantime these same tea buyers benefited from selling the adulterated tea to the retailers, who might adulterate it even further before selling it on to the consumers.

CONCLUSION

By tracing the circulation of Bohea from its China origins to its major markets abroad, this chapter has demonstrated that its commercial success as a popular international commodity was, in a sense, predestined, and related to its unique materiality. The success of Bohea did not derive from it having a better taste than other teas (as claimed by modern Chinese tea growers), but from its profitable materiality: its leaves were more robust, larger, and more capable of withstanding repeated brewing and even boiling, making it much more affordable than any other tea for the working classes, who became the majority of tea consumers in Britain. As a truly transcultural, cross-linguistic and transregional commodity, Bohea was far more than a beverage from China. It was a product connected to chinoiserie, aristocratic taste, and to the material embodiment of an oriental lifestyle. Bohea's commodity value was socially constructed through a complicated entanglement and relationship of dependence between the various agents and the tea itself.

It is very hard to specify what is “authentic” about Bohea, as its identity and significance have been variously constructed and changed over time and space. The authenticity of Bohea derived from the mutual relationality and dependence of human beings and things, rather than from “the order of things” given by humans. It did not stem from apparent, fixed, and essential dualisms—such as truth and falsehood, real and counterfeit, agency and structure, knowledge and power, context and content, or activity and passivity—but rather from a subtle dependency in-between such dualities.³⁶ As Appadurai emphasizes, the knowledge that is required to produce luxury commodities, where more subjective and contestable criteria of taste, judgment, and individual experience are likely to create sharp variations, cannot be standardized.³⁷ Local tea growers, tea dealers, early explorers and plant hunters, hong merchants, supercargoes, stevedores, international import companies (VOC and EIC), home tea buyers, retailers, and end consumers—and the list could even be longer—all had the potential to add and contribute to building this knowledge. The higher the number of agents involved in the Bohea chain, the more flexible the interpretation and the opportunities for profit. Middlemen at different levels therefore played important

roles in constructing the value of this distant, exotic commodity by collecting, selecting, editing, and transmitting the knowledge necessary to appreciate it. Due to the geographical and linguistic separation of producers and consumers, screening and transmitting knowledge about Bohea were essential. The information that eventually appeared on commercial posters in Western countries was carefully designed, edited, and presented. The popularity of Bohea was certainly not an accident, as is commonly claimed in China, but the result of a well-conceived promotional strategy that highlighted its superiority as an affordable and resilient brew for consumers. The successful branding of Bohea perfectly embodies the exquisite marketing skill that facilitated a balance between the Chinese suppliers' concerns for quality and quantity, the emerging working-class consumers' yearning for a bourgeois lifestyle, the purchasing capacity of ordinary families, and the "vanity" of housewives on the one hand, versus the accurate pricing of tea on the other. Throughout the flow of Bohea, taste seems to have been the least important factor.

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NOTES

1. The Portuguese began importing tea from China at the beginning of the seventeenth century, and apparently Catherine grew up drinking tea at home.

2. "Hong" was a Chinese word (Chinese: 行) used for the major business houses based in Canton. The Thirteen Factories were the original hongts that the Qing Dynasty (1644–1911) permitted to engage in foreign trade.

3. A supercargo (from the Spanish *sobrecargo*) is a person employed on board a vessel by the owner of the cargo carried on the ship. The duties of a supercargo are defined by admiralty law and include managing the cargo owner's trade, selling the merchandise in ports to which the vessel is sailing,

and buying and receiving goods to be carried on the return voyage. In Chinese, the supercargo is called *daban* (大班).

4. Arjun Appadurai, "Introduction: Commodities and the Politics of Value," in *The Social Life of Things: Commodities in Cultural Perspective*, ed. Arjun Appadurai (Cambridge: Cambridge University Press, 1986), 41–42.

5. Since the 1970s, teas in China have been classified into six categories according to different degrees of fermentation, with the Wuyi mountain area prestigiously credited with being the original site of two of these six categories. Bohea at present includes two teas: one is Wuyi Rock Tea, which is grown downstream of the Jiuqu River and allegedly the ancestor of oolong tea; the other is Lapsang Souchong, which is produced in the upper stream area of the Jiuqu River. Grown at a much higher altitude and at a cooler temperature, it is considered to be the earliest black tea in the world. Today, Bohea is called Lapsang Souchong, a term that emerged much later in the international market, gradually replacing the term Bohea.

6. Huaqing Huang, *Chacun Shengji: Yige Fujian Chacun de Kongjian yu Shehui Bianqian* [Tea village livelihoods: space and social changes in a tea village in Fujian] (Beijing: Guangming Daily Press, 2020).

7. Kunbing Xiao, *Chaye de Liudong: Minbei Shanqu de Wuzhe, Kongjianyu Lishe Xushi 1644–1949* [Materials, spaces, and histories: tracing the circulation of tea in the mountainous region of northern Fujian 1644–1949] (Beijing: Beijing University Press, 2013), 93–94, original in Chinese, translation by the author.

8. Y. Xiao, *Qingdai Tongshi* [A general history of the Qing Dynasty] (Taipei, Taiwan: Shangwu Yinshuguan, 1972).

9. Chaoran Liu and Shixian Wu, eds. *Chong'an Xian Xinzhi* [The new chorography of Chong'an County] (Wuyi Mountain Municipal Annals Compilation Committee, 1996 [1942]).

10. The Minnan region is located in southern Fujian province and mainly consists of Xiamen (Amoy), Zhangzhou, and Quanzhou. Descendants of migrants from southern Fujian in Wuyi area still speak the Minnan dialect.

11. Samuel Ball, *An Account of the Cultivation and Manufacture of Tea in China* (London: Longman, Brown, Green, and Longmans, 1848).

12. Robert Fortune, *Three Years' Wanderings in the Northern Provinces of China* (London: John Murray, 1847).

13. Linsen Qian and Hongning Cai, trans. *Yige Fangui zai Daqingguo* [A foreigner in the great Qing Empire] (Jinan, China: Shandong Pictorial Publishing House, 2004), 102. (Original: E. D. Forgues, *La Chine Ouverte: Aventures d'un Fan-Kouei dans le pays de Tsin*. H. Fournier.)

14. Markman Ellis, Richard Coulton, and Matthew Mauger, *Empire of Tea: The Asian Leaf that Conquered the World* (London: Reaktion Books, 2015), 61.
15. Stephen C. Lockwood, *Augustine Heard and Company, 1858–1862: American Merchants in China* (Cambridge, MA: Harvard University Press, 1971), 41.
16. In 1760, by order of Emperor Qianlong, the Cohong was officially sanctioned as a monopoly.
17. Hosea Ballou Morse, *The Chronicles of the East India Company, Trading to China 1635–1834*, vol. 2 (Oxford: Clarendon Press, 1926).
18. Gan Zhong, “Chashi Zhayong (Collected Poems of Tea Market),” in *Wuyi Chajing* [The classic of Bohea], ed. T. Xiao (Beijing: Science Press, 2008), 472.
19. Although officially opened in 1844, Fuzhou was not really involved in foreign tea trade until 1853.
20. Lockwood, *Augustine Heard and Company, 1858–1862*.
21. Yong Liu, *The Dutch East India Company’s Tea Trade with China: 1757–1781*, vol. 6 (Leiden, Neth.: Brill, 2007).
22. Morse, *Chronicles of the East India Company, Trading to China 1635–1834*, vol. 2, 198.
23. George G. Sigmond, *Tea: Its Effects, Medicinal and Moral* (London: Longman, Orme, Brown, Green, and Longmans, 1839).
24. Liu, *The Dutch East India Company’s Tea Trade with China*, 79.
25. Morse, *Chronicles of the East India Company, Trading to China 1635–1834*, vol. 2, 364.
26. Liu, *The Dutch East India Company’s Tea Trade with China*, 168.
27. Sigmond, *Tea*.
28. Robert Gardella, *Harvesting Mountains: Fujian and the China Tea Trade, 1757–1937* (Berkeley: University of California Press, 1994), 37.
29. Morse, *Chronicles of the East India Company, Trading to China*, vol. 2, 88.
30. Ellis, Coulton, and Mauger, *Empire of Tea*.
31. Sidney W. Mintz, *Sweetness and Power: The Place of Sugar in Modern History* (New York: Penguin Books, 1985; repr. 1986).
32. John Ovington, *A Voyage to Surat in the Year 1689* (London: Oxford University Press, 1929).
33. Samuel Johnson, *A Dictionary of the English Language* (n.p.: Reeves and Turner, 1877 [1755]).
34. Charles Alexander Bruce, *An Account of the Manufacture of the Black Tea* (Calcutta: Huttman, Bengal Military Orphan Press, 1838). Charles Alexander Bruce was appointed superintendent of the Assam tea plantations program and was tasked by the EIC to plant Chinese tea in

Assam. Though his attempt proved unsuccessful, he carefully describes tea production methods.

35. Ellis, Coulton, and Mauger, *Empire of Tea*, 78.

36. Ian Hodder, “The Entanglements of Humans and Things: A Long-Term View,” *New Literary History* 45, no.1 (December 2014): 19–36.

37. Appadurai, “Introduction: Commodities and the Politics of Value,” 42.

FOUR

The Journey of Cloves

*Historical Trajectories and New Dynamics
of Organic Labeling on Zanzibar*

RUPERT NEUHÖFER AND HANNAH PILGRIM

INTRODUCTION

Cloves, as we know them, are dried flower buds that grow on clove trees (*Syzygium aromaticum*). They were first discovered on the Molucca Islands in present-day Indonesia. Containing ethereal oils (e.g., eugenol), they have been used as a household remedy (reportedly having a narcotic effect on toothache), for flavoring in cuisine, and as an ingredient in cosmetics and so-called *kretek* cigarettes (tobacco blended with cloves), which are mostly manufactured and consumed in Indonesia. While it is assumed that many cloves from Zanzibar end up in Indonesian *kretek* cigarettes, the relatively recent cultivation of “organic”¹ cloves on the East African island are destined for markets outside the Indian Ocean region. Since the mid-2000s, “organic” spices made in

Zanzibar promise enhanced quality and supply the rapidly growing markets for organic products in Europe and North America.²

However, how does a consumer in a supermarket in Europe or the owner of a restaurant in New York know that the cloves in his or her hands have been produced organically? One strategy for providing such transparency in the global economy is the standardization, certification, and labeling of commodities.³ These have become necessary operations within the global agro-food system in proving conformity, as the value and quality of a commodity cannot be directly communicated between the producer and the consumer. Instead, it is standards, certificates, and labels that replace trust once cemented by inter-personal relations. Today, an increasing variety of so-called voluntary (environmental and ethical) labels can be found, the EU organic products label and Fairtrade being among the best known.⁴

Since its emergence in the 1990s, research on organic certification has primarily been informed by political economy perspectives in the interdisciplinary field of agro-food studies. Against this background, current research aims to understand the differentiated “ways in which factors such as distinctive agrarian histories, the structure of the agricultural sector and the significance of cross-border [. . .] trade interact with systems of organic regulation”⁵ in specific regional contexts. As recent work on the organic certification of honey from Cuba⁶ and basmati rice from India and Madagascar shows,⁷ it is “the complex relations among nature, culture, and human agency that are enfolded into notions of [the] organic.”⁸ Recent research relating to Zanzibar’s spice industry omits organic cultivation and labeling as a field of inquiry and instead confines itself to more technical issues.⁹ It is therefore the aim of this chapter to fill this gap by unveiling how the recently introduced practice of organic labeling on Zanzibar interweaves issues regarding the clove’s materiality with historical narratives and new branding practices. By embedding this chapter in ongoing conceptual debates on the certification, qualification, and branding of commodities in the realm of marketization studies, we seek to show how the clove’s materiality relies on the creation of a specific sociotechnical apparatus. In doing so, we show how practices of documentation involved in the labeling process are often at odds with the culturally divergent ways in which “organic” quality is understood. On the other hand, we argue that, in an increasingly neoliberal food regime, such labels coordinate markets

with individual behavior and contribute to the complex entanglements between the material and the discursive production of Zanzibari cloves. For this purpose, it is especially important to follow a cultural history perspective on the “commodity biography”¹⁰ of cloves in the *longue durée* in order to be able to trace how the new labeling ties in with historical narratives of continuity and rupture on the Zanzibar archipelago.

HISTORICAL TRAJECTORIES

Spices, Colonialism, and the Journey of Cloves to Zanzibar

Historically, the clove’s journey can be traced back to the first century CE, when the Indian Ocean world constituted a major hub of regional trade connecting the Roman Empire with Southeast Asia.¹¹ Jumping roughly one millennium to around 1500, we find that early European explorations of the East were driven by attempts to control maritime choke points and thereby access to precious spices, thus challenging the dominance of Indian and Arab traders. Endowed with mythico-religious connotations, the desire and demand for spices grew rapidly, leading geographers and traders to tap into new territories and regions. Generally, Freedman summarizes the connection between rising European colonialism and the meaning of spices as follows:

Of all the world’s commodities, spices most dramatically affected history because they launched Europe on the path to eventual overseas conquest, a conquest whose success and failure affects every aspect of contemporary world politics. The passion for spices underlies the beginning of the European Colonial enterprise, a force that remade the demography, politics, culture, economy, and ecology of the entire globe.¹²

Focusing on the journey of cloves to Zanzibar from their origin in the Moluccas, it is assumed to have been Pierre Poivre who smuggled cloves and nutmeg from the Moluccas, which were under Dutch rule at that time, to the French colonies of the Mascarene Islands in the mid-eighteenth century.¹³ In 1810, Saleh bin Haramil al Arabay, an Omani translator well connected with the Mascarenes and later employed by Sultan Said, is said to have planted the first clove tree on Unguja, the main island of the East African archipelago of Zanzibar.¹⁴ As Croucher

states, “the establishment of clove trees on Zanzibar was [a] result of the fermenting colonial-commercial world of the Indian Ocean” during the nineteenth century.¹⁵

What followed became a “gold rush” that lasted almost a century, from the nineteenth to the twentieth, and that lifted Zanzibar to become an island of global significance.¹⁶ One aspect of this was the influence of Oman, which steadily increased in the nineteenth century and culminated in the transfer of Oman’s capital from Muscat to Zanzibar in 1840. The sultan’s move to the archipelago was a strategic choice, as Zanzibar was the destination of large caravan routes from Central and East Africa trading and shipping goods such as ivory and slaves.¹⁷ The profits generated by this trade were reinvested in clove production and led to the introduction of the plantation economy.¹⁸

This brought about capitalist modes of production enabled by slave labor and later the labor of their descendants, mostly originating from what was then Tanganyika, and generating large revenues for their owners, who were mostly of Omani descent.¹⁹ Despite a devastating cyclone striking the island in 1872 and destroying three-fifths of all the clove trees on Unguja,²⁰ Zanzibar’s clove production peaked around 1920, making it one of the major clove-exporting nations at that time.

*Volatile World Markets, Monopolization,
and Local Contestations*

The twentieth century saw the gradual state-led monopolization of the clove economy. Initiated by the Ministry of Agriculture, in 1927 the Cloves Growers Association (CGA) was formed to support farmers in the production and marketing of their cloves. Ten years later, the CGA’s mandate was extended to buying Zanzibari cloves at a fixed price for later sale on the international market. This was a political response to declining world market prices in the 1930s and later.²¹ After the Zanzibar Revolution in 1964, the CGA’s mandate was transferred to a new state authority, the Zanzibar State Trading Corporation (ZSTC), still today the sole buyer and seller of Zanzibari spices. Land reforms and collectivization parceled land out into three-acre plots (or approximately 1.2 hectares) and dispossessed the Arab plantation owners.²² These structural changes did not leave productivity untouched: from the 1970s to the 1990s, the number of exported cloves from Tanzania declined by almost 50 percent on average (Figure 4.1).²³

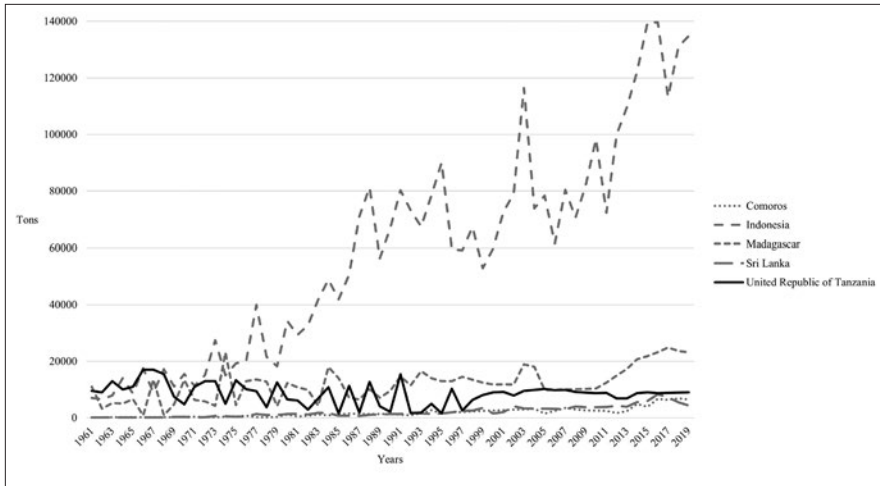


Figure 4.1. Development of clove production (in tons) from 1961–2019 (Source: Food and Agriculture Organization, United Nations). Created by authors.

In part, the decline in Zanzibar’s productivity can also be explained with reference to a growing discrepancy between high world-market prices in the 1970s and the stagnating prices offered by the ZSTC, which left farmers discontented.²⁴ Clove harvests processed by the ZSTC declined from roughly 17,000 tons in 1970–71 to about 12,600 tons in 1979–80.²⁵ The introduction of the Clove Market Law in 1985 ultimately led to complete monopolization: individual trading was prohibited, farmers were obliged to exchange their harvests for a return equivalent to 80 percent of the price on the world market, and quality criteria, with grades ranging from I to IV, were introduced.²⁶

Disputes over what was a fair return for farmers intensified in the years to come and culminated at the beginning of the 2000s. Farmers even set their clove trees on fire, indicating that the sale of firewood was economically more rewarding than the cultivation of cloves under the prevailing monopoly conditions.²⁷ Ultimately, the Zanzibar Clove Producers Organization (ZACPO) was formed to oppose the Clove Market Law, press for the liberalization of the clove trade, and demand increased transparency regarding how the ZSTC sold its cloves.²⁸ However, the latest official press releases indicate that the monopoly will continue to be adhered to, with the ZSTC stating, “Cloves are our lifelines; cloves are for the development of Zanzibar,”²⁹ while the former Minister for

Trade, Industry and Marketing argued, “We cannot let farming go into private hands because the commodity is the symbol of Zanzibar.”³⁰

It is clear from this that the clove has become a historically and culturally charged cargo that has acquired a cultural value of its own over a *longue durée*. The government’s conviction that the continuation of the monopoly is its best protection is also reflected in the state-initiated Clove Development Strategy, launched in 2010 for a period of ten years. Given the drastic decline in exports since 2017, from seven thousand tons in that year to less than two thousand tons in 2019,³¹ the proposed strategy aims to strengthen clove production in light of heightened international competition³² and a diversifying Zanzibari economy.³³ The strategy combines incentives and legislation by reconfirming the ZSTC’s mandate, promoting value addition (e.g., clove oil), registering spice farmers, providing low-interest loans, prohibiting the clearing of clove trees, and, lastly, introducing certification measures to increase quality.³⁴

The following turns to these recent developments, highlighting how the labeling process contributes to the making of “organic” cloves and their changing biographies. Our insights are based on multisited research, including on-site visits to plantations and warehouses, interviews with farmers, entrepreneurs, and other local experts, and on our participation in food fairs in both Zanzibar and Germany in 2018 and 2019.

POLITICO-ECONOMIC RATIONALITIES FOR “ORGANIC” CLOVES ON ZANZIBAR

The sun is rising in the azure blue sky, and the surrounding palm trees hardly afford any shade for the group of visitors, who are visibly suffering from the scorching heat. It is August 2018, and farmers, businessmen, experts, politicians, NGO representatives, families, expats, school classes, and journalists have come together to participate in an agriculture and food fair. Groups of people are drifting around the open-air exhibition on a meadow in the center of Unguja. At the edge of the exhibition area, Faru, a tall, imposing, and well-respected farmer, who politically campaigns for the interests of spice farmers on the island, hands the microphone over to Julius, one of his assistants. Standing next to a shallow hole in the ground, Julius excitedly explains the advantages of organic

farming and how composting can contribute to it. He illustrates how the compost needs to be layered to generate rich soil. Elsewhere on the ground, exhibitors attract knots of interested audiences gathering around small plots admiring oversized vegetables and fruit thanks to improved fertilizers and pesticides. Despite the juxtaposition of the promotion of both ecological and conventional agriculture, passionate talk of “organic,” “permaculture,” and “sustainability” is everywhere.³⁵

It was evident that the word “organic” was on everyone’s lips, an impression which was confirmed when Abdullah of Fresh Spice,³⁶ a start-up spice enterprise based on Zanzibar, referred to the recent shift in local food production as “organic euphoria.” Furthermore, he claimed that even the Ministry of Agriculture on the Tanzanian mainland had shifted its agenda towards organic farming.³⁷

Ironically, despite this new hype, farming on Zanzibar has never been anything other than organic. Faru, whose farm these authors visited after the fair, confirmed to us that spices have always been cultivated organically, that is, without any use of chemical fertilizer or pesticides. The term “organic by default” is often used for Zanzibari spices, as well as for foods grown elsewhere that are also produced without synthetic inputs (irrespective of intentional decisions or mere lack of access).³⁸ The fact that these organically produced foods “do not automatically qualify for certified organic status,” but instead have to rely on a whole apparatus of bureaucracy for this purpose, is at the heart of what Galvin describes as “the organic paradoxes and ironies [. . .] which hinge on the way in which the contemporary practice of organic agriculture has deviated from what Sir Albert Howard (1940) once termed ‘nature’s farming.’”³⁹

Before we turn to the analysis of how cloves from Zanzibar become “organic,” we first describe the current value chain and show why organic labeling is considered an enterprise worth implementing.

From the (Conventional) Clove Value Chain . . .

Today, conventional cloves are cultivated in an agro-forestry system in which spice farmers cultivate their spices in dense, mixed ecologies, with cloves growing alongside vanilla, pepper, nutmeg, or cinnamon, among other crops. The timing of the harvests, in January and again in August,

is vital, as delayed picking might coincide with the buds blossoming, which would make them useless for processing. The physically demanding and dangerous work, which includes climbing the trees, is mainly carried out by male workers from the Tanzanian mainland. After picking, the harvested buds are collected and dried on mats outside. Once dried, they are transported to collection points located all over the two islands of Unguja and Pemba, where ZSTC grades them for quality and reimburses the farmers directly. Since 2017, the fixed amount for a kilogram of grade I cloves has been fourteen thousand Tanzanian shillings (TSH), or about six USD.⁴⁰ State-owned vehicles transfer the collected harvest to warehouses at the port in Zanzibar town. Although from there onward, access is blocked, the presence of cloves is readily detected, as the full-bodied, aromatic scent escapes from the ventilation slits in the warehouses and fills the road. Here, the cloves are labeled, packed, and stored in bags to be shipped for export.

The question of where the cloves travel next raises suspicions. Abdullah of Fresh Spice assumes that ZSTC maintains connections with buyers who do not have representative offices on Zanzibar but still take certain quantities on a regular basis.⁴¹ In recent years, the international trade in Zanzibari cloves appears to have been dominated by an Indonesian firm that is also the main player in supplying the Indonesian *kretek* industry.

Although recent news suggests a more positive development, in recent decades the situation has been characterized by stagnation and uncertain prospects.⁴² Since cloves not only remain one of the main sources of Tanzania's foreign currency but are also closely tied to Zanzibar's identity as a former economic hub in a thriving regional and global economy, this problem has constantly involved social and political conflict, with lively local debates over how best to organize and revitalize the local industry. This is where Western start-up firms are currently entering the stage.

... to the Development of a Zanzibari Niche Market

These start-ups are relatively small in capital and size, being run by just a few employees seeking to supply food and catering industries with high-quality spices sourced directly from the islands. One of the new Western firms that is entering the clove trade on Zanzibar is Fresh Spice, founded in the early 2010s. Before, there had been a public-private partnership, which has since folded, but which was subsidized by several development

agencies seeking to link Zanzibari clove farmers with European food processors. Instead, Fresh Spice emerged separately as a for-profit but social enterprise whose driving rationale in starting its business was its identification of Zanzibar's clove industry as a promising niche opportunity. The assumption was that the demand for organic food in the Global North could be matched by the ability to produce certified "organic" cloves on Zanzibar.

At the outset, the making of "organic" cloves occurred alongside a change in organizational structure. In contrast to the prevailing scattered structure of smallholder farming, newly emerging start-ups prefer long-term engagement with farmer cooperatives. Fresh Spice describes itself as a "social enterprise," indicating that its business philosophy is inseparably intertwined with its mission to do good; as Abdullah put it, "We want to bring development to Zanzibar."⁴³

At the time of writing, Fresh Spice is cooperating with roughly fifty farmers (and rising) on Pemba who belong to three different cooperatives. For these farmers, cooperation pays off, as the cultivation of "organic" cloves results in monetary rewards: cloves with this designation are bought for seventeen thousand TSH per kilogram by the ZSTC, and later, after adding the government's margin, are redistributed to the start-up. For Fresh Spice, sustaining cooperation with its contracted farmers is essential, as this guarantees a steady supply, establishes mutual trust, and generates learning capacities in how to process the cloves.

Despite the monopoly still being in place, the influx of private enterprises into Zanzibar's spice sector seems to be increasingly welcomed by the government, which regards it as an opportunity to revive its spice industry. The government's hope is that entrepreneurs' investments, in adding value, might contribute to an overall increase in quality, with sales ultimately increasing again and allowing the contested monopoly to remain in place. Evidence for this can be seen in a government-driven attempt to introduce an island-wide certification scheme for "organic" cloves a few years ago.

Supported by the Danish government, the Zanzibari government teamed up with the Danish enterprise Smagfuldt to transform clove production on a large scale, including mapping plots with the help of drones to calculate output per farmer and the number of cloves to be certified. So far, however, this undertaking has proved to be more complicated than anticipated and has not shown any remarkable results. In

response to this, firms like Fresh Spice are pursuing a bottom-up strategy to introduce small-scale certification in cooperation with groups of farmers and then expand the production of “organic” cloves gradually. Financially unviable though this niche market might currently appear to be, given that the farmers’ remuneration has been decoupled from world market prices and is hardly justifiable economically, the comparably small size of Zanzibar’s clove economy allows it to acquire connotations of high-end quality and exclusiveness, as reflected in Abdullah of Fresh Spice referring to Zanzibar as “working as a small boutique.”

MAKING “ORGANIC” CLOVES IN ZANZIBAR

Material Transformation by Industrial Standards . . .

Interestingly, in case of cloves destined for European markets, industrial standards and “organic” standards value quality differently. The Quality Minima Document, issued by the European Spice Association, contains standards for market access generally, including defining the material properties of cloves. In contrast to the EU organic label, which defines quality in relation to inputs used (or, rather, not used), industrial standards equate quality with measurable properties on the output side, thereby bringing about material transformations many would probably associate with “organic” farming. For whole cloves, it rigorously lays down limits of 7 percent of ash content and 12 percent of moisture content, while cloves must also contain a minimum of fourteen milliliters of volatile oil per hundred grams.⁴⁴ Contrary to the input-related understanding that is inherent in organic cultivation, it is during the drying process that the clove’s materiality (and, lastly, its quality as well) proves malleable and becomes inscribed by the industrial standards.

To fulfill these requirements, farmers receive training in what needs to be considered in drying and storing harvests correctly. In collaboration with the staff of Fresh Spice, harvests are regularly monitored, examined, and tested on the ground to ensure the rules regarding compliance of chemical composition and physical appearance are observed and that they comply with the material requirements.

Despite the efforts to align clove production with the criteria for material quality laid down by European buyers, contamination of cloves remains a sensitive and prevalent issue. One main reason for contamination

and material variation is the insufficient drying of the buds, which facilitates the growth of mold. Even if sufficiently dried, clove buds are sometimes contaminated by exhaust fumes or are crushed when dried next to roads.⁴⁵ Another chemical source of contamination was alleged to be the delayed effects of USAID’s “indoor residual spraying” mission, which aimed to eradicate malaria on the islands (the US President’s Malaria Initiative).⁴⁶ To get rid of the mosquitos, the insides of houses were sprayed with chemicals. However, as farmers tend to store their harvests inside, the cloves often end up contaminated, even years later.⁴⁷

*. . . vs. Bringing about “Organicness”
with Technologies of Proof*

In contrast to material transformations brought about by quality requirements set by nonorganic European industries, Fresh Spice capitalizes on the cloves’ “organicness by default,” which does not include any further material refinements. Instead, the ascription to and meaning of “organicness” needs to be actively produced; this is achieved by drawing up documentation procedures to prove compliance with cultivation techniques and ultimately create trust for consumers. As Michel Callon and his colleagues have pointed out, a good’s value is never set a priori. Instead, a good describes the state of an object that is “defined by a combination of characteristics that establish its singularity”⁴⁸ and that require “objectification”⁴⁹ in order to come into being. Hence, to become a good endowed with a social life and a respective “career”⁵⁰—Callon and colleagues give the car as an example—they argue that goods underlie:

A (continuous) process of qualification-requalification, for they are simply two sides of the same coin. All quality is obtained at the end of a process of qualification, and all qualification aims to establish a constellation of characteristics, stabilized at least for a while, which are attached to the product and transform it temporarily into a tradeable good in the market.⁵¹

Thus, whether Fresh Spice is permitted to label its cloves as organic (and hence stabilize its characteristics) depends on third-party certifiers who check compliance of production conditions with the standards defined by the EU organic label during visits on the ground every six months.

Unlike the image of a certifier visiting every single farmer on his plot, the audit is a rather bureaucratic undertaking during which documents from the internal control system (ICS) are examined and randomly checked during on-field visits.

From a marketization perspective, here it becomes evident how the documentation and auditing functions “performatively [. . .] to enact ‘an idea’ of organic agriculture,”⁵² which can be conceptualized as an interplay of “socio-technical agencements,”⁵³ that is, as an “arrangement of people, things and socio-technical devices that format products, prices, competition, places of exchange, and mechanisms of control.”⁵⁴ Within the overall qualification endeavor, this is a central and necessary operation, as “stable, tradable objects have to be constructed by emphasizing particular qualities in unambiguous and unchallenged ways and—by doing so—excluding certain relations.”⁵⁵ In other words, in transforming the clove from being *de facto* materially organic due to the traditional way in which it is grown to becoming a good that is officially ascribed with organic materiality (and further pursuing a career as such), one must rely on the label as a sociotechnical device.

The underlying element of this process, however, is trust, the currency that makes consumers believe in the ecological conditions under which a product was produced. Trust is required by certifiers, who need to believe in their clients’ and farmers’ accuracy and honesty in documentation. And, lastly, the farmers themselves need to trust in the often unfamiliar certification procedures, not knowing whether conversion to a certification scheme pays off financially or not. Taking Uttarakhand, India, as an example, Galvin identifies organic agriculture as the “farming of trust.” She shows how the various degrees of acceptance of farmers in participating in documenting their fields make it nearly impossible for certifiers to create transparency to its full extent by means of documenting and auditing. Paradoxically, trust that is only meant to be achieved by documentation to a certain degree relies on trust in the farmer and the remaining uncertainties.⁵⁶

In a similar vein, the paradox of trust, as well as diverging understandings of how “organicness” is brought about, are also prevalent among Zanzibari spice farmers. Issa, an expert on Zanzibar’s spice industry and plant physiology who acquired work experience at a third-party certifier, described the training and auditing of farmers as follows:

Some of the farmers, they drop [it] themselves. They don't see the importance of this. They don't like it. So, [. . .] they lack training of what is organic. [. . .] In Zanzibar, nobody uses chemicals [for] the cloves. [. . .] So, they wonder "Why do you tell me I'm not organic? I'm organic! I have never [used chemicals], nobody uses it." But this is difficult. They will require you to prove. "Why should I prove?" "Go and ask the President of Zanzibar, he will tell you." And sometimes, yeah, even the leaders, they make these mistakes. You go, talk to the Minister, and he simply says: "Yeah, we're organic." Or, "We don't use any chemicals. The world knows. Everybody knows." So even them, they need some sort of, yeah, training.⁵⁷

The quote above shows that there is less difference in perceptions of what counts as organic and instead displays competing cultural conceptualizations of how "organic" quality is meant to be objectified. It emphasizes how socially constructed assumptions regarding what is required for a clove to be labeled "organic" (proof/compliance) contradict the material understanding of a clove as being "organic by default." A certain impression of a lack of willingness and defiance in accepting the procedures associated with organic labeling attests to the many ways in which agrarian subjects have some agency in circumventing what is often described as a neoliberal technology of the self.⁵⁸

While labeling fixes and commoditizes certain assumptions of quality and value, it can also be understood as a boundary-making activity.⁵⁹ Appadurai's notions of "paths" and "diversions" show how a commodity depicts "a shifting compromise between socially regulated paths and competitively inspired diversions."⁶⁰ Labeling cloves "organic," then, can be considered as one "path" (or technique) replying to a whole set of diversions, namely the alternating, "misleading," uncontrolled or hidden routes and channels through which the clove's journey can be affected and withdrawn from its suggested value chain. Smuggling harvests to the Kenyan mainland⁶¹ or cutting down clove trees for firewood⁶² are existing examples of such diversions, as are unknown diseases affecting clove trees⁶³ and patronage systems established around the monopoly and respective compensation practices.⁶⁴ As a response, labeling thus intends to limit, narrow, or, at best, eradicate these diversions in order to channel the clove's journey to destined markets.

THE ROLE OF BRANDING AND NARRATION IN THE NEOLIBERAL FOOD REGIME

As mentioned at the outset of the chapter, in the context of the globalized food market, the rise of the practice of labeling can be understood as a necessary operation of placing trust in conditions of production between the spatially remote sites of production and consumption. Thus, in the global economy, labeling can be seen as coordinating neoliberal markets in accordance with individual behavior. As Goodman and his colleagues state, “consumers have become significant agents of change in the social and ecological relations of production, and the pace of this transformation depends on entrenching alternative values ever more deeply in everyday practices of food provisioning and global trade circuits.”⁶⁵ This shift is internalized when both trading businesses and the Zanzibari government depict the production of “organic” cloves as a necessity in response to a new conscious generation of consumers that apparently demands such organic products.⁶⁶

Consequently, by shifting the responsibility for ethical and ecological consumption onto the individual, labeling has become a market in its own right.⁶⁷ The labeling market enables producers to ascribe their commodities additional value by choosing from a variety of labels and committing to paying for their required shift in production and audits. However, this is connected to highly strategic considerations and depends on the advantages on which producers expect to capitalize.

The example of “organic” cloves from Zanzibar indicates how branding and marketing opportunities attempt to potentially counterbalance the economic constraints and the entanglements described above within organic labeling. By looking at important channels of communication for small enterprises in niche markets, such as Instagram, it becomes clear that branding “organic cloves from Zanzibar” includes mobilizing, emphasizing, and reproducing certain (hi)stories as they are remembered and narrated when marketing the destination of Zanzibar to international tourists and consumers.

Building on the narrative origin of spices in connection to the European “discovery” of the seemingly “unknown,” Fresh Spice, for example, applies a similar rhetoric in communicating its undertaking in the present. For instance, one of Fresh Spice’s posts depicts two jeeps on a muddy road on their way to visit spice farmers. The undertaking is

presented as a journey into the unknown. Underlying texts and hashtags like #adventure and #expedition support the narration of discovery and illustrate the explorative nature of current “organic” spice production.

Furthermore, two other posts show images of farmers during clove picking in the past and clove drying today. Building simultaneously on the historicity and modernity of Zanzibari clove production, the former post, offering a window into the past, is entitled “Nothing is different, but everything has changed.” The quote references the originality of Zanzibar’s cloves in connection with their local meaning and eventful history while also hinting at the innovations that have taken place since then in the form of organic labeling. In addition, the temporal distance between past and present is bridged. Similarly, the illustration in the latter post, depicting a farmer collecting dried cloves, serves to soften the spatial distance between European consumers and Zanzibari farmers. Hence, in contrast to the past, the story of the “organic” clove is told in terms of its relationship with its accompanying companion, the farmer, and is thereby made accessible, approachable, and personal. Hashtags like #farmtotable underscore the discursive production of proximity and direct sourcing that are among the prevalent concepts of alternative food networks, that is, renunciation of industrialized modes of agriculture in favor of alternative ways of farming.⁶⁸

Therefore, the “organic” clove is understood not only by virtue of its materiality as a condiment, but also as a creator of socioeconomic *place-based* relations. What can be observed here is how, on the one hand, by using geographical associations, “actors emphasize desirable and valued meanings, such as the history, quality, and reputation, that are suggested by particular places. On the other hand, actors mask meaningful but less commercially valuable elements or even hide damaging and toxic linkages,”⁶⁹ such as the sometimes messy entanglements of organic labeling. Thus, branding, which contributes to the overall endeavor of the singularization of products, aims at the production of authenticity by strengthening or weakening certain spatial associations and dissociations.⁷⁰ Outside the digital world, this became apparent when Abdullah told us how one could capitalize on certain imaginations about the cloves’ geographical origins. Associations of the island as “exotic,” “romantic,” or a “spice island” invite “playing” with consumers’ imaginations and indeed represent a competitive advantage.⁷¹ The reduction of complexity, therefore, becomes a main objective, as:

Brands simultaneously cut off complex associations and connections; codify and simplify the images and narratives of nations and places (often in a stereotypical manner); and reinvent these geographical formations through the creation of spatial framings and temporal continuities.⁷²

While such Instagram accounts and other ways of branding organic cloves from Zanzibar thus clearly offer a selective reading of the clove's history and its meanings within the Indian Ocean world, from the perspective of Fresh Spice, this kind of branding has already demonstrated its success, as it has attracted not only individual consumers but also some larger companies dealing with international spices in Europe and the United States.⁷³

CONCLUSION: OLD NARRATIVES AND MATERIALITIES IN THE #NEWCLOVETRADE?

The clove has long sailed the Indian Ocean and has been a commodity ever since it started to be in motion. Even though the paths and uses of this particular cargo are manifold and diverse, in Kopytoff's terms, the clove has constantly been an object of "commoditization."⁷⁴ Conversely, cloves generally do not become "singularized."⁷⁵ Other than Callon and colleagues, Kopytoff uses the term to describe a countermovement to commoditization in which "culture ensures that some things remain unambiguously singular,"⁷⁶ that is, outside the commodity sphere (e.g., sacred items). Following the social life of a single clove would thus be comparatively unexciting, given the assumption that it hardly ever enters another sphere than that of the commodity. However, taking Kopytoff seriously in his assumption that following the "biographies of things can make salient what otherwise remains obscure,"⁷⁷ we have traced the historical biography of cloves back to and from Zanzibar and linked it with the latest economic dynamics that have emerged with the introduction of new standards and labels. Instead of focusing on the journey of a single clove from a tree on a farmer's plot to its transformation into a *kretek* cigarette consumed in Indonesia or a body lotion sold in Europe, we have therefore sought instead to describe its historical trajectories toward its latest materializations.

Adopting a *longue durée* perspective, we have illustrated the sorts of stories about the clove that were made in order to be heard and to revive its cultivation. The clove has witnessed social transformations and upheavals in its own biography and was itself an object of such developments. Continuing these chronicles, the newly emerging making of “organic” cloves within neoliberal food regimes represents the most recent changes in Zanzibar’s clove biographies.

It is the resurgence of clove exports to European markets and their respective requirements that have changed the clove’s materiality. However, in light of the introduction of organic labeling, it is not the change in materiality per se that is calling a totally different clove into existence. Instead, it is certificates, labels, and a mixture of overlapping narratives—one being connected with the notion of discovery, as exemplified in our analysis—that are perpetuating historically developed trajectories and allowing new forms of marketization to emerge. As has been the case historically, narrations about the clove depend on the specific social, political, and economic contexts of different periods and epochs. Similarly, the (re)narration of the “organic” clove continues its formation on multiple levels alongside and between the axes of modernity and historicity, past and present (and potentially the future), distance and proximity.

The new attention being paid to cloves provides hope that Zanzibari society might realign itself with its historical commodity and generate a sound basis for social debate. This may generate funding to research one of the longest-lasting threats to the “troubled baby,”⁷⁸ that is, *Syzygium aromaticum*’s vulnerability to disease, extensive diebacks, or sudden death.⁷⁹ It may also reawaken perceptions of the local importance of cloves within society and reduce other possible diversions of clove harvests. However, in moving on from this conjuncture, it remains to be seen whether the labeling of cloves as organic will inscribe itself into Zanzibari clove biographies as a lasting chapter, given the uncertainty of current political and economic developments.

NOTES

1. Even though cloves from Zanzibar are generally grown organically, we speak of “organic” cloves to underscore the role of recent labeling practices in bringing about “organicness.”

2. Adam Akyoo and Evelyne Lazaro, "The Spice Industry in Tanzania: General Profile, Supply Chain Structure, and Food Standards Compliance Issues," DIIS Working Paper 8 (2007): 9.
3. Brice Laurent and Alexandre Mallard, "Introduction: Labels in Economic and Political Life; Studying Labelling in Contemporary Markets," in *Labelling the Economy: Qualities and Values in Contemporary Markets*, ed. Brice Laurent and Alexandre Mallard (Singapore: Palgrave Macmillan, 2020), 1–5.
4. Worldwide, there are currently 456 different labels in use (<http://www.ecolabelindex.com/ecolabels/>).
5. Shaila Seshia Galvin, "Nature's Market? A Review of Organic Certification," *Environment and Society: Advances in Research* 2, no. 1 (December 2011): 52.
6. Hilda E. Kurtz, Jason Dittmer, Amy Trauger, and Sarah Blue, "Organic Certification as Assemblage: The Case of Cuban Honey," *Transactions of the Institute of British Geographers* 46, no. 2 (2020).
7. Sarah Osterhoudt, Shaila Seshia Galvin, Dana J. Graef, Alder Keleman Saxena, and Michael R. Dove, "Chains of Meaning: Crops, Commodities, and the 'In-Between' Spaces of Trade," *World Development* 135 (November 2020).
8. Galvin, "Nature's Market?," 60.
9. Maryam A. Hassan, "Factors Affecting Market Access among Spice Farmers in Zanzibar," (master's dissertation, Sokoine University, 2015); Issa Salim Moh'd, Mustafa Omar Mohammed, and Buerhan Saiti, "The Problems Facing Agricultural Sector in Zanzibar and the Prospects of Waqf-Mzuar'ah-Supply Chain Model: The Case of Clove Industry," *Humanomics* 33, no. 2 (May 2017): 189–210.
10. Igor Kopytoff, "The Cultural Biography of Things: Commoditization as Process," in *The Social Life of Things: Commodities in Cultural Perspective*, ed. Arjun Appadurai (Cambridge: Cambridge University Press, 1986), 64–92.
11. Jack Turner, *Spice: The History of a Temptation* (New York: Alfred A. Knopf, 2004), xxi.
12. Paul Freedman, *Out of the East: Spices and the Medieval Imagination* (New Haven, CT: Yale University Press, 2008), 3; see also Turner, *Spice*, 36.
13. Turner, *Spice*, 295ff.
14. Abdul Sheriff, *Slaves, Spices and Ivory in Zanzibar: Integration of an East African Commercial Empire into the World Economy, 1770–1873* (Oxford: James Currey, 1987), 50.
15. Sarah K. Croucher, *Capitalism and Cloves: An Archaeology of Plantation Life on Nineteenth-Century Zanzibar* (New York: Springer, 2015), 41.

16. Jeremy Prestholdt, *Domesticating the World: African Consumerism and the Genealogies of Globalization* (Berkeley: University of California Press, 2008).

17. Erik Gilbert, "Zanzibar: Imperialism, Proto-Globalization, and a Nineteenth Century Indian Ocean Boom Town," in *Globalization and the City: Two Connected Phenomena in Past and Present*, ed. Andreas Exenberger et al. (Innsbruck: Innsbruck University Press, 2013), 130.

18. Croucher, *Capitalism and Cloves*, 21; The rise of (colonial) plantation economies has been extensively researched in connection to sugar cane (J. H. Galloway, *The Sugar Cane Industry: An Historical Geography from its Origins to 1914* [Cambridge: Cambridge University Press, 1989]; Sidney W. Mintz, *Sweetness and Power: The Place of Sugar in Modern History* [New York: Penguin Books, 1992]) and cotton (Sven Beckert, *Empire of Cotton: A Global History* [New York: Vintage, 2014])

19. Peter J. Martin, "The Zanzibar Clove Industry," *Economic Botany* 45, no. 4 (1991): 452.

20. The northern island of Pemba mostly escaped damage and still contributes the lion's share of clove production: 90 percent of exported cloves originated from Pemba in 2013 (Martin, "Zanzibar Clove Industry," 451; Sifelani Tsiko, "Zimbabwe: Why Growing Spices Makes Sense for Zim," *Herald*, June 6, 2018, accessed January 29, 2020, <https://allafrica.com/stories/201806060654.html>).

21. Martin, "Zanzibar Clove Industry," 454.

22. *Ibid.*, 452-454.

23. High world market prices (fifteen dollars/kg) incentivized countries like Indonesia and Brazil to start cultivation and enter the market, leading to declining prices until the 1990s (*ibid.*, 455).

24. *Ibid.*

25. Issa Yussuf, "Tanzania: Challenges in Promoting Clove Farming," *Tanzania Daily News*, August 29, 2018, accessed January 12, 2020, <https://allafrica.com/stories/201808290481.html>.

26. *Tanzania Daily News*, "Tanzania: 56th Anniversary; How Cloves back Revolutionary Regimes," January 12, 2020, accessed January 29, 2020, <https://allafrica.com/stories/202001120026.html>.

27. *African Business*, "Tanzania: Taking the Spice out of Cloves?" February 16, 2015, accessed February 20, 2020, <https://african.business/2015/02/agribusiness-manufacturing/tanzania-taking-spice-cloves/>.

28. *Ibid.*; Reuters, "Zanzibar: Spice Industry in Trouble as Clove Production Falls," December 12, 2008, accessed February 20, 2020, <https://reuters.screenocean.com/record/457991>. ZACPO, *Rescuing the Clove Industry by Implementing Zanzibar's Clove Development Strategy*, fact sheet, (July 2013),

accessed February 20, 2020, http://www.tzdp.org/fileadmin/_migrated/content/uploads/ZACPO_Fact_Sheet_2013-07.pdf.

29. ZSTC, “Managing Director’s Message,” *Zanzibar Cloves Magazine*, (April–October 2017), accessed November 7, 2019, <http://www.zstc.zn.org/pdf/Jarida5eng.pdf>.

30. *African Business*, “Tanzania: Taking the Spice out of Cloves?”

31. *Citizen*, “Tanzania Spice Exports Low,” April 4, 2019, accessed February 10, 2020, <https://www.thecitizen.co.tz/news/business/Tanzania-spice-exports-low/1840414-5057002-cbq6b2z/index.html>; *Tanzania Daily News*, “Tanzania: Zanzibar Now Produces More First Grade Cloves,” June 15, 2018, accessed February 4, 2020, <https://allafrica.com/stories/201806150114.html>.

32. More than three-quarters of international clove production occurs in Indonesia and Madagascar (International Trade Centre, *Tanzania: Spices Sub Sector Strategy* [December 2014], accessed February 12, 2020, http://www.intracen.org/uploadedFiles/Tanzania-Spices%20Roadmap%20_final.pdf).

33. *Ibid.*; Revolutionary Government of Zanzibar, 2015. *Zanzibar Research Agenda 2015–2020* (2015), accessed February 13, 2020, <https://costech.or.tz/storage/uploads/K6D5phV5pOV5gWJ2sLChJWXxO4s5HnEr1UuoFzdE.pdf>.

34. House of Representatives of Zanzibar, The Clove Development Act. No. 2 of 2014 (2014), accessed January 23, 2020, https://www.zanzibarassembly.go.tz/act_2014/act_2.pdf; ZSTC, “Clove Development Fund” (2014), accessed February 10, 2020, http://www.zstc.zn.org/pdf/clove_fund.pdf.

35. Author’s field note entry, August 7, 2018.

36. The names of companies and all interview partners have been changed to ensure their anonymity.

37. Interview with Abdullah, who gained some business experience abroad and now seeks to introduce organic labeling on Zanzibar, December 16, 2019.

38. In case of Zanzibari spices, see Akyoo and Lazaro, “Spice Industry in Tanzania,” 8.

39. Galvin, “A Nature’s Market?” 61.

40. Grading cloves is the responsibility of the country of production (IPD/CBI). However, internationally, ISO standard 2554-2004 provides general guidelines on the grading, handling, and packaging of cloves (<https://www.iso.org/standard/36678.html>).

41. Interview with Abdullah, August 15, 2018.

42. *Citizen*, “How Cloves and Seaweeds Push up Zanzibar Exports,” September 9, 2020, accessed January 25, 2021, <https://www.thecitizen.co>

.tz/tanzania/news/business/-how-cloves-and-seaweeds-push-up-zanzibar-exports-2715936.

43. Interview with Abdullah, August 15, 2018. “Development,” for instance, entails cooperation with Forest International in promoting reforestation and improvements to farmers’ livelihoods.

44. European Spice Association, European Spice Association Quality Minima Document (2018), accessed February 15, 2020, <https://www.esa-spices.org/download/esa-qmd-rev-5-update-as-per-esa-tc-26-03-18.pdf>.

45. A frequently observed practice that became targeted by the Zanzibar Clove Development Strategy issued in 2014 prohibiting the inadequate drying of cloves (Avit Alex Chami, “Contemporary Dynamics in Zanzibar’s Clove Industry: Prospects and Challenges Facing Smallholder Farmers in Wete District, Pemba, Zanzibar,” *Modern Concepts and Developments in Agronomy* 6, no. 1 [2020]: 598).

46. See US President’s Malaria Initiative (PMI), <https://www.pmi.gov/where-we-work/tanzania>.

47. Interview with Issa, June 18, 2018.

48. Michel Callon, Cécile Méadel, and Vololona Rabeharisoa, “The Economy of Qualities,” *Economy and Society* 31, no. 2 (2002): 198.

49. *Ibid.*, 199.

50. Arjun Appadurai, “Introduction: Commodities and the Politics of Value,” in *The Social Life of Things: Commodities in Cultural Perspective*, ed. Arjun Appadurai (Cambridge: Cambridge University Press, 1986), 15.

51. Callon, Méadel, and Rabeharisoa, “Economy of Qualities,” 199.

52. Shaila Seshia Galvin, “The Farming of Trust: Organic Certification and the Limits of Transparency in Uttarakhand, India,” *American Ethnologist* 45, no. 4 (November 2018): 501.

53. Michel Callon, “What does it mean to say that economics is performative?” *CSI Working Paper Series* 005 (2006): 13.

54. Christian Berndt and Marc Boeckler, “Geographies of Marketization,” in *The Wiley-Blackwell Companion to Economic Geography*, ed. Trevor J. Barnes, Jamie Peck, and Eric Sheppard (Chichester, UK: Blackwell Publishing, 2012), 204.

55. *Ibid.*, 205.

56. Galvin, “Farming of Trust.”

57. Interview with Issa, June 16, 2018.

58. Galvin, “Farming of Trust,” 499f.

59. see also Galvin, “A Nature’s Market?” 57.

60. Appadurai, “Introduction: Commodities and the Politics of Value,” 17.

61. *African Business*, “Tanzania: Taking the Spice out of Cloves?”

62. *Ibid.*

63. Interview with Issa, June 18, 2018.
64. Group discussion with farmers, August 15, 2018.
65. David Goodman, E. Melanie DuPuis, and Michael K. Goodman, *Alternative Food Networks: Knowledge, Practice, and Politics* (Oxford: Routledge, 2012), 5.
66. Interview with Abdullah, December 16, 2019.
67. Laurent and Mallard, "Introduction. Labels in Economic and Political Life," 5.
68. Goodman, DuPuis, and Goodman, *Alternative Food Networks*.
69. Andy Pike, "Origination: The Geographies of Brands and Branding," in *Branding the Nation, the Place, the Product*, ed. Ulrich Ermann and Klaus-Jürgen Hermanik (Abingdon, UK: Routledge, 2018), 21.
70. Ulrich Ermann and Klaus-Jürgen Hermanik, "Introduction: Branding the Nation, the Place, the Product," in *Branding the Nation, the Place, the Product*, ed. Ulrich Ermann and Klaus-Jürgen Hermanik (Abingdon, UK: Routledge, 2018), 5-6.
71. John et al. indeed discuss the potential labeling of cloves from Zanzibar with Geographical Indications (Innocensia John, Henrik Egelyng, and Azack Lokina, "Tanzania Food Origins and Protected Geographical Indications," *Future of Food: Journal on Food, Agriculture and Society* 4, no. 2 (2016)).
72. Ermann and Hermanik, "Introduction: Branding the Nation, the Place, the Product," 8.
73. Interview with Abdullah, December 16, 2019.
74. Kopytoff, "Cultural Biography of Things," 72.
75. *Ibid.*, 73.
76. *Ibid.*
77. *Ibid.*, 67.
78. Interview with Issa, June 18, 2018.
79. Martin, "Zanzibar Clove Industry," 451.

PART II

On Board

FIVE

Giraffes and Elephants

Circulation of Exotic Animals in the Longue Durée
History of the Indian Ocean World

TANSEN SEN

INTRODUCTION

On September 19, 1953, a local community center in Amsterdam wrote to the Indian prime minister, Jawaharlal Nehru (1889–1964), requesting the gift of an elephant on behalf of Dutch children. Thousands of signatures from Dutch children supporting the petition accompanied the request. This petition originated in a misunderstanding between an Indian medical student who had recently arrived in Amsterdam and someone at a local children’s “bathhouse” who thought the student was a nephew of the Indian prime minister and that through this connection an elephant could be procured. When the possibility was related to the community center in Amsterdam, the director decided to organize a “big procession” to mark the anticipated arrival of the gift from India, with 3,500 children, decorated cars, banners written in Hindi, and a life-size stuffed elephant, which they planned to hand over to the Indian ambassador.¹

The Indian Embassy in the Netherlands, the Indian Ministry of External Affairs (MEA), and the Prime Minister's Office were all confused by these events, not knowing who this nephew of Nehru's was. Despite the confusion, they scrambled to find an elephant so as to not disappoint the Dutch children. After a complex search (see below), a two-year-old elephant calf called Murugan was shipped to the Netherlands, to be welcomed by a thousand flag-waving children "on a cold and grey morning" in late November 1954. The chargé d'affaires of the Indian embassy present at the "welcoming ceremony" stated that Murugan "was a young and well-behaved elephant which had left its home to come and live in the city of Amsterdam. . . ." He hoped that "the children of [the] Netherlands would grow up in love and understanding of the children of India."² Murugan lived on in the Amsterdam Zoo until he was euthanized in 2003.

This chapter examines several aspects of the circulation of large exotic animals, which Alan Mikhail calls "charismatic megafauna,"³ in the *longue durée* history of the Indian Ocean world. While the gift of Murugan symbolized an era of what can be called "elephant diplomacy" in the mid-twentieth century, giraffes were similarly offered as diplomatic gifts to foreign rulers during the fifteenth century. As well as the logistics of gifting Murugan to the Netherlands in 1953–54, this chapter also focuses on the arrival of several giraffes in Ming China (1368–1644) between 1414 and 1438. Together these case studies demonstrate the importance of exotic mammals in establishing and maintaining connectivities across the Indian Ocean. They also highlight multiple issues associated with sourcing and transporting large, live animals over maritime routes, including the technical aspects of ship design, caring for and feeding animals on board maritime vessels, and the issue of human-animal entanglement, as well as shipping costs and insurance options. Beyond these aspects of cargo and freight, a study of the movement of exotic animals also facilitates understanding of diplomatic practices among both ancient polities and modern nation states, the travels of overlooked groups of skilled workers, such as mahouts and veterinarians, and the involvement of many different stakeholders, including political leaders, merchant communities, shipping firms, and bureaucrats, in cross-regional exchanges. More broadly, it helps us conceptualize the Indian Ocean world not merely as a maritime arena, but rather as an interlacing of hinterland regions, port cities, and maritime spaces, intimately connected

to other far-flung regions. Furthermore, in this volume on cargoes, the chapter argues that exotic animals should be treated as a specific category of consignment, distinct from other animate and inanimate cargoes transported over maritime spaces, because of the unique and intricate processes involved in sourcing, transporting, valuing, gifting, viewing, and displaying them.

THINKING WITH ANIMALS

Claude Lévi-Strauss once remarked that “We can understand . . . that natural species are chosen not because they are ‘good to eat’ [*bonnes à manger*] but because they are ‘good to think’ [*bonnes à penser*].”⁴ Lévi-Strauss’s comment was made in the context of his discussion of animal totemism, in which he emphasized the “basis of empirical observations.” Lorraine Daston and Gregg Mitman have further explained “the how and why of thinking with animals.” They point out that “what it means to think with animals varies with time, place, and medium.”⁵ This could range from the humanization and anthropomorphizing of animals to their scientific, technological, and environmental relevance. Several facets of this “thinking with animals” are relevant to this chapter. They relate, for example, to the innovations in boat and ship design made to ferry live animals successfully over maritime spaces. Also important are the performative and visual aspects of exotic animals when they arrived and were displayed at places which were not their natural habitats. In fact, this removal of animals from their natural habitats and transporting them to a new location where they were otherwise rarely seen was a key factor that made them exotic. Equally noteworthy were the networks of trade and diplomacy that were intertwined with the practice of gifting exotic animals. More pertinent to this volume, “thinking with animals” helps distinguish live animals—particularly exotic animals—from other types of cargoes and precludes them from being simply categorized as “things.”

Marina Belozerskaya has described several examples of the gifting of exotic animals as part of diplomatic exchanges stretching into the early twentieth century. “The very difficulty of finding rare beasts made them impressive diplomatic gifts,” writes Belozerskaya. The commercial objectives, diplomatic aims, and “practical needs of empire building” that triggered the gifting of exotic animals are also examined in

Belozerskaya's study.⁶ Other works have focused on specific episodes in the movement of exotic animals. These include the gift of an Indian elephant named Hanno to Pope Leo X (in office 1513–1521) by King Manuel I of Portugal (reigned 1495–1521) in the sixteenth century,⁷ and of a giraffe called Zarafa that Muhammad Ali (reigned 1805–1848), the Ottoman viceroy of Egypt, offered to the French ruler Charles X (reigned 1824–1830) in 1826.⁸

However, the history of transporting live animals across the Indian Ocean dates back to before the Common Era. Some of the earliest examples relate to the supply of Indian elephants to the Mediterranean region. Known to West Asians, North Africans, Greeks, and Roman rulers for their efficacy in warfare and as attractions in court-sponsored spectacles, Indian elephants were exported to Persia and Mediterranean polities along both overland and maritime routes. The use of elephants, both African and Indian, by the Carthaginian general Hannibal (247 BCE–182 BCE) in the war against the Romans in the third century BCE confirms the early supply of elephants through different maritime spaces (the Indian Ocean and the Mediterranean), as well as overland routes.⁹

Some of these elephants were most likely transported on flat-bottomed, seagoing ships known as *elephantagoi*.¹⁰ The Greek historian Diodorus in the first century BCE described the perilous nature of transportation in the following way:

[T]he ships, which carry the elephants, being of deep draft because of their weight and heavy by reason of their equipment, bring upon their crews great and terrible dangers. For running as they do under full sail and often times being driven during the night before the force of the winds, sometimes they will strike against rocks and be wrecked or sometimes run aground on slightly submerged spits. The sailors are unable to go over the sides of the ships because the water is deeper than a man's height, and when in their efforts to rescue their vessel by means of their punting-poles they jettison everything except their provisions. . . .¹¹

It has been suggested that these *elephantagoi* ships may have been “modified large merchant galleys, [. . .] able to transport ten elephants together with sufficient food and water for ten days.”¹² It has even been argued that the famous Red Sea port of Berenike was established

specifically to address “the need of the Ptolemies for elephants. These were used in the wars against the Seleucids in the Near East, who blocked the import of Indian elephants.”¹³ A representation depicting the embarkation of an elephant from such a ship has been found on a mosaic from Italy.

The most famous Indian elephant to reach Europe prior to the twentieth century was Hanno, mentioned above. Procured by Afonso de Albuquerque (1453–1515), the Governor of Portuguese India between 1509 and 1515, Hanno was one of two elephants shipped from Cochin on the Malabar coast in 1511. According to the Governor’s instructions, Hanno, perhaps only a year old, was to be fed twenty liters of rice per day, “as much butter as was required, and . . . some oil was to be used to anoint its skin.” This anointing, as Silvio Bedini points out, “was a measure required to keep the animal’s skin soft and pliable in preparation for its long exposure to salt air during the voyage.” Accompanying the two elephants were also two custodians, who, Albuquerque recommended to King Manuel I, “should be well treated and they go with the hope that Your Highness will recompense them handsomely. They are not to return until the elephants have been well trained, and not before they have trained other men to care for them . . . Furthermore, these elephants shall not carry any burdens other than men.”¹⁴ The two elephants arrived in Lisbon in the summer of 1511.

Hanno’s next journey as part of the diplomatic gift to the pope, from Lisbon to Rome, was also on a ship, a large three-masted vessel called a *nau* or *nao*. The elephant was shackled above the deck between two of the masts after being loaded onto the ship using a “series of portable bridges.” The embarkation and disembarkation processes were difficult because of the frightened elephant and the inadequate port facilities. Hanno journeyed the seventy-mile trek from the Italian port of Porto Ercole to Rome overland. The Indian cargo eventually arrived at its destination in 1514 after three years of trans-Eurasian travel.¹⁵ Although prized and taken good care of by the pope, Hanno only survived another two years, dying on June 8, 1516.¹⁶

Elephants were not the only live animals to be transported across vast maritime spaces to meet the demands of warfare or as gifts: the maritime transportation of horses also has a long history. More detailed accounts of transporting horses across the Indian Ocean are available than those that relate to giraffes and elephants. These accounts are therefore useful for understanding some of the technical aspects of shipping

live animals. The Byzantine *chelandia* or *salandria* ships could transport twelve horses at a time, sometimes along with cavalrymen.¹⁷ According to Arabic sources, in the twelfth century the *tarida* ships had the capacity to carry over forty horses.¹⁸ The fourteenth-century Persian historian Waṣṣāf reports annual exports of 10,000 horses from the Persian Gulf to various sites in South Asia, including 1,400 to the Malabar coast of India. The total value of this trade amounted to 2,200,000 dinars, “which,” he says, “was paid out of the overflowing revenues of the estates and endowments belonging to the Hindu temples, and from the tax upon courtesans attached to them, and no charge was incurred by the public treasury.” Waṣṣāf also suggests the existence of an insurance policy on the export of horses underwritten by the Ilkhanate ruler: “[I]f any horses should sustain any injury during the voyage, or should happen to die, the value of them should be paid from the royal treasury.”¹⁹

Sri Lanka was a key destination for both horses and elephants. Parākramabāhu I (reigned 1153–86), the ruler of a Sri Lankan polity known as Polonnaruwa, encouraged traders to bring horses and elephants to his kingdom and assured them that, “if the vessels bringing elephants and horses to us get wrecked, a fourth (share of the cargo) should be taken by the treasury and the (other) three parts should be left to the owner.”²⁰ There was a large demand for horses in China as well, which also frequently received exotic animals as tributary gifts.²¹ Clearly, the links between the suppliers of live animals, shippers, rulers, and underwriters were enduring and widespread across the Indian Ocean world.

Arabs used *tarida* ships to transport the horses until steamships introduced by Dutch shipping companies replaced them in the second half of the nineteenth century. Based on documents in the Angevin archives in Naples, John H. Pryor has outlined the techniques of transporting horses on these *tarida* ships. These documents refer to the use of “a sling of canvas and rope passed under the horses’ bodies to take their full weight off their feet, immobilize them, prevent them from attempting to lie down, and prevent them from being thrown about and injured by the pitching and rolling on the ship.”²² They also give details about the embarkation, placement, and disembarkation of horses on the *tarida* ships. The documents suggest that the horses stood on these flat-bottomed ships, tied in slings, for the entire length of their journeys across maritime spaces.

Elephants and giraffes were most likely loaded onto ships in a similar fashion. Like the horses, they had to stay upright and secured with straps and ropes. However, giraffes, because of their large size and fragile necks, had to be placed on modified ships. For instance, in order to transport Zarafa,²³ the gift to King Charles X of France, a hole was cut in the deck of a brigantine. Zarafa could then stand upright, with the hole “padded with straw to cushion the impact to her neck in rolling seas.” Moreover, “a canvas canopy was erected to protect her from sun and rain.”²⁴

Slings and straps continued to be used to load and secure live animals on board steamships in later periods. The absence of masts provided extra space on the decks in which to place large animals, including giraffes, inside boxes or cages. Despite advances in shipbuilding technology, however, several difficulties in transporting animals persisted. Animals, particularly horses, were prone to seasickness, while others became frightened or nervous during embarkation and disembarkation. An elephant named Indira gifted to the children of Japan by the Indian Prime Minister Jawaharlal Nehru in 1949, for example, “became petulant and refused to disembark. For two days she nimbly sidestepped slings and handlers and thwarted all efforts to unload her.”²⁵ Until recently, when properly ventilated ships and regulations regarding animal welfare were enacted, the mortality rate of live animals transported by sea was high. Even with such changes, livestock transported by ships continue to die.²⁶

The transportation of live animals created several unique dynamics. First, it complicated the notions of value and loss. Beyond their commercial worth and diplomatic significance, the value of live animals transported on board ships was intimately tied to their reaching their destinations alive. This resulted in the animals being treated differently from other types of cargo. In addition to the architecture of the ships carrying them having to be modified to accommodate them, as noted above, fodder and fresh water needed to be provided throughout the journey, and often specialist handlers and even veterinarians had to accompany them. In addition, as indicated by Pope Leo X’s attachment to Hanno, as well as the reaction of the Dutch children who received Murugan, these animals could also create an emotional value that was distinct from the “regimes of value” associated with commodities outlined by Arjun Appadurai.²⁷ The emotional value that is stressed here relates not to the animals’ exchange, monetary, or performative worth,²⁸

undoubtedly also part of the circulation of exotic animals in the premodern world, but rather the philosophical discourse on emotions, feelings, and value determined by individual or personal “evaluative judgements” about what “matters.” “What matters,” Annette Baier explains, “is what we mind about, have minded about, will mind about.”²⁹ In the case of giraffes and elephants, it “mattered” that they were exotic, that they could not be easily replaced, and that they were alive.

This emotional value, associated particularly with the “matter” of the exotic animal being alive, is evident from another episode associated with King Manuel I and Pope Leo X. A rhinoceros, a gift from the sultan of Gujarat to the Portuguese, arrived in Lisbon on May 20, 1515, after a voyage of 120 days. Later that year, Manuel decided to regift the animal to Pope Leo X, to whom he had already presented Hanno a year earlier. The rhinoceros’s second maritime voyage was not as successful as the first: a violent storm sank the Portuguese vessel in the straits of Porto Venere, and the rhinoceros, shackled on board the ship, was unable to escape. After the ship had sunk, the animal’s carcass was recovered and the skin used to mount it, this mounted specimen being what was eventually delivered to the pope. King Manuel I also sent a letter to his ambassador in Rome expressing his sadness about the loss of the animal. He wrote,

We are extremely sorry about the total loss of the vessel we sent to Rome, which was carrying on board an Indian rhinoceros, as well as other gifts for our Holy Father, and which has caused us great displeasure. You are to tell His Holiness that it was only a few days ago that we received this news, and of the great unhappiness which we feel, because the animal at the time it was brought to us was so novel, never before seen in these parts, and hardly to be found in books, and because of the manner in which it was sent to us, we appraised it, and the estimated value was more than one hundred thousand doubloons . . .³⁰

While King Manuel was concerned about the monetary worth of the dead rhinoceros, for the pope the taxidermy seems to have hardly mattered. When Hanno died, the pope, evidently because of his attachment to Indian elephant, buried it inside the Vatican. However, the pope

did not acknowledge the receipt of the mounted rhinoceros; it did not entice any sense of emotional value from the Holy Father; nor was its presence in the Vatican noted by local record keepers.³¹ Nonetheless, the live rhinoceros when it reached Lisbon seems to have attracted the attention of the onlookers, one of whom described and sketched the exotic animal. This document that reached the German artist Albrecht Dürer (1471–1528), then living in Nuremberg, became the inspiration for his famous woodcut drawing known as Dürer’s Rhinoceros and many other later, almost all imaginary, representations of the Indian beast.³²

The pope’s attachment to Hanno, the reaction of the onlookers who may have watched the embarkation and disembarkation of exotic animals, and the creation of poems and paintings by poets and artists (see below) are facets of human-animal entanglements that emerged as a result of the circulation of these animals.³³ Indeed, this type of human-animal relationship, in which the agency of animals is clearly evident and must be accounted for, is the second noteworthy feature of the transportation of exotic animals. A specialist handler almost always accompanied exotic animals. These escorts were often locals of the region where the animals originated, as they were more familiar with the animals and were made responsible for training them, caring for them, and helping them acclimatize to new environments. Veterinarians were also on hand to deal with the animals’ medical needs. In addition, ships had to deal with the sharing of deck space by both the animals and human passengers. For example, section 7 of the Native Passenger Ships Act, drafted in the 1870s by the British colonial government in India, stipulated the space that live animals could occupy vis-à-vis passengers on board ships: “a horse shall be taken as equivalent of 3 passengers, bullock to 2.5 passengers, and pony to 2 passengers, a pig to 2 passengers, and 2 sheep to 1 passenger.”³⁴ The act also mentioned the possible inconvenience caused by the urine and dung of live animals traveling with human passengers, the separation of live animals on the upper deck from human passengers on the second deck, and the danger of the hay and straw provided to the animals catching fire.³⁵ This sense of inconvenience also pertained to how the passengers thought about traveling with live animals. Ibn Battuta, for example, mentions that he refused to board a *jalba* ship in Jeddah because he was “frightened” of traveling on the sea with camels.³⁶

A third significant feature concerns the issue of mobility. Scholars have differentiated between two types of animal mobilities: “the movement (or stillness) of animals as shaped by the actions of various actors, particularly humans,” and “the embodied, affective, and lived animal experience of mobilities,” termed “animals’ mobilities.”³⁷ The cases discussed in this chapter are of the former type, with live animals being transported from one region to another to meet commercial demands, presented as gifts or tribute, or curated in zoological gardens. Such movements of animals linked diverse geographical spaces: the hinterlands from which the animals were procured, the port cities where they were embarked and disembarked, and the foreign sites where they were sheltered or displayed. These movements triggered the circulation of people, knowledge, and other commodities, as well as the production of literary writings and art forms. They also led to the introduction of new kinds and breeds of animals in new locations, sometimes with adverse impacts on local ecosystems,³⁸ and made animals such as giraffes and elephants exotics in foreign lands.

Thinking with exotic animals and their transportation, therefore, provides a distinct perspective on maritime cargoes. It forces us to examine the nonmaterial and nonhuman dimensions of “connectivity in motion,” a concept highlighted in the introduction to this volume. In fact, the two theoretical concepts emphasized in the introduction as a way of explaining the role and function of cargoes, namely Arjun Appadurai’s “social life of things” and Bruno Latour’s Actor Network Theory, do not fit neatly with the practice of transporting exotic animals. This is primarily because these animals cannot be conveniently categorized as either “things” or “objects” (see the concluding section below). They are also different from other “living cargoes,” such as slaves, plants, and even other live animals. Indeed, as James L. Hevia has pointed out, humans perceived “certain animals more favorably than others.”³⁹ Exotic animals were clearly at the top of this hierarchy. The care they received during transportation and the impact they had on those sourcing, transporting, and receiving them made cargoes of exotic animals distinct from other animate and inanimate consignments. Beyond the details of their transportation, these exotic animals had much broader diplomatic, symbolic, emotional, and sensory impacts. Indeed, they created their own agency, unique value, and entanglements from the time they were sourced until they had lived out their lives in foreign lands.

THE “GREAT AGE OF THE GIRAFFE” IN THE FIFTEENTH CENTURY

Although giraffes are not native to Bengal or any other part of South Asia, two of them were presented to China’s Ming rulers in 1414, and again in 1438. In fact, the Ming court received seven giraffes in a short span of about twenty-five years, bookended by the receipt of the two giraffes from Bengal. These giraffes were part of a larger circulation of the animal in the fifteenth century, starting with a gift in 1402 by the Mamluk sultan Nasir-ad-Din Faraj (reigned 1399–1412) from Egypt to Tamerlane (also known as Timur, reigned 1370–1405) of Persia to 1486, when another Mamluk ruler named called Abu Al-Nasr Sayf ad-Din Al-Ashraf Qaitbay (reigned 1468–1496) presented one to Lorenzo de’ Medici (reigned 1469–1492) of Florence.⁴⁰ Because of such frequent circulations, Berthold Laufer has remarked that “the fifteenth century was the great age of the giraffe both in the East and West.” Despite this recurrent circulation of giraffes, “it is a pity,” as Laufer points out, “that we have no detailed story as to how the animals were transported.” He adds, “Giraffes are very nervous and hence very awkward animals to transport, as they are liable to break their necks by suddenly twisting about in their travelling boxes.”⁴¹

It is possible that in the fifteenth century giraffes were transported the same way as Zarafa, mentioned above, was sent to France, that is, strapped onto the cut-out top deck of the ship. The giraffes arriving in Ming China might also have been transported on the *machuan* 馬船 (literally, “horse ships”), which were apparently used to ferry animals generally. These ships were part of the Ming armada led by Admiral Zheng He between 1405 and 1433.⁴² Unfortunately not much is known about how horses or other animals were stabled on these Ming ships. Rather than speculating on the transportation aspect, therefore, this section deals with three other dimensions of giraffes as cargoes during the fifteenth century. The first relates to the issue of connectivities, that is, connections between geographical spaces, polities, and peoples, which the circulation of giraffes kept in motion. The second concerns the diplomatic and/or commercial objectives, as well as political legitimization, represented in the giving and receiving of giraffes as gifts. The third aspect is associated with the impact giraffes had on those who saw the animal for the first time, resulting on occasion in artistic production across several regions of Asia and Europe.

Most of the giraffes that circulated during the fifteenth century belonged to the Nubian giraffe taxonomy. These giraffes came from eastern Africa, including areas in present-day Ethiopia, South Sudan, Kenya, and Uganda. The Mamluks of Egypt were one of the key procurers and distributors of these giraffes. Already in the thirteenth century, al-Malik al-Zahir Rukn al-Din Baibars al-Bunduqdari (reigned 1260–1277) had presented giraffes to the rulers of the Golden Horde, Castile, and Sicily.⁴³ In the early fourteenth century Nasir-ad-Din Faraj offered them to the rulers of Mardin and Morocco. In fact, Egypt under the Mamluks emerged as a hub for the circulation of a diverse range of exotic animals. South Asian elephants and tigers reached Egypt, while lions, leopards, horses, and zebras, in addition to giraffes, were sent from Egypt to Europe and Asia. Often, these exotic animals were passed on to other polities and sites.⁴⁴ The Mamluks also developed an extensive veterinary care system for these circulating animals, both indigenous and foreign, to meet their medical needs.⁴⁵ This engagement with circulating animals and animals in general continued and evolved during the rule of the Ottomans in Egypt. In fact, Alan Mikhail argues that changes to human-animal relationships under the Ottomans led to significant economic and social transformations in nineteenth-century Egypt.⁴⁶

As noted above, the circulation of exotic animals created links between the places from which the animals were sourced, the port cities from which they were shipped and offloaded, and the distant regions where they first arrived or other sites they eventually reached. The giraffes gifted by Bengal to Ming China, for example, may have originated in eastern Africa. They could have been shipped first by the Mamluks to South Asia and from there reached China through Southeast Asia.⁴⁷ Such itineraries were not uncommon. In 1287, an east African Topi antelope (*Damaliscus lunatus*) was presented to the Mongol Yuan ruler of China by the Ma'bar polity located on the Coromandel Coast of south India. Two years later, the same polity offered two zebras to the Yuan court.⁴⁸ With regard to the seven giraffes that reached Ming China, it seems that only one, which arrived in 1415 from Malindi, may have come directly from its natural habitat. Those that arrived in 1417 and 1421 are reported to have come from Aden, while those that arrived in 1431 and 1433 were procured from Saudi Arabia and northern Sumatra, respectively. While some of these giraffes arrived in Nanjing, others reached Beijing, which became the Ming capital in 1421.

This eastward movement of giraffes was along the commercial and diplomatic networks that linked Africa to several parts of Asia across the Indian Ocean. The circulation of giraffes contributed to these connections by triggering the movement of people such as specialist handlers and veterinarians, objects such as animal feed, and knowledge about foreign sites and fauna. These circulations also connected diverse polities either directly or indirectly—the Mamluks in Egypt, the Timurid Empire in Central Asia, the South Asian courts, Ming China, the house of the Medici in Florence, and the pope in the Vatican. In the same way, port cities on the Red Sea were linked to those in the Arabian Sea, the Bay of Bengal, and the South China Sea. The handlers of these animals, crew members, and passengers on board the various ships, together with diplomats and rulers, also became part of these connections. Additionally, since the giraffes, unlike other cargoes, which were mostly stored in compartments below the main decks or hidden in secure vaults, were clearly visible and stood out as they sailed past ports and coastal regions, these circulations created visual connections with a myriad of onlookers. Imaginary connections, expressed in some of the paintings depicting the animal, with foreign lands, people, and animals, may also have been formed as a result of these circulations.

Diplomatic and commercial objectives, as well as a growing zeal for collecting exotic animals, were the prime factors prompting the movement of giraffes.⁴⁹ Calling this “beastly diplomacy,” Halvard Leira and Iver B. Neumann point out that animals are different from “inanimate gifts quite simply by being alive.” While exotic animals could be reciprocated with other gifts, it was more common, Leira and Neumann suggest, “to offer in exchange status, political favor, goodwill or suchlike.”⁵⁰ The reasons for offering exotic animals to another polity included not only an interest in establishing and maintaining diplomatic ties or strategic alliances, or the desire to receive something in return, but occasionally the need to assert one’s “cultural superiority.” The rulers who variously procured and received these exotic animals used them as symbols of their power to control exotic species and places. The knowledge of exotic goods, “their existence, and their addition to the palace treasury or menagerie,” Rosamond McKitterick argues, functioned “as a powerful reminder of the ruler’s place in the world.”⁵¹

Such objectives were also embedded in the giraffes that were gifted to and received by Ming China.⁵² The two that Bengal presented were most

likely related to its internal political situation, as well as to the intention of the local rulers and merchants to maintain intimate diplomatic and commercial ties with the Ming court. The circumstances leading to the gift of the first giraffe in 1414 are not at all clear due to conflicts between the Bengal and Chinese sources.⁵³ Without going into the details of these complications, it suffices here to mention that the period between 1412 and 1414 was marked by political transition in Bengal. Within this context, the identity of who actually gifted the giraffe to the Ming ruler is difficult to ascertain. The fact that the gift is credited to Bengal in Chinese sources indicates that it originated there and could have been initiated either by one of the leading mercantile groups in Bengal or by the person temporarily occupying the throne. The gift of 1438 can more easily be attributed to Nasir-ud-din Mahmud Shah, who ruled over a stable government in Bengal from about 1434 to 1459. It is possible that, while the first giraffe may have been a gift intended to maintain existing ties in times of uncertainty, the second could have been presented to the Ming court to demonstrate Nasir-ud-din Mahmud Shah's political influence in the Bengal region.⁵⁴

On December 7, 1415, Ming court officials reported to the Yongle 永樂 emperor (reigned 1402–1424) that a giraffe presented by a polity called Malin 馬林 (Malindi) was about to arrive at the Ming capital. One of the ministers requested that he be “allowed to lead the assembled ministers in offering a memorial of felicitation.” The emperor, however, made a curious response, saying, “Previously, the Han-lin Academy advised that they had finished arranging the Five Classics, the Four Books and the Xing-li Da-quan and wished to present them with a memorial to me. I allowed this. The ways in which former Emperors have ruled the people are of benefit in educating future generations. It was thus that I allowed a memorial to be presented. What sort of disadvantages or benefits will the giraffe bring?” The Ming source then reports that “the matter was shelved.”⁵⁵ Despite this, when this second giraffe arrived at the Ming capital, the emperor held an audience at the city gate to receive the gift. The assembled civil and military officials all kowtowed and offered felicitations to the emperor, saying: “Your Majesty's virtuous power (*de* 德) has extended to even the most distant *yi* 夷, resulting in this auspicious portent.” The *Ming shilu* 明實錄 (Veritable Records of the Ming Dynasty) records that:

The Emperor said: ‘How could it be my virtuous power which brought this about? It is all due to my Imperial father’s great benevolence and deep concern. You ministers have also assisted through your efforts. It is thus that the distant peoples have all come. In future, you should make increased efforts to be virtuous and worthy so that you can further assist me. When the distant peoples come to Court we must not become conceited.’⁵⁶

Despite this seemingly unenthusiastic response from the emperor, other giraffes, as noted above, continued to arrive in Ming China until 1438, even after the death of the Yongle emperor and the cessation of Zheng He’s voyages. Notwithstanding the fact that giraffes were considered auspicious animals, the later Ming rulers continued to show ambiguity toward them. In 1433, the Xuande 宣德 emperor (reigned 1425–1435), upon receiving a giraffe presented by the Southeast Asian polity Samudera, noted: “I have no fondness for things from foreign lands. I am receiving them because I appreciate the envoys coming from afar to demonstrate their great loyalty. There is not [*sic*] need for felicitations.”⁵⁷

Unlike the Ming rulers, their court officials viewed a giraffe’s arrival as an “auspicious portent” and a demonstration of their ruler’s sovereignty over distant lands. In the case of the Yongle emperor, who usurped the Ming throne, the presence of giraffe(s) could have been employed to legitimize his power. As mentioned in the case of Bengal above, those who gave giraffes to the Ming rulers were most likely to have been attempting to maintain and strengthen diplomatic and commercial links with Ming China. These objectives were not only limited to foreign rulers, they were also pursued by merchant communities across the Indian Ocean world. The grand receptions accorded to foreign bearers of tribute, including those who presented the giraffes, suggest that the Ming court may have adequately reciprocated them through gifts to foreign rulers and merchant communities.⁵⁸

Finally, it should be noted that the extensive circulation of giraffes in the fifteenth century resulted in frequent artistic representations of some of these traveling giraffes. Edmund Blair Bolles has pointed out that “Giraffes are so unusual they seem to overwhelm the senses. The brain does not know what to do with its input.”⁵⁹ Such awesome sights could

have been the reasons why drawings and poems describing these exotic animals appeared in several different places.⁶⁰ In Florence, for example, paintings of the giraffe received by the Medici were made by different artists. In Paris, the arrival of Zarafa stimulated songs and poems, as well as drawings and paintings, and even new fashions in design and furniture.⁶¹ Representations of giraffes also appeared in India.⁶² The Ming paintings and drawings of giraffes were part of this Eurasian trend. Many of these paintings showed the animal being led by foreign handlers. The most famous Ming painting of a giraffe was that done by a court calligrapher named Shen Du 沈度 (1357–1434). The painting (Figure 5.1), entitled “Painting of the Auspicious Responses to Qilin” (*Ruiying Qilin tu* 瑞應麒麟圖) in addition to showing the image of a giraffe, the one gifted by Bengal in 1414, and a foreign handler, includes a panegyric and a poem praising the Yongle emperor. Influenced by the sight of the exotic animal, which was called *qilin* 麒麟 in Chinese, Shen Du wrote, “The ministers and the people all gathered to gaze at it, and their joy knows no end. I, Your servant, have heard that, when a Sage possesses the virtue of the utmost benevolence so that he illuminates the darkest places, then a *ch’i-lin* (*qilin*) appears. This shows that Your Majesty’s virtue equals that of Heaven; its merciful blessings have spread far and wide so that its harmonious vapors have emanated a *ch’i-lin*, as an endless [*sic*] bliss to the state for a myriad myriad years.”⁶³

Shen Du’s painting, like many other images of giraffes, was copied and dispersed throughout China during the reign of the Yongle emperor. The Ming ruler, according to Kathlyn Liscomb, sanctioned such recycling to “testify to his own virtue.”⁶⁴ This assertion runs counter to the view expressed by the same emperor cited above. It is possible that this expression of indifference toward the foreign exotic animal in the *Ming shilu* was, on the one hand, intended to underscore the Confucian virtues of the emperor among the court officials.⁶⁵ On the other hand, the copying and distribution of these images were meant for those across the empire who had not encountered these awesome animals strolling around the streets of the Ming capital but could, through these drawings and panegyrics, appreciate the sovereign power of their emperor over foreign lands and fauna.

Shen Du’s painting and his panegyric reflect several aspects of the “great age of giraffes” discussed above. First, it confirms the popularity of giraffes as an important element in the practice of cross-regional



Figure 5.1. A copy of Shen Du's painting from the 16th Century. Philadelphia Museum of Art. [https://commons.wikimedia.org/wiki/File:Tribute_Giraffe_with_Attendant.](https://commons.wikimedia.org/wiki/File:Tribute_Giraffe_with_Attendant)

gift-giving in the fifteenth century. Second, it demonstrates the connected worlds of Africa and Asia that linked an African animal, its (most likely) Arab handlers,⁶⁶ South Asian rulers and merchant communities, and Ming emperors. Third, the painting illustrates the impact these awe-inspiring foreign creatures likely had on onlookers. Also embedded in the painting are aspects of the knowledge about foreign sites, people, and fauna that seems to have spread during the “great age of the giraffe.”

THE LOGISTICS OF GIFTING MURUGAN

The logistics of procuring and dispatching a live animal are rarely mentioned as part of “beastly diplomacy.” In fact, in the broader context of cargoes, the ways in which goods are sourced and the complex process leading up to their shipment are neglected topics.⁶⁷ This section focuses on this less well-examined topic of procuring and shipping an exotic animal. It relates to the Indian elephant named called Murugan, introduced at the beginning of this chapter, who arrived in Amsterdam on November 24, 1954. It deals with the events and issues leading up to the maritime transport of the elephant to its destination in the Netherlands. As such, it argues that this pre-ocean-crossing phase is important in understanding the intricate process of gifting an exotic animal to a foreign country.

Alan Mikhail has pointed out a transition in the circulation of exotic animals in the nineteenth century. In the “early modern period,” he explains, “these animals represented an important facet of Indian Ocean trade,” gifted “in an economy of reciprocity, meant both to cement alliances and to impress upon rivals one’s abilities to master, control, and distribute nature’s wealth.” In the nineteenth century, however, he argues, “the charismatic animal economy moved from gift exchange to market-driven capitalist commercial relations and from the Indian Ocean to the Mediterranean.”⁶⁸ This transition was associated with European colonial expansion, as well as with the growing popularity of zoos and circuses. This change in geographical focus, one might suggest, was not new, as the commercial demand for Indian elephants for warfare and public spectacles had existed in the Mediterranean region since well before the Common Era, as has been mentioned above.

In any case, if transitions in the circulation of exotic animals are to be identified, then the mid-twentieth century could be another such moment. Decolonization and the emergence of new nation states in Asia in the 1940s and 1950s saw a flurry of “beastly diplomacy.” Beyond the diplomatic objectives, the gifting of animals in the 1950s and 1960s was also associated with the construction or reconstruction of zoos across the world. Elephants and pandas were two popular animals that formed important parts of such diplomacy and zoo-building initiatives. These animals were often offered to the children of foreign countries with the aim of promoting mutual understanding and friendly bilateral relations.

For instance, the Indian government, which presented eight elephants to foreign countries between 1949 and 1954, gave the following rationale for its “beastly diplomacy”: “The reason for presenting elephants is that it is an excellent advertisement for India and will produce a fund of goodwill for India in the beneficiary countries concerned specially in the minds of the young generation.”⁶⁹ Vietnam, Sri Lanka, Burma, and Pakistan were among the other Asian nations that offered elephants as diplomatic gifts.⁷⁰ Initially, these animals continued to be transported by ships, but by the late-1950s airplanes had emerged as the preferred alternative, significantly changing the ways in which exotic animals circulated around the world.

Although India’s MEA and the Indian prime minister, Jawaharlal Nehru, were confused and surprised by the events that led to the presumption among the Dutch children that a gift of an elephant would shortly be arriving from India, it was decided that India should meet the request. The Dutch request came at the same time that the Indian government had agreed to offer another elephant to Canada.⁷¹ By the end of 1953, a search had begun for two elephants, one for Canada and one for the Netherlands. The MEA sent requests for elephants to the state governments of Mysore, Travancore, Cochin, Madras, Tripura, and Assam. Mysore’s requested price of Rs 3,000 per calf was found to be “excessive,” especially as one MEA official pointed out that elephants were auctioned there for “as little as Rs 500/-.”⁷² Shortly thereafter, in early April 1954, the Madras government offered two elephant calves for a price of between Rs 300 and 400 each. The two calves, named Kusa and Amibika, were about two years old and “good in condition and appearance.” According to the Madras government, the two calves would be ready for dispatch in mid-April 1954 and would be transported by “lorry” to either Madras or Cochin for shipment.⁷³ The MEA quickly accepted the offer and requested the Madras Government to provide:

- (i) the actual value, f.o.b. port of embarkation, of the calves, (ii) the availability of Mahouts to accompany the calves to their destination, (iii) an estimate of the salary and allowance that would have to be disbursed to the Mahout during his journey to Canada and back, and (iv) instruction regarding the diet, habits etc. of the calves and any other special matter in connection with the up-keep and transportation of the calves across the seas.⁷⁴

When he agreed to gift the elephant to the Netherlands, Jawaharlal Nehru insisted that the transportation costs from India had to be borne by the receiving country, as had been the case with previous gifts of elephants. Thus, on May 3, 1954, the MEA informed the Indian Embassy in the Netherlands that it had located an elephant but that the transportation costs, including any charges for an attendant, had to be paid by the Dutch.⁷⁵ It was not until early August of that year that the Netherlands Ministry of Foreign Affairs confirmed that the transportation costs would be paid by the municipality of Amsterdam, with Amsterdam Zoo arranging the shipping of the elephant by the Dutch firm of Messrs. Van Es and Van Ommeren of the Holland-Bombay-Karachi Line.⁷⁶

On August 24, however, the Madras government reported to the MEA that the calf named Kusa, intended for the Netherlands, had died. Instead it offered a calf named Murugan for a price of Rs. 200. The offer noted that Murugan was “well behaved. Fairly good in condition. Has broad and rounded forehead, large ears and moderately long tail.” It added, “the calf is said to have been weaned on 15-6-1954 and properly trained.”⁷⁷ The MEA quickly accepted the replacement, without mentioning this change to either the Indian Embassy in the Netherlands or the Dutch officials.

In the meantime, the director of Amsterdam Zoo had arranged for the transportation of the Indian elephant through Volkart Brothers, the Madras representatives of Van Es and Van Ommeren. The company recommended a ship called *Leweckerk*, which was scheduled to arrive in Madras on September 23 and depart the following day. In his letter to the Indian Embassy, the director pointed out that a departure on this date would ensure that the Indian elephant arrived in the Netherlands before the weather changed, as it “won’t be very suitable anymore for transport of the little elephant.” He also suggested that if this schedule could not be met then it would be “better to postpone the whole affair till May 1955 than taking unnecessary risks.” Within a week, a follow-up letter from the director informed the Indian Embassy that Amsterdam Zoo would instead employ the shipping company N.V. Stoomvaart Maatschappij Nederland and their ship *Rotti* for the transport. The *Rotti* was scheduled to depart from Madras on September 27 and arrive in Amsterdam between the ninth and the fifteenth of November.⁷⁸

When told about the transportation dates arranged by Amsterdam Zoo, a representative of the Madras government noted that Murugan was currently on the Malabar coast and that “there is hardly sufficient

time for its transport to Madras for being shipped by S.S. ROTTI.” The Madras government, in consultation with Volkart Brothers, which also represented N.V. Stoomvaart Maatschappij Nederland, came up with an alternative plan. Murugan would be shipped from Cochin, the same port from which Hanno had embarked for Europe five centuries earlier, on October 16 on the S.S. *Billiton* to Colombo in Sri Lanka, from where the Dutch ship *Rondo* would carry the Indian elephant to the Netherlands. Volkart Brothers confirmed this plan in writing and pointed out that this revised itinerary would still ensure that the elephant would reach Amsterdam before “it is getting too cold.”⁷⁹

On October 28, the Madras government confirmed to the MEA that Murugan had been shipped from Cochin on schedule. The director of Amsterdam Zoo concurrently informed the Indian embassy that he had received a letter from the superintendent of the Zoological Gardens of Ceylon confirming that the elephant was in his garden. “From Colombo,” the director pointed out, “the animal will be shipped on board the *Poeloe Laut* belonging to the Nederland Steamship Company. The *Poeloe Laut* would reach Colombo on October 26 and arrive in Amsterdam around November 22.” The director added that he was “very glad that the transport of the little elephant could thus be arranged at last as this is the only chance left for the animal to reach Holland before wintertime though it is already fairly late in the season.”⁸⁰

Murugan seems to have been placed at the middle of the *Poeloe Laut*’s deck, in the *pelgrimskombuis*, or “pilgrim’s galley,” and reportedly “enjoyed” the trip. On the ship, a fellow passenger, an assistant pharmacist named Dina Wilhelmina Suzanne de Leeuw, took care of the elephant, including administering eye drops at one point.⁸¹ The ship reached Amsterdam after traveling via Minicoy island in the Lakshadweep archipelago, Cape Guardafui in Somalia, Aden, Port Sudan, through the Suez Canal to Port Said in Egypt, Naples, Genoa, and Marseilles.⁸² Offloading Murugan in Amsterdam by placing him in a “cattle box” (Figure 5.2) turned out to be somewhat difficult. A Dutch newspaper reported this episode:

Even though the people on board the *Poelau Laut* now called themselves experts in taking care of the baby elephant, they did not succeed in getting the pachyderm into the cattle box. They lured the animal with chunks of bread, salad, pieces of endive, but as soon



Figure 5.2. Murugan in a “Cattle Box.” Courtesy National Archives of the Netherlands.

as it felt the narrow sides of the cattle box it jumped back. Coincidentally, a former elephant caretaker at Artis [Amsterdam zoo] was on the quay and knew exactly what to do: it was solved with a sugar cube, and Murugan was airlifted [from the ship].⁸³

On November 25, the Indian Embassy in the Hague acknowledged arrival of the *Poeloe Laut* and its Indian elephant cargo in Amsterdam the previous day. The ship’s captain handed the elephant over to the Indian chargé d’affaires at a ceremony on the wharf in the “presence of about 1,000 flag-waving children.” The captain remarked that “he felt honored at being entrusted with the transport of the elephant from India.” The chargé d’affaires thanked the captain “for having taken such good care of the elephant which had come all the way from India as an affectionate gift from the Prime Minister of India to the Children of Holland.” To show their appreciation to the Indian prime minister, the Dutch children presented the chargé d’affaires with two dolls in Dutch national costumes for the Indian prime minister’s grandchildren.⁸⁴

Although Murugan had arrived safely in Amsterdam and made numerous Dutch children happy upon seeing him, the issue of payment to the Madras government persisted over the next several months. In addition to the revised price of Rs. 1200 that was placed on Murugan, the Madras government also billed the MEA for various articles it had had to use to ensure “a proper custody and maintenance of the animal” during the transportation process. This included charges for ropes, a cage, mats, two leg chains, a bucket, gunny bags, the cost of feeding the elephant, sixty-four pounds of boiled rice, two pounds of salt, twenty pieces of sugarcane, medicines, sundries, one bottle of decamali oil, and one bottle of castor oil. The transportation costs of bringing Murugan to Cochin harbor by land, as well as shipping him from Cochin to Colombo, including charges for various permissions and paperwork, were also requested from the MEA.⁸⁵ It was only in February 1956, almost fifteen months after Murugan had arrived in Amsterdam, that all these charges were cleared by the MEA after it had received the allocations and the necessary approvals from the Finance Ministry.

The above description of the logistics leading up to the eventual transportation of Murugan from South Asia to the Netherlands reveals several aspects of the problems of shipping exotic animals as gifts. It shows the complicated coordination needed both among different stakeholders, and between them and shipping companies, in order to successfully transport a live animal to its destination. Equally intricate seems to be the process of procuring animals in the hinterlands and bringing them to designated port cities. The logistics described above also demonstrate the various uncertainties—the death of an animal, changes in the port of embarkation, the availability of ships—involved in transporting live animals. More importantly, the logistics involving Murugan confirm the fact that exotic animals earmarked as gifts for foreign countries had to be treated differently from other types of cargo. This included sourcing, weaning, training, caring, feeding, providing accessory objects, etc. A key consideration was keeping the animal alive, including the impact of possibly adverse weather when the animal arrived at its destination. Such logistics may also have applied to the giraffes that were transported in the fifteenth century. Indeed, despite the changes in shipbuilding technologies, methods of communication, and diplomatic and commercial objectives, some of the logistical issues concerning the transport of exotic animals remained unchanged.

CONCLUSION

Live animals cannot simply be categorized as “things,” as Ian Hodder does in his article cited in the Introduction to this volume. Hodder merely lists animals among the various “things” in which “humans have an interest.”⁸⁶ There is no specific discussion about animal-human entanglements other than indicating that animals belong to the category of “things” because they are “interfered with by humans.”⁸⁷ However, at one point Hodder states that “things cannot reproduce and therefore cannot exist without humans.”⁸⁸ This is clearly not true of animals. Hodder’s article stresses human agency and is an example of what might be called “not thinking with animals.” While it is true that humans “interfered” with animals when they captured and transported the elephants and giraffes discussed in this chapter, the relationships that developed between Pope Leo X and Hanno, the giraffes and their onlookers in Florence and Ming China, and Murugan and the enthusiastic Dutch children were distinct from any of the human-thing entanglements that Hodder outlines. Pope Leo X’s emotional attachment to Hanno, for instance, was different from his attitude toward the mounted Indian rhinoceros he received from King Manuel I. Similarly, a mere painting of a giraffe would not have induced a sense of awe among the onlookers, as did the live ones in Florence, Ming China, and Paris, while the Dutch children would have been disappointed to receive a replica of an Indian elephant instead of the one that walked the streets of Amsterdam. In all these cases, it was the sight of live animals that determined the senses, emotions, and imaginations of humans. In other words, in the case of exotic animals and their transportation, the complexity of animal-human entanglement can be fully comprehended only if the agency of these animals in shaping human activities and senses, and not just aspects of human interference, are also considered.

Another important factor distinguishing live animals from commodified things and objects is the issue of resistance, associated primarily with suffering. Proponents of animal rights and animal welfare, as well as those working on animal-human interactions, have all pointed to the issue of suffering experienced by animals, which requires ethical and moral considerations.⁸⁹ The subject of suffering is pertinent here because of the resistance live animals frequently showed to being loaded and off-loaded from ships. This is evident from the cases of the elephants Indira

and Murugan, mentioned above, and most likely it was also true of most other elephants and giraffes transported on ships. Attention to suffering and resistance requires us to evaluate the transportation of live animals differently from shipping other types of cargo. Resistance, or its possibility, by the animals seems to have been the key reason for alterations in ship designs, the demand for specific loading and unloading mechanisms and port facilities, and the need for specialist handlers during the sea passage and after arrival at the destinations. Thus, categorizing live exotic animals as things and perceiving them as regular cargo or commodities tells us nothing about the exceptional processes required for their embarkation, disembarkation, and storage on board ships.⁹⁰

The gifting, receiving, and transporting of exotic animals created unique connectivities across the Indian Ocean world and beyond. Indeed, the examples of elephants and giraffes examined in this chapter demonstrate the connections between the Indian Ocean world and Europe. Such connectivities existed before the Common Era and continued into the mid-twentieth century. These connections were sometimes direct, as in the cases of Hanno and Murugan, who traveled from South Asia to Europe, as well as indirect, like the giraffes that arrived in Ming China from north Africa via West Asia and South Asia. Beyond these geographical connections, the circulation of exotic animals also triggered connectivities between different political entities and people. They also elicited poems, panegyrics, and paintings, often with similar motifs, in the far-flung places to which these exotic animals were sent. A focus on the movement of exotic animals, therefore, provides us with a distinct understanding of cross-regional connections, the methods and facilities of maritime transportation, and the role of these animals in fostering networks of exchange and nurturing human-animal entanglements.

NOTES

1. This episode is detailed in an Indian Ministry of External Affairs file now in the National Archives of India (NAI) called “Gift of an Elephant ‘Murugan’ to the Netherlands Children.” See NAI (MEA), File No. 7(8)-EUR/55. See also Nikhil Menon, “Jumbo Exports: India’s History of Elephant Diplomacy,” *Caravan*, March 1, 2019, <https://caravanmagazine.in/lede/india-history-elephant-diplomacy>, accessed August 3, 2019.

2. NAI (MEA), File No. 7(8)-EUR/55: 68.

3. Alan Mikhail, *The Animal in Ottoman Egypt* (New York: Oxford University Press, 2013), 4.
4. Claude Lévi-Strauss, *Totemism*, trans. Rodney Needham (Boston: Beacon Press, 1963), 89.
5. Lorraine Daston and Gregg Mitman, "Introduction," in *Thinking with Animals: New Perspectives on Anthropomorphism*, ed. Lorraine Daston and Gregg Mitman (New York: Columbia University Press, 2005), 9.
6. Marina Belozerskaya, *The Medici Giraffe and Other Tales of Exotic Animals and Power* (New York: Little, Brown, 2006).
7. Silvio A. Bedini, *The Pope's Elephant* (Manchester, UK: Carcanet Press, 1997).
8. Michael Allin, *Zarafa: A Giraffe's True Story, from Deep in Africa to the Heart of Paris* (New York: Dell Publishing, 1998).
9. On the use of elephants in warfare, including their use by Hannibal, see John M. Kistler, *Animals in the Military: From Hannibal's Elephants to the Dolphins of the U.S. Navy* (Santa Barbara, CA: ABC-CLIO, 2011), chap. 2.
10. See Anna M. Kotarba-Morley, "The Maritime Context of the Trans-Mediterranean-Indian Ocean Trade: Critical Review of Roman Era Vessels of the Red Sea," in *Human Interaction with the Environment in the Red Sea: Selected Papers of Red Sea Project VI*, ed. Dionysius A. Agius et al. (Leiden, Neth.: Brill, 2017), 184.
11. Diodorus Siculus, *The Library of History* (Cambridge, MA: Harvard University Press, 1967), Book III: 204–205. See also Kotarba-Morley, "Maritime Context," 185.
12. Stanley M. Burstein, ed., *Agatharchides of Cnidus, on the Erythraean Sea* (London: Hakluyt Society, 1989), 141, n. 3.
13. The Berenike Project (1994–2001), "Brief History of Berenike," <http://www.archbase.com/berenike/english3.html>, accessed March 7, 2020.
14. Bedini, *Pope's Elephant*, 32.
15. *Ibid.*, chap. 2.
16. *Ibid.*, chap. 4. Hanno's bones were discovered at the Vatican in 1962. See Bedini, *Pope's Elephant*, 233–36.
17. John H. Pryor, "Transportation of Horses by Sea during the Era of the Crusades: Eighth Century to 1285 A.D.; Part I: To c. 1225," *The Mariner's Mirror: The International Quarterly Journal of the Society for Nautical Research* 68, no. 1 (1982): 9.
18. Pryor, "Transportation of Horses, Part I"; and John H. Pryor, "Transportation of Horses by Sea during the Era of the Crusades: Eighth Century to 1285 A.D.; Part II: 1228–1285," *The Mariner's Mirror: The International Quarterly Journal of the Society for Nautical Research* 68, no. 2 (1982): 103–25.

19. Simon Digby, “The Maritime Trade of India,” in *The Cambridge Economic History of India, Volume 1: c.1200–c.1750*, ed. Tapan Raychaudhuri and Irfan Habib (Cambridge: Cambridge University Press, 1982), 148.

20. Karthigesu Indrapala, “The Nainativu Tamil Inscription of Parakramabahu I,” *University of Ceylon Review* 21, no. 1 (1963): 70.

21. See, for example, Yasuhiro Yokkaichi, “Horses in the East-West Trade between China and Iran under Mongol Rule,” in *Pferde in Asien: Geschichte, Handel und Kultur*, ed. Bert G. Fragner et al. (Vienna, Austria: Verlag der Österreichischen Akademie der Wissenschaften, 2009), 87–98. On the arrival of foreign birds and animals in China, see Roderich Ptak, *Birds and Beasts in Chinese Texts and Trade: Lectures Related to South China and the Overseas World* (Wiesbaden, Ger.: Otto Harrassowitz, 2011).

22. Pryor, “Transportation of Horses, Part I,” 114.

23. Zarafa, or *zarāfa*, was the Arabic for “giraffe,” derived, as Berthold Laufer points out, from Ethiopic *zarat*. See Berthold Laufer, *The Giraffe in History and Art* (Chicago: Field Museum of Natural History, 1928), 32. On the evolution and the use of slings for loading and unloading horses, see Fran Jurga, “The Evolution of Equine Slings: Taking a Load off, Then and Now,” *Equus*, April 18, 2016, last updated March 10, 2017, accessed April 28, 2020, <https://equusmagazine.com/blog-equus/slings-horses-history-hope-equine-support-system-32212>. The use of slings to load other live animals is also noted in Edward Alpers’s chapter in this volume.

24. Allin, *Zarafa*, 88.

25. “Petulant Pachyderm: An Indian Elephant has Something to Remember,” *Life*, October 17, 1949: 175.

26. See, for example, a news item from 2018 in *The Guardian* that reported the death of 2,400 sheep that were transported by sea to the Middle East. Calla Wahlquist, “Death of 2,400 Australian Sheep on Ship to Middle East Sparks Investigation,” *Guardian*, April 5, 2018, accessed May 11, 2020, <https://www.theguardian.com/world/2018/apr/05/disgusting-death-of-2900-australian-sheep-on-ship-to-middle-east-sparks-investigation>.

27. Arjun Appadurai, “Introduction: Commodities and the Politics of Value,” in *The Social Life of Things: Commodities in Cultural Perspective*, ed. Arjun Appadurai (Cambridge: Cambridge University Press, 1986), 15.

28. On such types of values, beyond the arguments of Appadurai, see David Graeber’s *Toward an Anthropological Theory of Value: The False Coin of Our Own Dreams* (New York: Palgrave, 2001); and Micheal Lambek, “The Value of (Performative) Acts,” *HAU: Journal of Ethnographic Theory* 3, no. 2 (2013): 141–60.

29. Annette Baier, “Feelings That Matter,” in *Thinking about Feeling: Contemporary Philosophers on Emotions*, ed. Robert C. Solomon (New York: Oxford University Press, 2004), 353. On philosophical views on emotions and

value, see also the contributions in Sabine Roeser and Cain Todd, ed., *Emotion and Value* (New York: Oxford University Press, 2015).

30. Bedini, *Pope's Elephant*, 130.

31. *Ibid.*, 131–36.

32. See the detailed study of these representations by Francis Joseph Cole, “The History of Albrecht Dürer’s Rhinoceros in Zoological Literature,” in *Science, Medicine and History: Essays on the Evolution of Scientific Thought and Medical Practice, Written in Honour of Charles Singer*, vol. 1, coll. and ed., E. Ashworth Underwood (Oxford: Oxford University Press, 1953), 337–57.

33. On various facets of human-animal entanglements, mostly related to livestock, see Radhika Govindrajan’s *Animal Intimacies: Interspecies Relatedness in India’s Central Himalayas* (Chicago: University of Chicago Press, 2018).

34. *Report of the Native Passenger Ships Commission, Approved in November 1890 under the Orders of His Excellency the Governor General in Council, with Proceedings and Appendices* (Calcutta: Office of the Superintendent of Government Printing, 1891), 7.

35. *Report of the Native Passenger Ships Commission*, xlv.

36. H. A. R. Gibb, trans., *The Travels of Ibn Battuta, A.D. 1325–1354*, vol. 2 (Cambridge: Cambridge University Press, 1962), 361.

37. Timothy Hodgetts and Jamie Lorimer, “Animals’ Mobilities,” *Progress in Human Geography* 44, no. 1 (2020): 5.

38. This is evident, for example, with regard to the camels that were introduced in Australia from South Asia in the mid-nineteenth century and then released into the wild in the 1920s and 1930s. See J. Brim Box et al., “The Impact of Camel Visitation on Native Wildlife at Remote Waterholes in Arid Australia,” *Journal of Zoology* 309, no. 2 (June 2019): 84–93.

39. James L. Hevia, *Animal Labor and Colonial Warfare* (Chicago: Chicago University Press, 2018), 6. This hierarchical relationship is also noted in Mikhail’s *Animal in Ottoman Egypt*.

40. On the gift to Timur, see Laufer, *Giraffe in History and Art*, 36–37. The giraffe presented to the Medici is discussed in several works, including Laufer, *Giraffe in History and Art*, 79–81; Erik Ringmar, “Audience for a Giraffe: European Expansionism and the Quest for the Exotic,” *Journal of World History* 17, no. 4 (December 2006): 378–83; Belozerskaya, *Medici Giraffe*, chap. 3; and Angelica Groom, *Exotic Animals in the Art and Culture of the Medici Court in Florence* (Leiden, Neth.: Brill, 2008).

41. Laufer, *Giraffe in History and Art*, 50. There are several other studies that have examined the circulation of giraffes. See, for example, Olivier Lagueux, “Geoffroy’s Giraffe: The Hagiography of a Charismatic Mammal,” *Journal of the History of Biology* 36, no. 2 (Summer 2003): 225–47;

Ringmar, "Audience for a Giraffe"; and Sally K. Church, "The Giraffe of Bengal: A Medieval Encounter in Ming China," *The Medieval History Journal* 7, no. 1 (2004): 1–37.

42. On Zheng He's voyages and their impact on Indian Ocean connections, see Tansen Sen, "The Impact of Zheng He's Expeditions on Indian Ocean Interactions," *Bulletin of the School of Oriental and African Studies* 79, no. 3 (October 2016): 609–36.

43. Laufer, *Giraffe in History and Art*, 36.

44. Doris Behrens-Abouseif, *Practising Diplomacy in the Mamluk Sultanate: Gifts and Material Culture in the Medieval Islamic World* (London: I. B. Tauris), 141–45.

45. See Housni Alkhateeb Shehada, *Mamluks and Animals: Veterinary Medicine in Medieval Islam* (Leiden, Neth.: Brill, 2013).

46. Mikhail, *Animal in Ottoman Egypt*.

47. On the presence of giraffes in India, see Laufer, *Giraffe in History and Art*, 55.

48. *Ibid.*, 43.

49. Some of these objectives are discussed in Ringmar, "Audience for a Giraffe."

50. Halvard Leira and Iver B. Neumann, "Beastly Diplomacy," *The Hague Journal of Diplomacy* 12 (2016): 346.

51. Rosamond McKitterick, *Charlemagne: The Formation of a European Identity* (Cambridge: Cambridge University Press, 2008), 286; also cited in Leira and Neumann, "Beastly Diplomacy," 351.

52. On various records about giraffes in China, see Laufer, *Giraffe in History and Art*, 96–97.

53. These issues, including arguments put forth by earlier scholars, are discussed in detail in Church, "The Giraffe of Bengal." On the political situation in Bengal in the fifteenth century based on the numismatic findings, see Syed Ejaz Hussain, *The Bengal Sultanate: Politics, Economy and Coins (AD 1205–1576)* (New Delhi: Manohar, 2005).

54. On the diplomatic and commercial exchanges between Bengal and Ming China, see P.C. Bagchi, "Political Relations between Bengal and China in the Pathan Period," *Visva-Bharati Annals* 1 (1945): 96–134; and Haraprasad Ray, *Trade and Diplomacy in India-China Relations: A Study of Bengal during the Fifteenth Century* (New Delhi: Radiant Publishers, 1993).

55. *Ming shilu*, Taizong, juan 170.1b, in *Southeast Asia in the Ming Shi-lu: An Open Access Resource*, trans. Geoff Wade (Singapore: Asia Research Institute and the Singapore E-Press, National University of Singapore), accessed April 26, 2020, <http://epress.nus.edu.sg/msl/reign/yong-le/year-13-month-11-day-7>.

56. *Ming shilu*, Taizong, juan 170.2b-3a, *Southeast Asia in the Ming Shi-lu*, trans. Geoff Wade, accessed April 26, 2020, <http://epress.nus.edu.sg/msl/reign/yong-le/year-13-month-11-day-19>.

57. *Ming shilu*, Xuanzong, juan 105.1a, *Southeast Asia in the Ming Shi-lu*, trans. Geoff Wade, accessed April 26, 2020, <http://epress.nus.edu.sg/msl/reign/xuan-de/year-8-month-intercalary-8-day-1>.

58. The treatment of foreign bearers of tribute, including food rations and banquets, is described in Ming-dynasty source *Da Ming huidian* 大明會典 (Collected Statutes of the Great Ming Dynasty). See Church, “Giraffe of Bengal,” 11, n. 24 for a discussion of the treatment of envoys from some of the South Asian polities.

59. Edmund Blair Bolles, *A Second Way of Knowing: The Riddle of Human Perception* (New York: Prentice-Hall, 1990).

60. Several of these paintings appear in Laufer, *Giraffe in History*. See also Groom, *Exotic Animals*. On images of elephants, which inspired similar “awe,” see Mikhail, *Animal in Ottoman Egypt*, chap. 5.

61. Ringmar, “Audience for a Giraffe,” 385.

62. See Arion Rosu, “La girafe dans la faune de l’art indien,” *Bulletin de l’Ecole française d’Extrême-Orient* 71 (1982): 47–63.

63. J. J. L. Duyvendak, trans., “The True Dates of the Chinese Expeditions in the Early Fifteenth Century,” *T’oung Pao* 34, no. 5 (1939): 403.

64. Kathlyn Liscomb, “Foregrounding the Symbiosis of Power: A Rhetorical Strategy in Some Chinese Commemorative Art,” *Art History* 25, no. 2 (April 2002): 146. There are several other studies of these paintings and images of giraffes, including Chang Renxia’s 常任俠 “Mingchu Mengjiala guo gong qilin tu” 明初孟加拉國貢麒麟圖 (Painting of the Giraffe Presented by Bengal during the Early Ming Period), *Gugong Bowuyuan kan* 故宮博物院刊 3 (1983): 14–19; James C. Y. Watt, “The Giraffe as the Mythical *Qilin* in Chinese Art: A Painting and a Rank Badge in the Metropolitan Museum,” *Metropolitan Museum Journal* 43 (2008): 111–15.

65. Such nonchalant remarks were not uncommon. The Yongle emperor had similarly dismissed the significance of a white elephant received in 1409 from Vietnam. The later Hongzhi emperor rejected a tribute of a lion from Samarkand in 1489. Lai Yu-chi suggests Hongzhi’s decision could be related to geopolitical considerations or to Confucian objections to high-value objects and exotica. See Lai Yu-chi 賴毓芝, “Mingren hua suanni tu kao” 明人畫狻猊圖考 (Examination of Paintings of Lions Drawn by the Ming People), *Gugong wenwu yuekan* 故宮文物月刊 359 (February 2013): 46–58.

66. Laufer has pointed out that the Arabs “were the most active dealers in giraffes and traded the animals to the Mediterranean countries as well as to Persia, India, and China.” See his *Giraffe in History and Art*, 35.

67. On this, see also the chapter by Alpers in this volume.

68. Mikhail, *Animal in Ottoman Egypt*, 6.
69. NAI (MEA), "Presentation of Elephants by India to Foreign Countries, Information Supplied to the U.K. Section," File No. 71(8)-FEA/55: 5.
70. During the 1950s and 1960s, transnational animal dealers were key suppliers of exotic animals to zoos around the world. In 1958, an Austrian dealer called Heini Demmer supplied three giraffes, two rhinos, two hippos, and two zebras to Beijing Zoo. In exchange, Demmer received the panda Chi-Chi, which became an exhibit at London Zoo. On this early, albeit not the first, offering of pandas by the People's Republic of China (PRC) and panda diplomacy in general, see Henry Nicholls, *The Way of the Panda: The Curious History of China's Political Animal* (New York: Pegasus Books, 2012).
71. The presentation of an elephant to Canada also originated from an assurance made by private Indian citizens visiting that country and a subsequent letter from a Canadian child to Nehru requesting the gift. See Menon, "Jumbo Exports."
72. NAI (MEA), File No. 7(8)-EUR/55: 40, 43.
73. *Ibid.*, 44.
74. *Ibid.*, 45.
75. *Ibid.*, 47.
76. *Ibid.*, 51.
77. *Ibid.*, 52.
78. *Ibid.*, 57–58.
79. *Ibid.*, 59–60.
80. *Ibid.*, 66.
81. "Dina Wilhelmina Suzanne de Leeuw *Dien, Dinie*," *Geneanet*, accessed April 28, 2020, <https://gw.geneanet.org/vrsf?lang=en&cpz=pepijn+yvo+roele&nz=de+vries&ocz=o&p=dina+wilhelmina+suzanne&n=de+leeuw>.
82. Special thanks to Lena Scheen for tracking down the itinerary of the ship based on reports in the Dutch newspapers.
83. "Baby-olifant als Sinterklaascadeau voor Amsterdame jeugd: Geschenk van minster-president van India," *Provincials Zeeuwse Courant*, November 25, 1954, trans. Lena Scheen.
84. NAI (MEA), File No. 7(8)-EUR/55: 68–69.
85. *Ibid.*, 71–81.
86. Ian Hodder, "Human-Thing Entanglement: Towards an Integrated Archaeological Perspective," *Journal of the Royal Anthropological Institute* 17, no. 1 (March 2011): 155.
87. *Ibid.*, 157.
88. *Ibid.*, 162.
89. See, for example, Kersty Hobson, "Political Animals? On Animals as Subjects in an Enlarged Political Geography," *Political Geography* 26,

no. 3 (March 2007): 250–67; Markman Ellis, “Suffering Things: Lapdogs, Slaves, and Counter-Sensibility,” in *Secret Life of Things: Animals, Objects, and It-Narratives in Eighteenth-Century England*, ed. Mark Blackwell (Lewisburg, PA: Bucknell University Press, 2007), 92–113; and Rosemary-Claire Collard, “Panda Politics,” *The Canadian Geographer/Le géographe canadien* 57, no. 2 (2013): 226–32. Ellis examines the eighteenth-century discourse on designating slaves and animals as “things,” while Hobson and Collard outline some of the views of contemporary animal welfare and animal rights activists. Also pertinent is Kathleen Kete’s “Animal Ideology: The Politics of Animal Protection in Europe,” in *Representing Animals*, ed. Nigel Rothfels (Bloomington: Indiana University Press, 2002), 19–34.

90. A better comparison of these animals would perhaps be with slaves, who, as Igor Kopytoff has argued, were commodified by their capture or sale. “When the individual is stripped of his previous social identity and becomes a non-person,” he writes, he is “indeed an object and an actual or potential commodity.” However, even here it is clear that the treatment of exotic animals from the time of their capture to their transportation and display was significantly different. Specialist handlers and medical facilities ensuring that they arrived at their destinations alive distinguished these exotic animals from commodified human slaves. For a discussion of slaves, see Igor Kopytoff, “The Cultural Biography of Things: Commoditization as Process,” in *The Social Life of Things: Commodities in Cultural Perspective*, ed. Arjun Appadurai (Cambridge: Cambridge University Press, 1986), 64–65.

SIX

Cattle on the Hoof

The Mozambique Channel Provisioning Trade in the Nineteenth Century

EDWARD A. ALPERS

IN *FEEDING GLOBALIZATION*, Jane Hooper has laid the groundwork for understanding the role of Madagascar in the provisioning trade of the western Indian Ocean during the seventeenth and eighteenth centuries.¹ Cattle are an important element in that story. In the nineteenth century, driven by demands both regional and global, the trade in cattle, salted beef, and hides grew exponentially and came to dominate the nonslave trading economy of western Madagascar. At the same time, the expansion of the cattle trade paralleled and was linked to the growth of the slave trade in that region. In this paper I explore the commodity chain of this trade from the pastoral husbandry of the Sakalava through the cattle trade within western Madagascar to the maritime transportation of live cattle across the Mozambique Channel to provision Mozambique Island (Ilha), as well as the demand from

European navies.² I am also interested in the exportation of jerked beef and hides by both American and Arab traders. The sources for this project are scattered and largely impressionistic, but by asking these questions I hope to develop a better appreciation of the live cattle trade in this part of the Indian Ocean world, including the place of the Comoro Islands in it.³ In doing so I also seek to provide a specific case study to consider the broader thematic and methodological issues raised by Burkhard Schnepel in his “Introduction” to this volume of essays.

FOOD DEPENDENCY AT MOZAMBIQUE ISLAND BEFORE THE NINETEENTH CENTURY

From the moment the Portuguese rounded the Cape of Good Hope at the end of the fifteenth century, they depended on obtaining food supplies locally. A century of maritime exploration and settlement in Atlantic Africa had prepared them to barter with their neighbors for regular foodstuffs, both agricultural and animal. Having determined to make Mozambique Island their East African center of operations in 1507, this strategy proved more challenging than they anticipated. From a defensive perspective, Mozambique Island was ideally located about three kilometers from the mainland, guarding the entrance to a fine harbor. However, it had no natural supply of water and did not produce its own food, depending for both on small-scale exchange with Swahili communities on the coast, as well as on cisterns for water. So long as peaceful relations prevailed with Swahili settlements like Sanculo and Quitangonha and allied Makua villages, supplies of foodstuffs were assured. Over time, local food supplies were supplemented by the mainland farms of Afro-Portuguese settlers at Cabaceira and Mossuril. As Malyn Newitt has observed, coastal towns like Sofala and Kilwa had historically depended on hinterland supplies of food, and this pattern continued after the Portuguese presence had been established.⁴ Indeed, as Portugal built up its establishment on the Ilha, “to find this quantity of food was a continual problem.” Put more critically, Alexandre Lobato wrote that “Mozambique Island lived in a permanent crisis of provisioning.”⁵ Consequently, Newitt states, “the organization of food supply became a major feature of Portuguese diplomacy.”⁶ This problem was exacerbated when ships arrived for repairs and to replenish their provisions. “The water had to be brought from Quitangonha . . .

and food supplies for the fleets and garrison were brought from as far away as the Zambesi and the west coast of Madagascar.”⁷

Accordingly, to satisfy their requirements for beef, the Portuguese looked to Madagascar and the Comoro Islands. Zebu cattle (*Bos indicus*) had been introduced to Madagascar by about the twelfth century.⁸ Over time, many had gone wild, roaming the grasslands of western and northern Madagascar. Genetically, the high purity of Zebu in Madagascar suggests strongly that they arrived by ship directly from India rather than via eastern Africa, where they would have been interbred with indigenous breeds of cattle. The Malagasy valued cattle both as a form of wealth and in ritual sacrifice.⁹ According to Solofo Randrianja and Stephen Ellis, “The privileged right of slaughter was key to the control of trade in cattle, and therefore had an importance that was religious, political and commercial in equal measure, each aspect being inextricable from the others.”¹⁰ As early as the first decade of the sixteenth century, the Portuguese were aware that western Madagascar was an important source of provisions, especially rice, but also cattle, although they apparently made little effort to obtain provisions during that century. Hooper attributes this to the fact that in Madagascar “cattle were highly valued and seldom eaten, except on ceremonial occasions.”¹¹ By the early seventeenth century, however, things had changed. In 1613, a Portuguese mission to one small Sakalava kingdom in Boina Bay was able to purchase provisions, while an abortive Jesuit mission the same year commented that large herds of cattle reached the same northwest coast from the highlands. In the early eighteenth century, the Sakalava king controlled thousands of cattle and exercised a monopoly over their sale and that of slaves and rice.¹² In general, coastal traders did not have supplies of provisions on hand, so that “rice and cattle were kept in villages a distance in the interior and had to be brought to the coast.” When British and Dutch Indiamen successfully obtained cattle at ports in western Madagascar, the animals had to be transported from the shore to the waiting ship on longboats, never an easy task.¹³

As the Portuguese surveyed the Mozambique Channel subregion in the early sixteenth century, they also learned that the Comoros were a valuable source of provisions, including cattle. Rather than attempt to control the archipelago, as they had the major city-states of the coast, they allowed local trading networks to continue unimpeded and established solid connections with the islands. In 1619, a French merchant,

François Pyrard, remarked, “The Portuguese of Mozembic likewise come and traffic there. These islands are of the utmost convenience to Mozembic and to the Portuguese who dwell there for the supply of provisions.”¹⁴ In the seventeenth century, Mwali enjoyed a vigorous trade in provisions with Mozambique Island, sending not only its own produce, but also cattle and fruit that came from Ngazidja (Grande Comore). From this century until early in the nineteenth century, however, it was Ndzuani (Anjouan) that captured the bulk of the provisioning trade with outward-bound Indiamen, which was dominated by the English East India Company. Cattle prices at Ndzuani ranged from as low as one dollar a head at the beginning of the seventeenth century to as high as four dollars each at midcentury, yet declined to two dollars a head in 1690.¹⁵ Newitt notes several specific Dutch and English accounts of cattle (and goat) purchases at Ndzuani in the first half of the seventeenth century, one of which indicated that to fulfill an order it would be necessary to wait an extra day or two.¹⁶ Because the provisioning was focused on only two ports of call, Mutsamudu in Ndzuani and Fomboni on Mwali, local rulers were effectively able to control the trade. Indeed, Newitt contends, “It was the cattle trade which most interested the visiting European ships and it was its expansion which was probably the most important economic development of the early 17th century. Control of the cattle trade was essential for the continued political dominance of the Muslim élites.”¹⁷ Although the best region for cattle in the Comoros was the uplands of Ngazidja, because of that island’s lack of fresh water sources and suitable anchorages few European ships visited it, so cattle had to be transported by canoe for sale at Ndzuani and Mwali.¹⁸ According to a Dutch ship’s journal from the 1770s, at the principal port of Mutsamudu there was a fixed price “for middle-sized slaughter cattle” of “five Spanish reals.”¹⁹

Both the centrality of Ndzuani and the overall prosperity of the Comoros was brought to a devastating end by the quarter-century of Malagasy maritime slave raids that spanned the period from about 1795 to 1820. These raids extended as far as coastal East Africa, ranging from southern Tanzania to the Querimba Islands of northern Mozambique.²⁰ Although they never reached as far south as the Ilha, the Portuguese authorities were deeply concerned that they would. As Iain Walker observes, “although the Malagasy slave raids eventually ended, the devastation they inflicted upon the islands effectively ended their role as

a supply point for ships heading east.” Furthermore, all of the islands were “significantly depopulated” so that “by 1820 the vastly reduced population were barely capable of producing enough food for their own consumption, never mind a surplus to sell to foreigners.”²¹

MECHANICS OF THE CATTLE TRADE IN NINETEENTH-CENTURY MADAGASCAR

By the nineteenth century, a number of interrelated factors had caused the population of the Ilha to grow and increased the maritime traffic in its port. Although the ivory trade remained an important element in Mozambique’s trading economy, after the end of the Napoleonic Wars in the Indian Ocean in 1815, it was surpassed and interfered with by the rapid expansion of the slave trade.²² At the same time, relations with both the mainland settlements and the Makua of Macuana were marked increasingly by hostilities linked to tensions over slave trading, as British pressure gradually if unevenly compelled Portugal to enforce abolition.²³ A related aspect of this pressure was that it increased the official Portuguese presence on the Ilha. The combination of these developments stimulated the renewal of the provision trade, including cattle, across the Mozambique Channel from both western Madagascar and the Comoros to Mozambique Island. Concomitantly, the more general expansion of international trade in the Indian Ocean opened up new opportunities for American merchants, initially whalers, but increasingly also those seeking cattle hides for the rapidly expanding leather industry of New England.²⁴ In these circumstances, during the middle decades of the nineteenth century, the cattle trade from both western Madagascar and the Comoros to Mozambique Island flourished.

Gwyn Campbell provides extensive documentation of the nineteenth-century cattle trade from Madagascar to the Mascarene Islands.²⁵ The expansion of the highland Merina empire, which included the seizure of vast herds of cattle in northwest Madagascar, accelerated the commercialization of the cattle trade, which became a royal monopoly. Most of this activity was focused on the east coast of Madagascar, but shipments of livestock also originated from St. Augustin Bay and even occasionally from Mahajanga.²⁶ The expansion of Imerina into Iboina in the 1820s, including the conquest of Mahajanga in 1824, stimulated a major trade in hides from that port. Most of the export trade at Mahajanga was in

the hands of Americans, who by the mid-1820s had shifted their interests from tallow and salted beef to hides for New England tanneries. As Hooper points out, these transactions were mediated through Indian and Arab traders. By the 1830s, Americans were purchasing thousands of cattle hides annually.²⁷ The Merina Queen Ranavalona I prohibited all exports from that northwestern Madagascar port from 1846 into 1853, while in the 1870s Euro-American demand for leather goods propelled a huge increase in the east coast commerce in hides, which continued to the end of the century.²⁸ This was the wider economic context in which Indian, Comorian, and Swahili traders plied their small-scale trade in livestock from western Madagascar and the Comoros to the Ilha.

With respect to non-Euro-American trade in western Madagascar, it is important to note that not all activity was focused on Mahajanga or its subordinate ports around Bombetoka Bay. In addition, the royal prohibitions against Euro-American traders apparently did not apply to these indigenous merchants. In view of the close connection between slave-trading and all other commerce carried on by Swahili and Comorian shipping, the Anglo-Merina Treaty of 1820 that prohibited the export of slaves from Madagascar also impelled these traders to shift their attention to smaller ports in western Madagascar that were independent of Imerina, such as the Ambongo-Mahilaka and north Menabe regions.²⁹ According to Edmond Samat, who visited the coast in the early 1850s, around Baly Bay, an area to the southwest of Mahajanga with many cattle but of poor quality, "Arab dhows continually arrive with more or less large numbers of slaves. . . . The slaves, I am told, one buys them and carries them into the interior to the owners of cattle, and he immediately gives you 3, 4 and 5 cattle."³⁰ Just to the south, however, at the small bay of Foata, pasturage was much better and "the cattle there are magnificent;" Arabs traded regularly for these cattle. A little farther south, at Cap Saint-André, the Arabs who lived there traded cattle "that they go to purchase at Noss-Valavo and then carry by dhows to Bally to be sold to ships or to the Whites established there."³¹ Here there were close links between slave trading and cattle, relative prices varying according to supply and demand. In 1855 at Maintirano, according to a French merchant, trade goods exchanged for cattle and cattle products also included gunpowder, guns, blue cloth, crockery bowls, empty bottles, barrel hoops, pots, rum, fishhooks, and piasters.³² Although the external cattle trade was prohibited from

Maintirano and Menabe in the 1870s as a result of losses occasioned by recurrent raids, in the 1880s the west coast continued to provide beef “to the islands of the Mozambique Channel and as far as the African coast” in the many Arab dhows that visited its ports.³³ The area around Baly Bay continued to maintain “a considerable trade in cattle with the Comoro Islands” as late as 1911.³⁴ Slave-trading also persisted at Baly into the early twentieth century.³⁵

The sources for documenting this trade include a combination of Euro-American descriptions of how cattle were procured and loaded onto ships and how beef was salted and packaged for shipment, and mostly published official Portuguese records of movements at Mozambique Island port. The unpublished archival record is unfortunately thin. Nevertheless, by sifting through these widely differing types of sources, I hope to be able to convey some sense of the challenges posed by this kind of cargo, as well as to suggest the dimensions of the trade in live animals across the Mozambique Channel.

The first point to make is the excellence of the beef that was available at Mahajanga. According to a visiting American merchant writing in 1840, “There is plenty of Bullocks, of the Buffalo kind, of a superior quality. Their meat is delicious and they are sold reasonable.”³⁶ A decade later, a French voyager noted that at Mazangaie (Mahajanga), “Cattle are very cheap and in great numbers. Many are salted.”³⁷ Certainly, virtually all later nineteenth-century European visitors to western Madagascar commented on the vast numbers of cattle, both domestic and wild, that they observed.³⁸ Supplies depended upon immediate availability, price, and local political conditions, as cattle-raiding was one of the principle objectives of both imperial expansion and more localized warfare. Reflecting these parlous conditions, a visitor at the village of Maharidaza, on the route from the Imerina capital of Antananarivo to Mahajanga, noted in 1875 that “large herds of cattle are driven into the village for safety at night.”³⁹ Once arrangements for sale had been negotiated, the next order of business was to load the cattle onto a waiting ship. French naval officer Charles Guillain, who made numerous trips to this coast in the 1830s and early 1840s, wrote of Mouroun’sang (Anorontsangana), on Rafala Bay just south of the newly established (1841) French colony at Nosy Be: “The distance of the anchorage not allowing them to be towed, they are transported by canoe, and because of this need, the sailors, with their usual small boats, are not able to take

on the largest animals.”⁴⁰ At Mahajanga in October 1843, British naval officer Frederick Lamport Barnard described the following comic scene:

The getting these beasts into the boats was the most laughable and exciting sight I have seen for a long time. In a yard, the entrance to which was a passage through a house, were about forty oxen, from which we were to take our choice. A Black placing a rope over the horns of the one I pointed out, this is led through the passage, and about fourteen clapped on outside, drag him out; the moment he gets through, he gives a snort, and rushes furiously at those nearest to him; but the rope being well manned he is gradually shortened in and a turn taken round the stern of an old Dow. This process infuriates the savage animal, which paws the ground snuffs the air, and seems extremely anxious to make his horns better acquainted with his enemies, at whom he at last makes a rush, is brought up all standing, and falls on his beam ends, when he is overpowered by numbers, lashed, and bundled into the boat; now and then they break adrift and give us a regular hunt, which causes much fun.⁴¹

Barnard’s account is peppered with descriptions of regular negotiations to purchase bullocks wherever he finds himself, a vivid reminder that the British navy required significant and regular supplies of meat for their crews.⁴²

A decade later William Ellis, of the English London Missionary Society, recorded an equally lengthy account of loading cattle:

The getting them on board is rather a noisy and bustling affair, and when the weather is at all rough, it is impracticable without loss. If the sea is tolerably calm, the vessels approach as near the shore as possible, perhaps within two hundred yards, and a strong rope is passed from the ship to the shore. Two large canoes are then fastened together by having strong poles attached to them, and projecting over the sides. The cattle, which perhaps have never been tied up before, are caught in the fold by having a rope passed round their horns, by which they are tied one by one to a strong post in the fold. To the rope round each animal’s head two other ropes are fastened, viz. one on each side, and extending in opposite

directions along the sea beach. Each of these ropes is held by eight or ten men standing on the sand, or in the water. When all is ready the animal is driven out of the fold, and generally runs at the men on one side, but is held back by those on the other side, and both parties of men keep advancing towards deep water, still pulling with the ropes, until the bullock is beyond his depth. He is then drawn as he swims to the side of the canoe, where the long ropes are taken off, and he is fastened by the horns to the cross-bars projecting over the sides of the canoe. When about ten oxen are thus fastened, the canoes are drawn by a rope previously fixed to the ship, the bullocks being swung on both sides; a sort of canvas sling is then passed under the body of each animal, by which it is hoisted into the ship. By this manner, a hundred and fifty bullocks will sometimes be embarked in one day.⁴³

As Campbell comments, for European shipping “this remained the method of embarking cattle into the twentieth century.”⁴⁴ One thing that stands out in each of these accounts of loading cattle at Madagascar is the central role played by Malagasy canoemen and onshore laborers.

Turning again to British accounts, George Lydiard Sullivan recalled that in the 1840s, aboard HMS *Castor* at Zanzibar, “having received

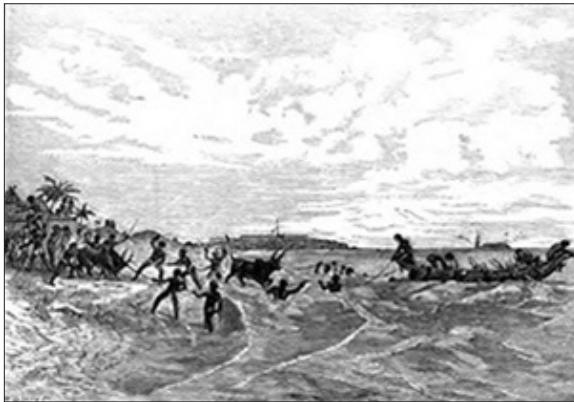


Figure 6.1. Samuel Pasfield Oliver, *On and Off Duty: Being Leaves from an Officer's Note-Book* (London: W.H. Allen, 1881), facing 220.

some twenty or thirty so bullocks, besides sheep, pigs, &c., which made our main deck appear more like a farm-yard than a battery . . . ; in fact, our main deck usually had this appearance, for we were seldom, if ever, without quantities of live-stock in the ship, otherwise we could not have remained on the coast so long as we did." Sullivan continues, "I remember, after sailing from Johanna [Ndzواني], once having as many as fifty bullocks between the guns on the main deck, besides sheep, &c." and that his commanding officer had discovered "one of the men stowing the hay intended for these animals, as he had been directed, under the spanker-boom."⁴⁵ Because of their abolitionist focus on capturing slavers and "liberating" captives at sea, the published anti-slave trade patrol accounts say little about provisioning, which was minimal at best, except to note the often starved condition of the freed captives. In the words of one British naval captain, "Provisions in these vessels are carried . . . in no particular place. They consist of rice, dates, a grain known locally as 'M'tama [sorghum], which seems a staple food of the slaves, dried fish—shark, I believe having the preference—cocoa-nuts, and such other fruits as fortune may offer, with coffee as the beverage," as well as large wooden tanks of water.⁴⁶ Of course, matters would be quite different on board a *pangaio* sailing across the Mozambique Channel with a cargo partially made up of cattle on the hoof. Even for such a relatively short voyage, good weather and currents prevailing, any cargo that included livestock would undoubtedly require fodder and water as well.⁴⁷

As loading live cattle on board Euro-American ships posed a significant problem for their captains and crews and required a considerable body of onshore laborers to accomplish, preserving beef involved a different set of skills and labor. There were several ways to preserve meat, including smoking, salting, and sun drying. According to British naval officer William Fitzwilliam Owen, who visited Mahajanga in 1824, the Americans

purchase or erect a large wooden building, with a yard or pound attached, wherein they slaughter their bullocks and jerk the beef. The beasts, which are generally very untractable, are driven to the gate of the pound, and as they pass through are hamstrung by a native, who stands inside, with a sharp curved piece of steel attached to the end of a pole for that purpose;⁴⁸ they are afterwards slaughtered when wanted. The meat is then cut from the bones in large

junks [i.e., chunks], which after being jagged with a knife, are well rubbed with salt. This operation over, they are exposed to the sun for some days, but during the night are carried in from the dew, which is always heavy. The heads, hearts, offal, and bones, are thrown into the middle of the town, and there left to putrify in the sun, filling the air with the most disgusting odours, highly productive of disease.⁴⁹

When the British vessels left Mahajanga and Bombetoka Bay, they sailed north along the coast in their surveying mission to Majambo [Mahajamba] Bay, where

we found an Arab dow at anchor, the crew of which were employed jerking beef, but in a manner quite different from that practiced by the Americans. The meat is cured without salt; it is detached carefully from the bones, cut into narrow slips, and then suspended in the air, until it becomes hard and perfectly dry. As soon as the animal is killed, a hole is dug in a dry sandy spot, over which the hide is carefully spread, and the edges secured around by wooden pegs, while the hollow, loaded with sand, conforms itself to the shape of the cavity. In this the slips of beef, prepared as above, are placed while hot from having been but just parboiled in their own fat, which is afterwards poured over them in a liquid state. Sufficient time is then allowed for it to cool, after which the pegs are withdrawn, and the edges of the hide brought together, and laced by thongs. This, when packed, is in the shape of a large sack, and contains the meat of four bullocks.⁵⁰

Micheline Rasoamiamanana records the variable sales of salted beef (Malagasy *kitoza*) at Mahajanga in the 1870s, where the main purchasers were Indians, “probably to provision the African coasts.”⁵¹

TRANSPORTING CATTLE AND SALT BEEF ACROSS THE MOZAMBIQUE CHANNEL IN THE NINETEENTH CENTURY

Even when peace prevailed and agricultural produce regularly reached the Ilha, beef was always in short supply. To be sure, fish, goats, and chickens could provide protein, but cattle did not, apparently, flourish on the coast or in Macuana.⁵² There is, however, one important exception

that must be acknowledged: when the British diplomat Henry Salt visited Mozambique and its mainland possessions in 1809, he recorded the presence of both draught and beef cattle. In his rambles around the Cabaceira Peninsula, where most of the Ilha's provisions were produced, he observed that "a great part of the land still remains uncultivated, but it affords grazing to numerous herds of cattle, and sustenance to vast droves of swine, the breeding of which, from their being reared with little trouble, has been greatly encouraged by the inhabitants."⁵³ Describing the complicated process of making manioc edible near Mossuril, he wrote: "They are dug up, and brought to the place on asses, and in hackberries drawn by bullocks, of a large breed from Madagascar."⁵⁴ Finally, he lauded the "abundance" and "moderate" cost of provisions required for the ships that were to carry him to Abyssinia. "Bullocks, in good order, were to be had for fifteen or twenty dollars; pigs for eight dollars the arob[ba]; goats for five dollars each, and fowls at the low price of one dollar the dozen."⁵⁵ What are we to make of this evidence? Salt's testimony suggests that the cattle he describes were introduced from Madagascar, but if they flourished in 1809, what caused them to disappear as a source of meat for the remainder of the nineteenth century? For by the early 1820s, at the latest, there is no record of cattle being available at Mozambique Island or its mainland.

In 1822, Bishop Dom Frei Bartolomeu dos Mártires wrote a unique report on Mozambique that was based on his three years of residence on the Ilha. "All year long," he wrote, "the port of Mozambique is occupied with *pangaios* [dhows] . . . of Moors [Swahili] and northern Arabs" who carried all kinds of provisions, including "some cattle on the hoof [and] salted meats." Among their ports of origin, he mentioned the "Islands of Comoro, Anjoanes, [and] Madagascar." More specifically, he described the system by which they were housed and fed by resident Swahili hosts before they set off for Madagascar or other ports. "In 15 or 20 days they return from a voyage to Madagascar . . . carrying those goods which they know are in greatest need in Mozambique, especially live cattle of which there is always a shortage." The bishop believed that these traders could make an extraordinary profit on this traffic by buying "a bullock for two Spanish pesos that they sell here for 12 or 15 pesos." Finally, he noted that "the native inhabitants of Madagascar come to Mozambique to trade cattle," but that the bulk of this trade was in the hands of Arabs.⁵⁶

According to Owen, who visited the Ilha immediately after the Bishop's report, "In the city there are two pretty markets, where vegetables and grain can be procured throughout the day; but, as the sun is intensely hot, articles are liable to be affected by it, as fish, meat, and milk, can only be obtained in the morning, except at times in the Black Town, which appears to be the grand mart for all the necessaries of life on a smaller scale. Bullocks are scarce and dear, but they have an abundance of goats and pigs." He further noted of the Portuguese that Cabaceira "is the only part where the soil is cultivated for the maintenance of the population; then Arabs supplying the rest; but were they to fail, a famine would be inevitable."⁵⁷ A few years later, former governor-general Sebastião Xavier Botelho (1825–1829) complained pessimistically that "regarding domestic animals, it is best to say that there are none: cattle on the hoof come from the island of Madagascar, and is the trade of the Mujojos who inhabit the Comoro Islands," although he also complained that "there has been a decline in meat because of lack of good handling."⁵⁸ Writing in November 1829, his immediate successor as governor-general, Paulo de Brito, reiterated the same old story: "Here there is very little cattle," or any other livestock, for that matter.⁵⁹

Regrettably, there are no accounts of how many live cattle were required to sustain the Portuguese garrison and larger community at the Ilha, although there is one drafted by the keeper of the government warehouse in November 1830 indicating that "4 barrels of beef" were among the provisions required "for 58 soldiers for 30 days."⁶⁰ The first recorded cargo manifest I have that mentions the shipment of cattle on the hoof—thirty-six head from Madagascar, as well as an undisclosed amount of salted beef, among other provisions—is dated April 1830 (see Table 6.1). A year later, in late June 1831, Momad Bun Abdul Cadry wrote to the governor-general that, although he had not concluded any trading at Mahajanga because of the high costs, he had left some people there "to salt beef for the Royal Treasury."⁶¹ At the end of that same month, and the end of a decade of devastating drought and famine across all of Mozambique, the governor-general of the colony dispatched letters to Madagascar, Bombetoka (Mahajanga), Ndzuani, and Ngazidja "to send their *pangaios* with provisions and cattle to Mozambique."⁶² Summaries of recorded cargo manifests for the period 1828–1837 (Table 6.1) indicate that, of twenty-four ships that entered Mozambique port, eleven originated from Ngazidja, five each from

Table 6.1. Livestock Entries at Mozambique Island, 1828–1837⁶⁴

Mulale [Mwali]		Goats		1/11/1828	DAM 1, 70#83
S. Lourenço		36 head	cattle, salted beef	4/23/1830	DAM 2, 820#89
S. Lourenço		50 head of cattle		5/7/1830	DAM 2, 819#85
Anjouan [Ndzuan]		goats and cows		6/7/1830	DAM 2, 818#80
Anjouan [Ndzuan]		Goats		2/1/1830	DAM 2, 827#117
Anjouan [Ndzuan]		bulls, cows, goats		8/?/1830	DAM 2, 808#52
Angazicha [Ngazidja]		6 cows, 40 goats		9/10/1830	DAM 2, 804#39
Angazicha [Ngazidja]		Goats		9/17/1830	DAM 2, 806#45
Angazicha [Ngazidja]		Goats		9/17/1830	DAM 2, 806#46
Maote [Mayotte]		Goats		9/19/1830	DAM 2, 806#47
Anjoane [Ndzuan]		9 head of cattle, 70+ goats		9/26/1830	DAM 2, 805#41
S. Lourenço		dried meats		6/14/1831	DAM 3, 487#56
Mulale [Mwali]		20 bullocks and cows, 5 goats		5/14/1832	DAM 3, 676#139
Angazicha [Ngazidja]		6 cows and 11 goats		5/22/1832	DAM 3, 676#137
Anjoane [Ndzuan]		60 bullocks and cows, 30 goats		5/23/1832	DAM 3, 675#135
S. Lourenço		30 bullocks and cows, 15 sheep		5/24/1832	DAM 3, 675#136
Anjoane [Ndzuan]		90 bullocks and cows, 30 goats		6/1/1832	DAM 3, 675#134
Buquine [Madagascar]		7 goats		6/25/1832	DAM 3, 674#132
Angazicha [Ngazidja]		2 cows, 4 goats		7/4/1832	DAM 3, 674#131
Angaziza [Ngazidja]		some goats		4/26/1837	DAM 3, 985#173
Angaziza [Ngazidja]		24 goats		5/17/1837	DAM 3, 982#162
Angaziza [Ngazidja]		17 goats		8/13/1837	DAM 3, 978#149
Angaziza [Ngazidja]		48 goats + 1 cow		12/22/1837	DAM 3, 998#211
Angaziza [Ngazidja]		90 goats + 11 cows		12/12/1837	DAM 3, 999#215

Ndzuani and Madagascar, two from Mwali, and one from Mayotte, indicating that nineteen of the twenty-four (79.1 percent) were from the four Comoro Islands. Cargoes consisted of various head of livestock, including cattle (both bullocks and cows), sheep, goats, and kids; only Madagascar shipped salted beef.⁶³

Unsurprisingly, we do not possess any descriptions of cattle being loaded aboard Indian or Swahili-Comorian ships, which were significantly smaller than the British naval vessels that plied the Mozambique Channel. Nor do we have any suggestions about how these animals were accommodated once they were securely on board local ships. Based on contemporary ethnographic research by Dionisius Agius in the Red Sea, what we can say with some certainty is that “animals have always been notoriously difficult to transport.” Indeed, according to his Djibouti informant, “transporting cattle by sea is particularly dangerous, because ‘they tend not to stand still when the boat is rocking and tossing; they sway here and there, causing the ship to capsize.’ But as cattle get a better price in Yemen than Djibouti, he was willing to take the risk.”⁶⁵

According to a register of *pangaios* and licenses granted by the government at Mozambique Island during the 1840s, the great majority of them were obtained by *Vāniyā* [Hindu Indians from Portuguese Diu] and Swahili traders going to or coming from Zanzibar. Only one was issued to a Swahili trader sailing to Madagascar, although another license for Ibo was given to a ship owned by an individual named Mus-sajj, “a native of S. Lourenço resident and married in Quissanga for fifteen years.” The most interesting entries are a cluster of eight licenses for the Comoros, one of which specified that the recipient was from “ilha de Comoro” [indicating Ngazidja] and another noted its destinations as Quissanga, Pemba Bay, the Comoros, and Madagascar.⁶⁶ Unfortunately, few of these notations include anything about the cargoes of these ships beyond the occasional general mention of “provisions.” Here, again, we must rely upon Euro-American visitors to Madagascar and the Comoros for evidence of the cattle trade to Mozambique. Anchored at Ndzuani in September 1841, one British naval officer observed, “Whilst we were here several dows arrived from Comoro [Ngazidja], laden with bullocks. This trade appears to be considerable for such a small place, one dow generally arriving each day with from 30 to 40,” adding that “the cattle of Johanna are very fine.” In addition to purchasing bullocks (at £1.18s each) and fresh beef (at 2d. per lb.) for the ship, they also loaded “fodder

for oxen 5s. per load.”⁶⁷ In view of the virtual eradication of all of Ndzuanis’s cattle during the civil war in the late 1830s, these “Johanna” cattle must surely all have come from Ngazidja.⁶⁸ During his visit to Ngazidja in 1864, Otto Kersten mentions that herds of cattle, producing excellent beef, roamed the highlands of the island. When Gevrey visited Ngazidja in 1869, he commented that “The principal wealth of the island consists of the raising and exportation of cattle which they sell to the coast of Africa and in the other Comoro Islands.”⁶⁹ If Ngazidja’s lack of harbors capable of accommodating European ships, with their deep draughts, was an obstacle to international trade, the smaller ships navigated by Comorians were clearly able to exploit the rich cattle resources of the island by transporting them to the more welcoming harbor of Ndzuanis. As we have noted above, this interisland trade in cattle on the hoof can be dated back to the seventeenth century.⁷⁰

In the 1840s, there were scattered notices of not very successful Portuguese traders at Madagascar who occasionally shipped cattle to Mozambique.⁷¹ Guillain adds that around this time “one or two dhows (*boutres*) from Mozambique came each year to Mahajanga to see if they could procure rice; otherwise, they sometimes took cattle.”⁷² At Kiakombi, in Cajembi Bay, he also mentions that dhows visited from Mozambique, Zanzibar, the Comoros, and Nosy Be: “Their exports consist of live cattle, dried beef, skins, tallow, and unhusked rice.”⁷³ Continuing his account of the trade of western Madagascar in the 1840s, he comments on the “almost insignificant” trade of Baly Bay. Still, this traffic included “live cattle, dried beef, tallow, skins, sandalwood and rice . . . the transport of which annually engages five or six dhows coming from the coasts of Mozambique, Zanzibar, and sometimes the Comoros.” Specifically, he states, “Those from Mozambique mainly take live cattle; and the others dried beef.”⁷⁴ On the coast of Menabe, he again writes about the abundance of cattle, adding that “Arab and Antalaotra [Malagasy Swahili Muslims] come there to prepare and smoke-dry meat; they engage in this activity in the Ounara [Honara] River, where they remain until the end of their operation, then they go to carry their products to Mozambique or Zanzibar.”⁷⁵ A few dhows from Mozambique and Zanzibar even ventured as far south along the western coast of Madagascar as Toliara, where the Féérègne [Fiherenana] River enters the Mozambique Channel, probably also seeking to trade for cattle.⁷⁶ What is clear from Guillain’s survey is that dhows from Mozambique continued to be

active in transporting live cattle across the Mozambique Channel from both Madagascar and the Comoros in the 1840s.

The most complete record of the transchannel traffic in cattle is the *Boletim Oficial do Governo Geral da Provincia de Moçambique* (hereafter *BOM*), which began publication in 1854, one feature of which was the regular publication of “Port Movements” at the Ilha. Each section of these reports is divided into “Ships entering” and “Ships leaving,” as well as mentioning each ship’s nationality, the name of its master, sometimes the number of crew and passengers, its tonnage, and the duration of the crossing; and while many of these entries include no details at all about cargoes, many do. For the quarter-century from 1854 through 1879, I have counted a total of 151 port entries at Mozambique for which the cargo involved one or another form of livestock from either Madagascar or the Comoro Islands (the only exceptions being two from Ibo, one from Angoche, and three from Madagascar with only preserved meat; see Table 6.2).

Nearly all of these ships are described as either *pangaio arabe* or *pangaio francez*, with only a handful being listed as something else.⁷⁷ Of these, ninety-one recorded cattle only, while another thirty-seven recorded cattle plus some other cargo. Only rarely did the port record include the number of animals transported on any individual ship. Seventy-seven percent (117 of 151) of the ships that entered the port of Mozambique Island carrying livestock or animal products during this period embarked from Madagascar (most frequently recorded as “S. Lourenço,” but also as “Madagascar ports” or “Madagascar,” or

Table 6.2. Ships Entering Mozambique Island with Livestock, 1854–1879

Port of Origin	Cattle Only	Mixed Cargo	Goats	Hides	Sheep
Madagascar	84	23*	4	3	0
Ngazidja	4	10	3	1	1
Ndzuani	2	1	1	5	0
Mwali	1	3	1	0	0
Mayotte	0	0	0	1	0

Source: Alpers Excel Spreadsheet

*There were also three cargoes from Madagascar of jerked beef (*carne seca* or *carne frita*), but no live animals.

occasionally as a specific port).⁷⁸ This number tracks a complete reversal of the situation reflected in the figures we have observed from 1828–37, revealing both the declining significance of the Comoros and the increasing importance of western Madagascar in the Mozambique Channel cattle trade to Mozambique. Iain Walker suggests that this decline may have been a consequence of the Great War (*Nkodo Nkuu*) of 1848–52 that raged across Ngazidja and “left the island in ruins.”⁷⁹ Nevertheless, the traffic in live cattle was not extinguished. Of the Comorian ports of embarkation, nineteen voyages hailed from Ngazidja (usually noted as “Comoro” or “Ilhas de Comoro”), nine from Ndzuani, five from Mwali, and one from Mayotte.⁸⁰ These data reveal that, again unlike Euro-American ships, dhows were capable of taking on livestock directly at Ngazidja for shipment across the Mozambique Channel; they also suggest that, in view of what other sources document about the interisland movement of cattle from Ngazidja to Ndzuani, some of the dhows that embarked from the latter may also have carried animals from the former. The length of the voyage from either Madagascar or the Comoros ranged between as few as three to as many as twenty days, depending on sailing conditions, but in general most voyages took between five and nine days. Transporting live cattle during these voyages must have been a real challenge to the ship’s master and crew.⁸¹

Hides were the exclusive cargo of ten entries, while eight ships included hides as part of a mixed cargo. Jerked beef made up only part of five different cargoes, while only two ships (one a mixed cargo from Mwali) carried sheep to the Ilha. Finally, it is important to note that many other ships arriving from Madagascar and the Comoros transported cargoes that did not include any animal products. Rice was especially important from Madagascar, but items such as wood, basketry, trade cloths, and gunpowder are also noted in the *BOM*. From the Comoros cowries were imported, as were coir, sugar, and various other goods.

Several early issues of the *BOM* also include cargo manifests that provide a few more details about these ships, although these appear to be duplications of recorded port entries. In general, however, the cargo notices are not especially specific, sometimes indicating simply *gado* (cattle), other times noting *gado vacum* (cattle on the hoof). For a short period in the 1860s, however, we do have several years of imports and exports that provide some indication of the dimensions of this trade in live cattle (Table 6.3).

Table 6.3. Live Head of Cattle Imports at Mozambique, 1865–1871

Year	In Portuguese Ships	Duties Paid	Value	In Foreign Ships	Duties Paid	Value
1865	31	19\$656	163\$800	385	29\$718	2:437\$650
1866				120	101\$058	867\$150
1868	11	8\$118	101\$475	197	201\$852	1:602\$224
1869	38	12\$240	153\$000	427	365\$180	3:043\$250
1870–1871				545		3:557\$530
Total Head of Cattle	80			1,674		

Sources: BOM 1867, no. 2; 1868, no. 44; 1869, no. 56; 1870, no. 34; 1872, no. 22. The official imperial Portuguese currency was the *real* (pl. *réis*), the \$ sign denoting thousands. See Machado, *Ocean of Trade*, xiii for a full “Note on currencies.”

From this table we can see that, while only eighty head of cattle were carried to the Ilha in Portuguese registered ships, a total of 1,674 cattle (95.4 percent) were transported in foreign ships. During this same period, nine ships entered carrying only goats, while another eighteen included goats in their total cargo.⁸²

The Portuguese nomenclature *pangaio arabe*, no less than the British “dhow” or French *boutre*, makes it difficult to identify precisely the specific kinds of ships that plied these waters.⁸³ The best identifying clue is the tonnage recorded for these ships, which indicates that they were fairly typical of the kinds of dhows that navigated the coastal waters of the western Indian Ocean.⁸⁴ The registered tonnage of the recorded “*pangaios arabes*” ranges from a low of fifteen to a high of eighty-three, with most ships coming in at between twenty to forty tons. Based solely on tonnage, I suggest that the most likely ship type for these *pangaios* was the common East African coasting dhow known as a *jahazi*, or what John Jewell calls “the Lamu dhow,” which matches the tonnage range recorded during this quarter-century at Mozambique Island. As Jewell notes of Lamu dhows at Mombasa: “These craft vary a good deal in size. One of the 50 tons [sic] displacement 50 feet long, with a *beam* of 14 feet and a depth of seven or eight feet would be about average. She has a crew of about 12.”⁸⁵ In addition, Samuel Sanchez indicates that the *jahazi* was the characteristic dhow type of western Madagascar and the Comoros.⁸⁶

Just as we do not know how cattle were loaded aboard *jahazis* at ports in Madagascar and the Comoros, Portuguese records provide no evidence at all on how cattle were disembarked at Mozambique Island. In the 1950s, A. H. J. Prins observed the unloading of cargo at Lamu by a team of workers using a *silingi*, which he defines as a “sling used for hoisting cargo aboard ship or from the hold.”⁸⁷ In view of the long history of the exchange of technologies and design in Indian Ocean shipping,⁸⁸ it seems reasonable to assume that some kind of sling may have been used to help off-load cattle from dhows. Prins also points out that the shallow draft of the *jahazi* enabled it to be approached more easily at low tide, when it would be resting on its bilges. In describing the process of loading and unloading cargo, he also notes how the construction of a *jahazi* facilitated the entire, very labor-intensive process of gaining access to the hold.

[One] obstacle which is rather in the way must be removed: the bulwarks, consisting, as we know, of stanchions, weather cloth and railing. Since the whole railing is made of sections of spars fitted together as well as to the stanchions by simple lashings, this is not difficult. One or two stanchions are taken out of the gunwale holes in which they rest, two sections of the rail are removed, the matting weather cloth, or *talibisi* let down. This letting hang down or *kuinika talibisi* . . . makes the movement of goods into and from the hold very much easier.⁸⁹

Whether this procedure was used historically to load and unload cattle from any *pangaio arabe* in the nineteenth century remains conjectural; it also seems possible that cattle might have been loaded and unloaded at low tide on gangplanks over the gunnels made more accessible by this letting down of the matting. At the very least, the pioneering work of Prins gives us some idea of how this complicated business might have been achieved.

With the exception of a one-year contract for the public sale of beef from February 1, 1860 to January 31, 1861, there is little information on how cattle or beef were marketed and priced at Mozambique.⁹⁰ The only other reference to the provision of meat concerns the abysmally poor quality of salted beef at Mozambique for the Portuguese warships, which required a reliable source of protein for the crew.⁹¹ Writing about



Figure 6.2. 1877 Mozambique waterfront, *Revista Illustrada*, no. 12 (September 30, 1890), 144.

this situation in 1860, one official wrote: “The deterioration of poorly processed salted meat in Mozambique is such that it seems to me that the Government should appoint a qualified individual to assist in the process of salting so that it is of good quality, that is from fat cattle and that does not mix heads and hooves in the barrels, and that prior to salting it should be well pressed and that a little saltpeter should be added to the mixture so that the meat is not ruined after being salted.”⁹² What is not clear from this single reference is whether the salted beef to which this report refers was actually processed in Mozambique or, more likely in view of what I have noted above, in Madagascar.⁹³

CATTLE AS CARGO

Although there remain gaps in our knowledge of this commodity chain, the cattle trade in the Mozambique Channel vividly illustrates “the handling and transportation of certain material objects across the sea.”⁹⁴ The details of how the trade in live cattle and cattle by-products was organized and effected make it possible to integrate and substantiate several of the perspectives proposed by Schnepel. Indeed, by putting the category of cattle as cargo first and by following the “thing,” as he suggests, we are able to focus on the materiality of the discrete elements

in this commodity chain, as well as the human inter-relationships, so that we are ultimately able to discern at least some details of “the life-histories before travel histories start and after travel histories end.” On a larger canvas, examining the cattle trade across the Mozambique Channel in the nineteenth century demonstrates once again that, even in the context of an emerging global economy and the age of steamships to the Indian Ocean, indigenous trading networks continued to thrive.

NOTES

1. Jane Hooper, *Feeding Globalization: Madagascar and the Provisioning Trade, 1600–1800* (Athens: Ohio University Press, 2017). For a dissenting view, see Gwyn Campbell, *Africa and the Indian Ocean World from Early Times to Circa 1900* (Cambridge: Cambridge University Press, 2019), 173–74. I am most grateful to Klara Boyer-Rossol and Iain Walker for their careful readings of an earlier draft of this paper and for their detailed comments, as I am to Burkhard Schnepel for his comments on this chapter.

2. Klara Boyer-Rossol points out (email to author, July 26, 2019) that the rise of cattle-trading in western Madagascar was also stimulated by the strengthening of the French colonial presence on Nosy Be and Mayotte, although I do not discuss this in this paper.

3. However, because much more work has been done on the cattle trade to the Mascarene Islands, I do not intend to look at the eastward trade in these animal cargoes.

4. Malyn Newitt, *A History of Mozambique* (Bloomington and Indianapolis: Indiana University Press, 1995), 6, 9, 22, 28. For Kilwa, see Edward Pollard, “The Maritime Landscape of Kilwa Kisiwani and its Region, Tanzania 11th to 15th century AD,” *Journal of Anthropological Archaeology* 27, no. 3 (September 2008): 265–80.

5. Alexandre Lobato, *Evolução Administrativa e Económica de Moçambique, 1752–1763: 1.ª Parte, Fundamentos da Criação do Governo-Geral em 1752* (Lisbon: Agência Geral do Ultramar, 1957), 235.

6. Newitt, *History of Mozambique*, 29.

7. *Ibid.*, 131.

8. Robert E. Dewar and Henry T. Wright, “The Culture History of Madagascar,” *Journal of World Prehistory* 7, no. 4 (December 1993): 434, 438, 440. Cf. the very brief account by A. Gevrey, *Essai sur les Comores* (Editions du Baobab, n.d. [1870]): 43, who reports only: “Two types, one large and one small, with a hump (*loupe*) on the back and long horns; some individuals however have no horns or they are variable (*mobile*) and turned towards the ground.” Upon his visit to Ngazidja in 1869, Gevrey was offered

a bull for sacrifice by Sultan Ahmed, which he describes as having “a hump on its back, like all the cattle of the Comoros.” *Ibid.*, 83.

9. Jørgen Klein, Bertrand Réau, and Mary E. Edwards, “Zebu Landscapes: Conservation and Cattle in Madagascar,” in *Greening the Great Red Island: Madagascar in Nature and Culture*, ed. Jeffrey C. Kaufmann (Pretoria: Africa Institute of South Africa, 2008), 157–78. See also Michael J. Lambek, *The Weight of the Past: Living with History in Mahajanga, Madagascar* (New York: Palgrave Macmillan, 2002), 163–65, 232.

10. Solofo Randrianja and Stephen Ellis, *Madagascar, A Short History* (Chicago: The University of Chicago Press, 2009), 32, 39, 51, 75, quoted at 65.

11. Hooper, *Feeding Globalization*, 65.

12. *Ibid.*, 28–29, 58, 65; Raymond K. Kent, “The Kingdom of Samamo in the Diary of Paulo Rodrigues da Costa,” *Omalysy Anio* 16 (1982): 7–12; Randrianja and Ellis, *Madagascar*, 85.

13. Hooper, *Feeding Globalization*, 103.

14. Quoted in Malyn Newitt, “The Comoro Islands in Indian Ocean Trade before the 19th Century,” *Cahiers d’études africaines* 23, no. 89–90 (1983): 149.

15. Iain Walker, *Islands in a Cosmopolitan Sea: A History of the Comoros* (London: Hurst, 2019), 52, 55–56, 58.

16. Newitt, “Comoro Islands,” 152.

17. *Ibid.*, 154.

18. *Ibid.*, 154.

19. Walker, *Islands in a Cosmopolitan Sea*, 58–59, citing Robert Ross and Fk. G. Holzappel, “The Dutch on the Swahili Coast, 1776–1778: Two Slaving Journals, Part I,” *International Journal of African Historical Studies* 19, no. 2 (1986): 331.

20. Jean Martin, *Comores: quatre îles entre pirates et planteurs*, vol. 1 (Paris: L’Harmattan, 1983), 81–110; Edward A. Alpers, *East Africa and the Indian Ocean* (Princeton, NJ: Markus Wiener, 2009), 131–46.

21. Walker, *Islands in a Cosmopolitan Sea*, 79–80.

22. For the way in which the slave trade steadily disrupted the ivory trade of Mozambique, see Pedro Machado, *Ocean of Trade: South Asian Merchants, Africa and the Indian Ocean, c. 1750–1850* (Cambridge: Cambridge University Press, 2014), 168–207.

23. Edward A. Alpers, *Ivory and Slaves in East Central Africa* (London: Heinemann, 1975), 219–29; Nancy Jane Hafkin, “Trade, Society, and Politics in Northern Mozambique, c.1753–1913” (PhD diss., Boston University, 1973); Edward A. Alpers and Benigna Zimba, “British Abolition in Southeast Africa: The First 50 Years,” *Quarterly Bulletin of the National Library of South Africa* 63, no. 1–2 (2009): 5–15.

24. Jane Hooper, “Yankees in Indian Ocean Africa: Madagascar and Nineteenth-Century American Commerce,” *African Economic History* 46, no. 2 (January 2018): 30–62.

25. Gwyn Campbell, *An Economic History of Imperial Madagascar 1750–1895: The Rise and Fall of an Island Empire* (Cambridge: Cambridge University Press, 2005), 95, 182, 184–88; and Gwyn Campbell, “Commercialisation of Cattle in Imperial Madagascar, 1795–1895,” in *Animal Trade Histories in the Indian Ocean World*, eds. Martha Chaiklin, Philip Gooding, Gwyn Campbell (Cham, Switzerland.: Palgrave Macmillan, 2020), 181–215.

26. For data on the live cattle trade to Réunion and Mauritius in the 1960s, see Gilles Cori, “Deux types d’élevage bovin à Madagascar. L’élevage extensif de l’Ouest. L’élevage des paysans des Hauts-Plateaux,” in *Types d’élevage et de vie rurale à Madagascar*, ed. Gilles Cori and Pierre Trama (Bordeaux, Fr.: Ministère des Universités-Centre National de la Recherche Scientifique, Centre d’Études de Géographie Tropicale, 1979), 34.

27. Hooper, “Yankees in Indian Ocean Africa,” 37, 40.

28. For data on the volume of hides exported from Mahajanga between 1867 and 1881, see Micheline Rasoamiaramanana, *Aspects économiques et sociaux de la vie à Majunga entre 1862 et 1881* (Antananarivo: Université de Madagascar, Études Historiques VI, 1983), 57 and raw data on 145–48.

29. Campbell, *Economic History*, 170–80; Rasoamiaramanana, *Aspects économiques et sociaux de la vie à Majunga*, 57; Boyer-Rossol, email to author, July 27, 2019.

30. R. P. A. Boudou, “La Côte Ouest de Madagascar en 1852, Notes d’Edmond Samat,” *Bulletin de l’Académie Malgache*, Nouvelle Série, XV (1932): 59.

31. *Ibid.*, 61, also 63. Nosy Volavo is located still further southwest along the coast.

32. Klara Boyer-Rossol, “Entre les deux rives du canal du Mozambique: Histoire et mémoires des Makoa de l’Ouest de Madagascar, XIXe-XXe siècles,” (PhD diss. Université Paris 7 Diderot, 2015), 442–43.

33. *Ibid.*, 539 n.2857; P. de La Vaissière, *Vingt ans à Madagascar. Colonisation, traditions historiques—mœurs et croyances d’après les notes du P. Abinal et de plusieurs autres missionnaires de la Compagnie de Jésus* (Paris: Librairie Victor Lecoffre, 1885), 20, 22.

34. Gwyn Campbell, *David Griffiths and the Missionary “History of Madagascar”* (Leiden, Neth.: Brill, 2012), 923.

35. Boyer-Rossol, email to author, July 27, 2019.

36. Norman R. Bennett and George E. Brooks, Jr., eds. *New England Merchants in Africa: A History through Documents, 1802–1865* (Boston: Boston University Press, 1965), 188.

37. Boudou, "La Côte Ouest de Madagascar en 1852, Notes d'Edmond Samat," 57.

38. See, e.g., W. Clayton Pickersgill, "The Trade and Commerce of Madagascar," *The Antananarivo Annual and Madagascar Magazine* (Antananarivo: L.M.S. Press, 1886), 182; E. O. McMahon, "The Hunting of Wild Oxen in Madagascar," *The Antananarivo Annual and Madagascar Magazine* (Antananarivo, Madagascar: L.M.S. Press, 1894), 245.

39. H. W. Grange, "Journal of a Visit to Mojanga and the North-West Coast," *The Antananarivo Annual and Madagascar Magazine* (Antananarivo, Madagascar: Press of the London Missionary Society, 1885), 12.

40. Charles Guillain, *Documents sur l'histoire, la géographie et le commerce de la partie occidentale de Madagascar* (Paris: Imprimerie royale, 1845), 196.

41. Lieut. [Frederick Lamborn] Barnard, *A Three Years' Cruise in the Mozambique Channel* (London: Dawsons of Pall Mall, 1969 [1848]), 93–94.

42. See The Old Salt Blog, "Georgian-Era British Sailors Lived on Ample Meat and Beer, Study Shows," <http://www.oldsaltblog.com/2012/04/georgian-era-british-sailors-lived-on-ample-meat-and-beer-study-shows/#:~:text=of%20Manchester%20%E2%86%92-,Georgian%2DEra%20British%20Sailors%20Lived%20on,Meat%20and%20Beer%2C%20Study%20Shows&text=Along%20with%20kegs%20and%20salted,sometimes%20even%20livestock%20for%20slaughter>, accessed July 5, 2021.

43. Quoted in Campbell, *David Griffiths*, 450. For a very similar description that is probably based on Ellis, see La Vaissière, *Vingt Ans a Madagascar*, 20–21.

44. Campbell, *David Griffiths*, 450, and illustration reproduced on 451; cf. Cori, "Deux types d'élevage bovin à Madagascar," 34, where the author notes that "the embarkation itself is a long and acrobatic operation."

45. George Lydiard Sullivan, *Dhow Chasing in Zanzibar Waters and on the Eastern Coast of Africa: Narrative of Five Years' Experiences in the Suppression of the Slave Trade* (London: Dawsons of Pall Mall, 1967 [1873]), 75. For dating this account, see the Biographical Introduction by Donald H. Simpson in *Ibid*, xviii.

46. Captain Colomb, *Slave Catching in the Indian Ocean: A Record of Naval Experiences* (New York: Negro Universities Press, 1969 [1873]), 40. For a stimulating discussion of water tanks on board medieval Indian Ocean ships, see Elizabeth A. Lambourn, *Abraham's Luggage: A Social Life of Things in the Medieval Indian Ocean World* (Cambridge: Cambridge University Press, 2018), 166–72; for modern Gulf dhows, see Dionisius A. Agius, *Seafaring in the Arabian Gulf and Oman: The People of the Dhow* (New York: Kegan Paul, 2005), 142. According to A. H. J. Prins, *Sailing*

from *Lamu: A Study of Maritime Culture in Islamic East Africa* (Assen: Van Gorcum, 1965), 304, the Swahili word is “Tangi—cistern, wooden (also tin) water container aboard ships;” see also Charles Sacleux, *Dictionnaire Swahili-Français* (Paris: Institut d’Ethnologie, 1939), 867–68, who identifies *tangi* as a northern dialect word, the root of which is English, “tank.”

47. The average modern Madagascar Zebu weighs between 300 and 400 kg and stands about 130 cm at the shoulder, see Masika Sipa, “Madagascar’s Secret Emblem: The Zebu,” *Mada Magazine*, accessed September 8, 2019, <https://www.madamagazine.com/en/madagaskars-heimliches-wahrzeichen-das-zebu/>. Animals are usually slaughtered “between 6 and 12 years of age, when they weigh about 350 kg,” see Slow Food Foundation for Biodiversity, “Madagascar Zebu,” accessed September 8, 2019, <https://www.fondazione Slow Food.com/en/ark-of-taste-slow-food/madagascar-zebu/>. At an average weight per animal of 350 kg, you would need about 5 kg per cow of dry forage calculated at 1.5 percent of body weight, plus perhaps 15–20 gallons of water each. However crude an estimate, for a cargo of thirty *gado vacum*, a *pangaio* would need to allow for perhaps 150 kg of forage and 450–600 gallons of water for the run over to Mozambique. This estimate roughly matches the carrying capacity of an abandoned slaver retrieved in 1879 by the British navy at Nosy Faly, a tiny islet to the east of Nosy Be, that contained a tank stowing 476 gallons of water. *British Parliamentary Papers, Correspondence with British Representatives and Agents Abroad and Reports from Naval Officers and the Treasury Relative to the Slave Trade*, Slave Trade 57, 307; Captain Richard E. Tracey to Rear Admiral Corbett, “Spartan” at Mozambique, July 28, 1879.

48. This instrument was probably a billhook, the traditional Malagasy tool known as *kalaza*. Joseph John Freeman, *A Dictionary of the Malagasy Language, Part II: Malagasy sy English* (Antananarivo, Madagascar: London Missionary Society, 1835), 126.

49. W. F. W. Owen, *Narrative of Voyages to Explore the Shores of Africa, Arabia, and Madagascar; Performed in H.M. Ships Leven and Barracouta* (London: Richard Bentley, 1833; republished by Gregg International, 1968), vol. 2, 102. See also Thomas Boteler, *Narrative of a Voyage of Discovery to Africa and Arabia, performed by His Majesty’s Ships Leven and Barracouta from 1821 to 1826 under the Command of Capt. F. W. Owen, R.N.* (London: Richard Bentley, 1835), vol. 2, 117. Owen and Boteler systematically scavenged each other’s accounts of their travels, sometimes—but not always—citing the other as the source of a passage. Where both describe the same episode, I use Owen’s version as the basic text (because of the earlier publication of his narrative), but Boteler sometimes provides useful additional details. Cf. Lyons McLeod, *Madagascar and Its People* (New York: Negro Universities Press, 1969 [1865]), 256–57.

50. Owen, *Narrative of Voyages to Explore the Shores*, vol. 2, 131–32; Boteler, *Narrative of a Voyage of Discovery*, vol. 2, 158–59, adds that the jerked beef “weighs from twelve to fourteen hundred weight. The Arabs affirm that the beef thus prepared will remain sweet for two years, and even when the parboiling and the application of liquid fat are omitted, it will keep for many months. The preparation of the hide for the latter method is also dispensed with. The jerking of the meat in this manner is however more tedious than the process adopted by the Americans, as the time to dry their meat is considerably abridged through the use of salt by the latter.” Cf. Guillain, *Documents sur l’histoire*, 248.

51. Rasoamiaramanana, *Aspects économiques et sociaux de la vie à Majunga*, 58 and raw data on 138.

52. The absence of cattle remained a problem in Mozambique District into the early twentieth century. See Jayme Pereira de Sampaio Forjaz de Serpa Pimental, *No Districto de Moçambique: Memórias, Estudos e Considerações, 1902–1904* (Lisbon, 1905), 176; Pedro Massano de Amorim, *Districto de Moçambique, Relatório do Governador, 1906–1907* (Lourenço Marques, Mozambique: Imprensa Nacional, 1908), 122–23, 134.

53. Henry Salt, *A Voyage to Abyssinia . . . in the Years 1809 and 1810; in which are included, An Account of the Portuguese Settlements on the East Coast of Africa, Visited in the Course of the Voyage . . .* (London: F.C. and J. Rivington, 1814), 44.

54. *Ibid.*, 31. For more on asses, see William G. Clarence-Smith, “Equids in Mozambican History: The Role of Zebras, Donkeys, Horses, and their Hybrids,” *Africana Studia: Revista Internacional de Estudos Africanos* 27, no. 2 (2016): 111–25.

55. Salt, *Voyage to Abyssinia . . . in the Years 1809 and 1810*, 82. One arroba = 14.7 kg.

56. Virgínia Rau, “Aspectos étnico-culturais da ilha de Moçambique em 1822,” *Studia* 11 (1963): 152–53.

57. Owen, *Narrative of Voyages to Explore the Shores*, vol. 1, 191–92; also Boteler, *Narrative of a Voyage of Discovery*, vol. 1, 178–79, 180.

58. Sebastião Xavier Botelho, *Memória Estatística sobre os Domínios Portuguezes na África Oriental* (Lisbon: José Baptista Morando, 1835), 362. It is interesting, however, that in January 1829 the governor-general declined a petition from a Portuguese sergeant to go to Madagascar to buy cattle: Francisco Santana, ed. *Documentação Avulsa Moçambicana* (hereafter DAM), vol. 1 (Lisbon: Centro de Estudos Históricos Ultramarinos, 1964), 878 #119.

59. Santana (ed.), DAM, vol. 1, 824 #137.

60. *Ibid.*, vol. 2 (1967), 679#48.

61. *Ibid.*, vol. 3 (1974), 102#168.

62. Edward A. Alpers, *East Africa and the Indian Ocean*, 30, citing Santana, ed., *DAM*, vol. 2, 942#9. For the best account of the drought and famine, see M. D. D. Newitt, "Drought in Mozambique, 1823–1831," *Journal of Southern African Studies* 15, no. 1 (1988): 15–35.

63. Santana, *DAM*, vol. 3, 978#148 records the arrival at the Ilha on August 4, 1837 of the Portuguese brig "Palmira," captained by João José Freitas, carrying a cargo that included 150 *arrobas* (about 2,205 kg at 14.7 kg/*arroba*) of salted beef. Santana provides no port for this ship, but it can be assumed to have embarked from Lisbon.

64. The sources for this table are all from Santana, *DAM*.

65. Dionisius A. Agius, *The Life of a Red Sea Dhow: A Cultural History of Seaborne Exploration in the Islamic World* (London: Bloomsbury, 2019), 161.

66. Arquivo Histórico de Moçambique, Maputo, Fundo do Século XIX, Governo Geral, Códice 11–1655. Quissanga is on the coast just north-west of Ibo; Pemba Bay lies to the south of Ibo.

67. J. Richards, "A Cruize through the Mozambique Channel, in H.M.S. Geysler," *The Nautical Magazine and Naval Chronicle* (September 1849), 400–401.

68. Email from Iain Walker to author, July 25, 2019, citing India Office Records F/4/1990/88196 and Zanzibar National Archives AA1/5. See also Barnard, *Three Years' Cruise*, 118.

69. Iain Walker, Marie-Aude Fouéré, and Nadine Beckmann, "Un explorateur allemande à Ngazidja en 1864: Otto Kersten," *Études Océan Indien* (2018): 32. Gevrey, *Essai*, 83.

70. According to *The Africa Pilot, Part III: South and East Coasts of Africa from the Cape of Good Hope to Ras Asir (Cape Guardafui), including the Comoro Islands*, 6th ed. (London: Hydrographic Office, Admiralty, 1897), 570, at Grand Comoro, "Supplies are cheap and plentiful, especially cattle, which are exported to the other Comoro Islands."

71. Guillain, *Documents sur l'histoire*, 196; Barnard, *Three Years' Cruise*, 90.

72. Guillain, *Documents sur l'histoire*, 218.

73. *Ibid.* 246.

74. *Ibid.* 280.

75. *Ibid.* 292.

76. *Ibid.* 351.

77. The number of dhows recorded as *pangaio francez* increases in the late 1860s. Registration as a French-flagged ship provided protection against British and Portuguese antislavery vessels that patrolled the Mozambique Channel for those dhows that also trafficked in captive labor for the French plantations of Nosy Be and Mayotte, as well as for the thriving Madagascar

market. See Hideaki Suzuki, *Slave Trade Profiteers in the Western Indian Ocean: Suppression and Resistance in the Nineteenth Century* (Cham, Switzerland: Palgrave Macmillan, 2017), 167–87; Fahad Ahmad Bishara, “‘No Country but the Ocean’: Reading International Law from the Deck of an Indian Ocean Dhow, ca. 1900,” *Comparative Studies in Society and History* 60, no. 2 (2018): 338–66.

78. I have compiled these data in an Excel spreadsheet that includes the following columns: Nationality of Ship, Name of Ship, Name of Master, Port of Origin, Crew and Passengers, Cargo, Tonnage, Source, Length of Voyage, and Notes. All sources come from the BOM.

79. Email to author, July 25, 2019.

80. These thirty-three voyages constituted 21.2 percent of the entire data base; the remaining 3.8 percent of voyages were either not recorded by type, not listed as a *pangaio*, or not from Madagascar or the Comoros.

81. For suggestions as to how dhow crews were compensated at the conclusion of a successful voyage, see Prins, *Sailing from Lamu*, 247; Fahad Ahmad Bishara, “Mapping the Indian Ocean World of Gulf Merchants, c. 1870–1960,” in *The Indian Ocean: Oceanic Connections and the Creation of New Societies*, ed. Abdul Sheriff and Engseong Ho (London: Hurst, 2014), 91.

82. Goat imports are also recorded for 1866, 1868, and 1869. By the mid-1870s, these statistical accounts simply refer to “animaes vivos de todos as especies” without providing any numbers or values, although there are occasional exceptions, as in goats for 1874 (BOM 1876, no. 33) and sheep in 1884 (BOM 1885, no. 2). For this paper I have restricted my comprehensive search for the cattle trade through 1879, but cattle also continue to appear intermittently in published port movement reports for Mozambique, as in BOM 1881, no. 15 and BOM 1891, no. 46.

83. For the imprecision surrounding the word “dhow,” see, e.g., Richard LeBaron Bowen, Jr., *Arab Dhows of Eastern Arabia* (Rehoboth, MA: privately printed, 1949), 10; Dionisius A. Agius, *In the Wake of the Dhow. The Arabian Gulf and Oman* (Reading, UK: Ithaca Press, 2002), 33–35; Erik Gilbert, “The Dhow as Cultural Icon: Heritage and Regional Identity in the Western Indian Ocean,” *International Journal of Heritage Studies* 17, no. 1 (2011): 65–66. For “boutre,” see Lydie Laberrondo, “Dans les mailles du boutre. L’unité culturelle swahilie sur un territoire maritime écartelé,” in *le Voyage inachevé . . . : à Joël Bonnemaïson*, ed. Dominique Guillaud, Maorie Seysett, Annie Walter (Paris: ORSTOM/PRODIG, 1998), 250–51; Samuel Sanchez, “Navigation et gens de mer dans le canal du Mozambique: Les boutres dans l’activité de Nosy Be et de l’Ouest de Madagascar au XIX^e siècle,” in *Madagascar et l’Afrique: Entre identité insulaire et appartenances historiques*, ed. Didier Nativel and Faranirana V. Rajaonah (Paris: Karthala, 2007), 109.

84. For the middle decades of the twentieth century, see, e.g., Esmond Bradley Martin and Chryssee Perry Martin, *Cargoes of the East: The Ports, Trade and Culture of the Arabian Seas and Western Indian Ocean* (London: Elm Tree Books, 1978), 55 (Mombasa), 89, 95–96 (Lamu), 118–19 (Mafia Islands), and 139, which provides details of the livestock dhow trade (including cattle) to Zanzibar in the 1910s.

85. John H. A. Jewell, *Dhows at Mombasa* (Nairobi, Kenya: East African Publishing House, 1969), 68–71; cf. A. H. J. Prins, *Sailing from Lamu*, 88. By way of comparison, there is a record of the 50-ton *pangaio arabe* “Farahá” that reached Mozambique Island in late June 1857 via Ibo from an unknown port named as “Amburgo” (possibly Ambondro, at the mouth of the Morondava River, or a smaller port in the Cap St. André region), carrying both live cattle and wood. *BOM* 1857, no. 26. The master of the “Farahá” was called Saide Bine Tane; the voyage took four days and carried a crew of 28 men plus a number of passengers. For the location of Ambondro, see the end map by R. Hausermann to La Vaissière, *Vingt Ans a Madagascar*; Boyer-Rossol email to author, July 27, 2019.

86. Sanchez, “Navigation et gens de mer,” 110, 128. It is worth noting that what little evidence we have for shipping types at Mozambique in the nineteenth century indicates that the few “national” *pangaios* had lower tonnage than the average *jahazi*. See Arquivo Histórico Ultramarino, Lisbon, SEMU Moçambique 1302 1858-05-24 #094, Mappa das embarcações a que pelo Governo Geral da Provincia de Moçambique foram dadas Passaportes provisórias durante o anno de 1857 . . . ,” in which the only *pangaio* listed (#36) out of sixty-three passports issued was eighteen tons; *BOM* 1865, no. 3, Relação das embarcações portuguezas registradas n’este arsenal e capitania do porto de Moçambique, durante o anno de 1864,” lists seven *pangaios* ranging between six and twenty-three tons.

87. Prins, *Sailing from Lamu*, 227, 303, and Plates 35–38.

88. See, e.g., Abdul Sheriff, *Dhow Cultures of the Indian Ocean: Cosmopolitanism, Commerce and Islam* (New York: Columbia University Press, 2010), 88–93.

89. Prins, *Sailing from Lamu*, 223. For the parts of the *jahazi*, see 114–15, Diagram IX.

90. *BOM* 1860, no. 9 (March 3), Camara Municipal de Moçambique, February 28, 1860. The only documentation of a local price for beef (*carne de vaca*) comes from Inhambane, where it appears monthly in the *BOM* for 1878–1879 and undoubtedly reflects the price of local beef.

91. See *Boletim do Conselho Ultramarino, Legislação Novissima*, vol. 2, 1852–1856 (Lisbon: Imprensa Nacional, 1869), 728.

92. *BOM* 1861, no. 1 (January 5, 1861), Joaquim Dias Torres, February 23, 1860.

93. Occasionally, salt beef did reach Mozambique in the cargo of European ships. In addition to n.50 above, see *BOM* 1868, no. 39, recording the arrival of a 159-ton French bark, *Reine Indienne*, from Madagascar carrying orchil, cowries, and salted meat.

94. Schnepel, "Introduction," this volume.

SEVEN

Paper Cargoes, Mobile Histories *A View From The Twentieth-Century Dhow*

FAHAD AHMAD BISHARA

INTRODUCTION

It was the middle of March in 1850 when the English midshipman George Sullivan chased a suspected slave dhow off the coast of Mozambique. He had been assigned to the 36-gun ship the *Castor* the previous May and had had occasion to board a number of dhows since then, but this was the first such event he described in detail. The crew was able to catch up with the dhow quickly and board it, where Sullivan found “twenty or thirty negroes pretending to be very busy” engaged in various shipboard work—which, he suggested, was the result of intimidation by the captain. With them were twenty more black men “dressed up in Arab costume” and “a half a dozen genuine Arab brutes, one of whom appeared to be ‘monarch of all he surveyed’”—the nakhoda, the captain of the vessel.¹ Sullivan pulled the nakhoda aside and proceeded to question him on the composition of his crew, then demanded that he

produce the dhow's papers. When the nakhoda presented them, Sullivan was nonplussed: "they might have been, for all we knew, Bills of Sale for the niggers on board, or warrants for their execution; or, more probably, directions as to where our boat was, how to avoid it, or to cut the throats of every Englishman if they could get the chance."² Unable to read the papers, he had to let the dhow go.

Eighteen years later, the English naval officer Philip Howard Colomb recorded a similar experience, this time off the coast of South Arabia. Together with another vessel, Colomb had confronted a convoy of dhows sailing between East Africa and Aden, at least some of which had suspected slaves on board. The procedure he followed was similar to Sullivan's: after boarding the ship and inspecting it, he pulled the nakhoda aside and asked him to produce his papers. One nakhoda produced a pass issued by the Sultan of Zanzibar that identified him and his crew and asked those who looked upon it "to fulfill all the obligations of friendships, and all the respects of familiarity."³ On another dhow, the nakhoda handed over certificates from two previous British ships that had inspected his dhow, leading Colomb to conclude that he was not involved in the slave trade.⁴ In all cases, the line between licit and illicit movement across the sea was determined by these forms of writing.

A drawing printed in the *Illustrated London News* vividly captures these moments of encounter between British naval officers and dhow crews. The setting is the deck of the dhow, or more accurately, the space between two decks. A bearded white man in a blazer and pants—presumably an officer—is shown boarding the dhow while brandishing a pistol. On the dhow itself, an African man, also wearing a blazer, is studying a small pile of papers that he is holding in his hands, perhaps an interpreter working for the British. Meanwhile, two other African-looking men, decked out in turbans and robes with swords and daggers, are gesticulating at him, while crew members on both sides look on. Under the image is the caption "The Blockade on the East Coast of Africa: Overhauling the Papers of a Suspicious Dhow." It is a powerful image, one that immediately brings to the life the encounter between the agents of an empire and the natives they surveilled, and illustrating the dynamics of power and confusion that characterized moments like these.

The centrality of papers in all these vignettes forces us to give pause and reflect for a moment on what those papers might have consisted of and how they might have been read. What sorts of papers might a

person have seen on board a dhow, and what might they contain? Put differently, what was in the dhow's archive, and what histories might it contain? To enter into this world, I examine these cargoes from three different perspectives. In the first two instances, I read them in their most apparent forms. First, I think of these cargoes as *archives*—as materials through which we can read particular accounts of the Indian Ocean world and understand the ways in which mariners grappled with their place within it. Second, I think of these cargoes as *technologies*—as constitutive elements of the infrastructure of circulation around the Indian Ocean world. Rather than thinking about them solely as materials through which one can read the past, I think of them as active components of a nakhoda's repertoire as he navigated a changing seascape.

Finally, I step back to reflect on these cargoes as *histories*, drawing out the implications of what it means to write world history from the deck of an Indian Ocean dhow. Through the nakhodas' writings, I chart the broad temporal horizons they engaged with and tease out a perspective on Indian Ocean history that allows us to move between scales and time frames, simultaneously highlighting the long histories of encounter between dhows and empires and the entanglements that characterized them. At the same time, I point to the tensions between the work that these writings perform for oceanic and world history on the one hand and the imperatives of a national (and nationalist) historical narrative on the other.

CARGOES AS ARCHIVES

One does not need to engage in too much guesswork to get a sense of what the papers the nakhodas carried with them might have been. Since the 1990s, there has been an energetic push towards the publication (and republication) of materials from the dhow trade, principally of Kuwait, a major dhow port of the nineteenth and twentieth centuries, but also of Oman. This research has assembled a body of writings by a small group of nakhodas, all produced from roughly the end of the nineteenth to the middle of the twentieth century. Many of these captains knew one another as friends, neighbors, and relatives, but they also enjoyed more professional relationships with one another, having served on one another's dhows, sailed together in convoys across the sea, and seen one another in foreign ports.

That the papers the dhows carried might be thought of as archives is not a novel claim. Historians have for some time relied on materials retrieved from prize ships (i.e., ships that were captured through acts of privateering) to write histories of the oceanic communities through which those vessels moved. Mailbags from prize ships have turned up letters, financial instruments, and other documents, as well as a wide variety of material objects, from Europe, the Middle East, and Asia. Set down on paper, these have yielded rich histories of interconnected businesses and lives across maritime Asia.⁵ More recently, scholars have initiated a project to digitize materials in the High Court of Admiralty collection at the National Archives in the United Kingdom.⁶ There is no doubt, then, that ships might reasonably be approached as floating archives.

However, the waters the Arab nakhodas sailed in were not like those of the prize ships, nor even those of their own eighteenth-century forebears. By the late nineteenth century, steam shipping was forging the principal conduits of global transportation, shuttling goods around different imperial nodes.⁷ In the Indian Ocean, steamships largely displaced dhows as the principal carriers of the Indian Ocean.⁸ Although nakhodas displayed a remarkable flexibility in their willingness to adapt to the changed circumstances, the range of goods open to them had narrowed considerably. For the nakhodas of Kuwait, the main cargo had become the dates grown near the Shatt Al-'Arab, the waterway situated at the confluence of the Tigris and Euphrates rivers. From there, they would travel along the coasts of the Gulf, western India, South Arabia, and East Africa, disposing of their cargoes and returning with a range of goods, but principally bulky, low-value items like timber, mangrove poles, coir rope, rice, and sugar.⁹

The writings that the nakhodas produced were, with few exceptions, all aimed at very practical purposes. The principal archival texts that the nakhodas left behind are their logbooks, which they called *ruznamahs*, a Persian term that refers to both calendars and newspapers. Roughly fifteen or so have survived, broadly spanning the years 1920–55; one pilot's logbook from 1884 has also been preserved. Together, the logbooks detail more than 100 unique voyages of various scales and durations, from single trips from Kuwait to India to much longer year-round routes that took the dhows along the Persian Gulf to India and across the Arabian Sea to East Africa before returning home.

For all of the historical bounty that one imagines them to contain, the *ruznamahs* are, with only some exceptions, terse and dull. The historian's hopes are quickly dashed when faced with the uncompromisingly mundane observations on wind and water conditions that characterize the bulk of the writing, as well as their use of shorthand and their unrelenting reliance on a nautical lexicon that is all but incomprehensible to the modern reader. Take, for example, the following lines from the *ruznamah* of the nakhoda 'Abdulmajeed Al-Failakawi: "[March 13, 1924] We woke in good health. Yesterday we left the port of Muscat, and the wind is *khawāher* [weak or mild] and the currents are 'ayūq [i.e., coming from the direction of the 'ayūq star, which rises in the northeast and sets in the northwest]. May Allah ease [this journey] upon us. [March 14, 1924] We woke in good health. The wind is *khawāher* and the currents are 'ayūq. May Allah ease [this journey] upon us."¹⁰ Or, from his more active entries: "[22 Rabi' Al-Awwal 1339; December 4, 1920] We woke in good health in the port of Khormiyān [Porbander]. In the morning we unloaded dates. May Allah ease upon us . . . [16 Rabi' Al-Akhir 1339] We woke in good health in the port of Khormiyān. The *bum* of the nakhoda 'Ali 'Abdulnabi arrived."¹¹ Indeed, the work of excavating meaning from such desiccated prose is worth a discussion in itself.

But the *ruznamahs* formed only one thread in a much thicker fabric of maritime writing. Alongside them, a smaller subset of nakhodas produced more abstract texts: manuals aimed at guiding their peers through the challenges and opportunities of maritime life in the Indian Ocean. Among the authors of texts like these, perhaps none was as prolific or revered as the nakhoda 'Isa Al-Qitami. Born in 1870, he was a renowned Kuwaiti captain and navigator: historians and other nakhodas alike refer to him as "*al-rubban al-awwal*," the first pilot. By the early 1920s, Al-Qitami had authored three texts, the first and most popular being the *Dalil Al-Muhtar fi 'Ilm Al-Bihar* (The Perplexed's Guide to the Science of the Seas), a nautical manual that combined the principles of navigation with practical directions for sailing around the coasts of the western Indian Ocean, which he first published in 1916.¹² Shortly after writing the *Dalil*, he published *Al-Mukhtasar Al-Khas Lil-Musafir Wal-Tajir Wal-Ghawwas* (The Summary Specific to the Traveler, the Merchant, and the Diver), a shorter manual aimed at guiding nakhodas around the coasts and pearl banks of the Persian Gulf.¹³ And in 1924 he

published *Al-Khalis Min Kulli 'Ayb fi Wad' Al-Jayb* (The Blemish-Free in the Situation of the Pocket), a manual to assist in the standardization of the weight and value of pearls.¹⁴ Al-Qitami passed away in Muscat in 1939, while in the process of writing a book on the history of Oman.

If Al-Qitami's texts give a good sense of the range of texts that nakhodas could produce, he was not the only one. There were many others like him, though few were quite as active. In 1933, his contemporaries, the Kuwaiti nakhodas Mohammed bin 'Asfour and Hussain bin 'Abdulrahman Al-'As'ousi, published *Al-Natija Al-Kuwaitiyya*, a manual that mixes navigational principles with mathematical tables for determining date and time.¹⁵ Other nakhodas, like Mansur Al-Khariji, produced manuscripts that combined elements of all of these genres.¹⁶ And as late as 1956, the Suri nakhoda Nasser Al-Khaduri penned the manual *Ma'dan Al-Asrar Fi 'Ilm Al-Bihar* (The Mine of Secrets in the Science of the Seas) as a corrective to Al-Qitami's manual.¹⁷ And these are just the known texts; there are many more out there that we don't know about.

As genres of nautical writing, these texts brought together stars, wind, coast, and water, allowing the elements to infuse the text, and allowing the text to recombine the uncertain elements of nature into known (and sometimes unknown) routes. In this respect, they are comparable to the better-known treatises in the history of Arab navigation by the fifteenth-century navigators Ahmad Ibn Majid and Sulaiman Al-Mahri. Read as part of the dhow's archive, they form repositories of knowledge, both experiential and embodied. They illustrate how nakhodas sought to make the seascape knowable and navigable, and point to the ways in which they sought to rearrange the elemental framework of the maritime world so as to infuse a sense of order into the uncertainties of the voyage.

But also, when brought together, these texts mark out a distinct corpus of writings at sea: they are cross-referencing, interrelated genres of writing meant to be read jointly rather than separately. Though they have been disaggregated, separated, and put on display for consumption as individual texts, this says more about the expectations of modern readers than it does about the texts themselves. These are texts that actively drew on one another, referenced one another, and contributed to the same body of knowledge. And perhaps nothing attests to the interlocking nature of these forms of writing more than the fact that at least one manuscript logbook combined elements of all of these: it included

copied-down principles of navigation, diagrams to aid the nakhoda in his wayfinding, tables of figures to help the nakhoda calculate the sun's declination, and more—all alongside the regular logbook entries.¹⁸

But the dhow's archive was not just the stuff of libraries and notebooks. Alongside this established corpus of writings on the sea, both in the figurative sense (writings *about* the sea) and the literal sense (writings produced *on the water*), exists another set of writings that historians might initially view as ephemera—writings that were not produced for posterity, but which have survived all the same, often due to some historical accident. These are letters, receipts, pay slips, debt deeds, petitions, and other forms of writing that one might also find on the deck of a dhow. Nakhodas drew these up to meet very immediate purposes, but all the same they help the historian see the texture of life at sea.

As sources for writing history, these give a sense of the dhow enterprise as a whole. They shed light on the complex arrangements through which a dhow was outfitted for its seasonal voyages: the ties that bound the nakhoda to the shipowner and merchant, the dexterity with which the nakhoda mobilized advances of money and goods alongside legal instruments to secure a crew of mariners, and the precarious line between free and unfree that mariners walked in account ledgers. But more than that, they paint a picture of the expansive commercial and financial networks that dhows sailed through as they shuttled goods around the western Indian Ocean. It is through everyday documents like these that one can see the texture of a world economy that may have operated at the margins of the global financial system but that nonetheless linked together far-flung market places and actors into a coherent whole.

CARGOES AS TECHNOLOGIES

But these paper cargoes were not just windows into the past; they also served a purpose. Rather than look *through* them and onto a history at sea, we might look *at* them and think of the work they did in shaping the dhows' movements through a changing seascape. These were not just repositories of knowledge, they were also functional forms of writing, and they ought to be read as such.

The workaday writings that nakhodas engaged in and the different papers that they kept on board the ship did much to lend structure to the dhow's voyages, albeit in different ways. Everyday forms of writing

like logbooks and letters attested to the movement of the nakhoda and his crew members, lending the rhythms of the dhow trade a measurable regularity, allowing outside parties to triangulate between those sources and account ledgers in times of dispute, and continually declaring the nakhoda's roles as captain, navigator, and supercargo. Technologies like the logbook made the voyage less dependent on the individual characteristics of a nakhoda or crew member; they allowed the storage and utilization of consistent information, enabling greater control over the voyage itself. Likewise, forms of accounting like crew lists and declarations of debt transformed obligations into forms of property, binding mariners to the enterprise in a matrix of rights, obligations, and capital. As such, they reduce the uncertainties inherent in maritime work, ensuring that the dhow enterprise could continue to operate even on the margins of the regional economy. And state-issued documents like the stacks of protection passes that nakhodas carried allowed them to maneuver in the interstices between different political formations, making claims to belong to each.¹⁹

Each of these texts individually, and all of them together, might be thought of as forming the documentary infrastructure of oceanic mobility. Each does the work of establishing a framework for the circulation of goods, people, and capital—and indeed, of the dhow itself—through a seascape teeming with competing authorities. It is through forms of writing like these that circulation—one of the principal concerns of world historians—took place around the Indian Ocean. The cargoes of very mundane papers that one finds on dhows were thus not incidental or ancillary to the goods stored below the decks or those moving around above it; they were all deeply bound up in one another in a shared endeavor.

Even the more mandarin genres of writing—the printed treatises—might be thought of in this vein. The important thing to keep in mind when reading these texts, though, is that they were not aimed at the armchair nakhoda; these were not for the home library. Rather, they were meant to be utilized to aid in wayfinding while at sea: they were practical texts. Al-Qitami makes it clear that he intended them as such: in the preface to the *Mukhtasar*, he explains that, although grammarians might find fault in the language he uses in the text, “it will suffice to communicate the book, because all of them [i.e., practitioners] will have come upon this language in their comings and goings.”²⁰ Likewise, an

editor's introduction to the *Dalil* declared that the book's "language is colloquial (*'ammiyah*) because . . . of those who work on sailing ships, many are illiterate, and those people will not benefit from it [the book] unless it was in the colloquial."²¹ These statements make it clear that these were texts that were meant to travel on board the dhow. And travel they did: in his voyage around the Indian Ocean on a Kuwaiti dhow in 1939, the Australian writer Alan Villiers recalled seeing "a well-thumbed copy of Isa Kitami's [sic] Arab directory of the eastern seas" on board an Arab dhow in East Africa.²²

One might thus also read the manuals as technologies, that is, as functional pieces of writing, aimed at facilitating movement across the expanse of water that lay before the nakhodas. Grouped together with the other manuals and treatises produced by nakhodas for members of their community, we might begin to see them as part of a transoceanic maritime print culture, a world of books that traveled back and forth across the ocean, prompting a circulation of ideas and skills that were at least as important as the trade in goods. The circulation of books like Al-Qitami's on the decks of dhows—their movement from the hands of one nakhoda to another—contributed to the spread of particular forms of navigational practice around the Arab maritime communities of the Indian Ocean, as mobile captains and mariners moved from one port city to another.²³ These writings thus formed the vectors through which navigational knowledge and practice was disseminated through the Indian Ocean world; they formed a crucial part of the infrastructure of oceanic circulation.

Yet it would be a mistake to assume that these writings were stable or that they constituted a self-contained body of knowledge stretching back to the medieval period that was somehow uncontaminated by centuries of contact with Europeans. During his trip on board a dhow, Villiers lamented that the great tradition of Arab navigation had been replaced by "discarded steamship compasses bought in a junkyard in Bombay, and uncorrected out-of-date Admiralty charts"—a recurring jeremiad in his otherwise sympathetic account of dhows and their crews.²⁴ But his eagerness to see traces of the fifteenth-century navigator Ahmad Ibn Majid in twentieth-century dhows might have caused Villiers to miss what was directly in front of him—a hybrid world of navigational praxis that was emblematic of its time and had become, quite understandably, entangled in an imperial system.

Nakhodas did not just passively consume Admiralty charts; they actively engaged with them. In one instance, Villiers noted that one Suri captain owned “a general chart of the Indian Ocean corrected up to 1746 . . . decorated with Arabic script giving landmarks, distances, and other information of importance to the Arab mariner.”²⁵ Surviving examples of these illustrate his observation: nakhodas purchased these (sometimes from one another) and annotated them by hand, identifying port cities with the names by which they knew them, and marking out lighthouses and other landmarks.²⁶ But more than a simple use of convenient maps, one might see these as an illustration of one of the ways in which nakhodas actively domesticated the graphic artifacts of European empires. Admiralty charts were, after all, among the most valuable tools of imperial expansion; they facilitated the movement of gunships and cruisers around the coasts of the Indian Ocean, as elsewhere. By actively inscribing their routes and geographies onto them, nakhodas incorporated them into a vernacular documentary repertoire—one that became increasingly entangled in a European one as well.

Nor were the epistemological entanglements between nakhodas and Europeans limited to their engagement with Admiralty charts. European navigational knowledge formed a regular part of the wayfinding repertoire of nakhodas. When nakhodas lost sight of the coast, they determined their position based on solar measurements that they took at noon, recording their findings in logbook entries that supply far more detail than usual. What becomes clear from the entries is their almost routine reliance on what they referred to as *Al-Nuri*—an Arabized reference to the British hydrographer and publisher John William Norie’s nautical almanac, *Norie’s Nautical Tables*. Virtually every nakhoda kept a copy of the book on his dhow and drew on it in order to correct his readings of the declination and angle of the sun.

The paper technologies that nakhodas utilized in navigating the Indian Ocean world were thus not theirs alone. Their notions of space and time were increasingly bound up in a British-dominated imperial seascape, and their epistemologies and practices became thoroughly entangled in it. The circulation of the dhow and its cargoes was at least partly produced through entangled forms of knowledge that found their clearest expression in the paper technologies on which that circulation rested. In these practical forms of writing, the itineraries of the dhow

and the naval cruiser thus intersected at many points, bridging (or at least blurring) the distance from one deck to another.

CARGOES AS HISTORY

The historian might see more than just practical forms of writing here. The *nakhodas'* writings incorporated poetry and geography, hinted at history, peppered themselves with supplications to the Almighty, and all bore the idiosyncrasies of their individual authors. What, though, of history—of the passage of time, and its impact on the dhow's world? How might one imagine a longer history from the perspective of a ship anchored in the twentieth-century world, rather than narrating a history that drifts slowly from one epoch to another?²⁷ As others have pointed out, the fluidity of the ocean defies linear storytelling, instead inviting new historical imaginaries that blend together past, present, and future.²⁸ The writings of the dhow crews bear out this point: though they were produced in the nineteenth and twentieth centuries, they bear the imprint of centuries of travel and entanglements with polities both large and small. There is a sense of history that accumulates rather than passes, in which voyages and histories of previous decades and centuries shape their understanding of the routes and voyages of the present.²⁹

Throughout the voyage, the assemblage of texts, ideas, relationships, institutions, and individuals that propelled the dhow across the water reveals itself to be one that is deeply entangled in a long history of imperial encounters. The *nakhodas'* spatial imaginaries, their navigational techniques, and their mundane writings all bear the imprint of a history of engagement with various empires, from the Portuguese onward. This is most patently obvious in their insistence on obtaining certificates and safe-conduct passes from European consuls and naval officers, but it also finds echoes in other maritime practices—and even in the dhow itself and its ability to structurally incorporate a history of encounter.

From these, we might gain a perspective on history from the dhow—one that takes place squarely on the water, in which the notions of space and time (both historical and immediate) are generated from the deck of a dhow rather than on land, and in which the principal arenas of historical action are the ships, the waterways, and the shores of the Indian Ocean. In writing from the perspective of the dhow, we might see a history formed in the interstices between global empires and local

political formations, in which the British Empire (the empire of most immediate interest to the nakhodas of the nineteenth- and twentieth-century Indian Ocean) becomes just one of many claimants to the sea, and only the latest arrival in a long history of European empires in the Indian Ocean. From the deck of the dhow, global empire was not the principal driver of history, nor was it the most important: nakhodas and their crews incorporated different imperial technologies into their repertoires, but in a way that actively vernacularized those technologies and at times subverted their purposes altogether. The temporal horizons of the dhow were thus at once much broader and much smaller than those of global empires.

However, the challenges involved in reading the materials the nakhodas left behind are not small. Because these are writings that public audiences can readily associate with known individuals from small communities—Kuwait, Sur, or any one of the other dhow ports—many of these texts have been appropriated, picked apart, and incorporated into the national project. Like the dhows on whose decks they were written, they are separated from the transregional histories that produced them and are often valorized as artifacts of the nation's history without ever having been read as historical texts.³⁰ The descendants of these nakhodas are often no less eager to insert their own families into the national narrative, too—and in countries that have been overrun with shaikhly families and merchant-oligarchs, who can blame them for wanting a place in the spotlight?

The principal challenge, then, is to try to resist the teleologies of the nation state in reading the materials generated by nakhodas during their voyages, that is, to embrace the geographies and worlds that the nakhodas trace out on their own terms, and to see them as they were lived rather than as they were appropriated. Likewise, it is to write an Indian Ocean history in which the ocean is not a mere backdrop—just another arena of transregional connection—but becomes part of how members of this society engage with their own past.

REFLECTIONS IN THE WATER

We are now in a position to return to the vignettes with which we started: the encounters between the naval officers George Sullivan and Philip Colomb and the dhows they searched for enslaved individuals—scenes

captured in that drawing in the *Illustrated London News* in 1887. Rather than look at this interaction from the perspective of the British naval officers and then out onto the dhow, we might now reasonably look in the other direction, from the perspective of the nakhoda holding up his papers for inspection.

Those dhow papers, I have argued, constitute archives. They constitute the self-representations of a society at sea: the nakhodas' spatial imagination, their fusion of the natural and supernatural, and their keen sense of history pervade the texts. They suggest that nakhodas and mariners were an always partial, always open society, a group whose lives and histories were dispersed along the shores of the Western Indian Ocean, and whose writings engage with those parts at a distance.³¹ Their movements bound together far-flung shores, and their itineraries bore the imprint of local and global events and processes originating in widely scattered parts of the Indian Ocean world; their voyages plotted divergent interests and histories together along a singular historical vista.

But they were always more than just testaments to a transregional past. These papers constituted the nakhodas' documentary repertoire: they furnished them with tools through which they could maneuver a seascape that was actively being altered by the twin forces of empire and industrial capitalism. They were technologies—means of enabling circulation, managing mobility, and otherwise coordinating action across the waters of the Indian Ocean. And as naval officers like Sullivan and Colomb well understood, these were technologies that circulated among the dhow communities of the western Indian Ocean, disseminating both nautical expertise and legal knowledge as they actively incorporated and vernacularized a growing body of imperial knowledge and graphic artifacts as well. But also, as the opening vignettes illustrate all too vividly, these papers had to conform to the expectations of a growing maritime imperial surveillance regime that tried to delineate (albeit not always successfully) the boundary between licit and illicit forms of movement.

As such, we might understand their papers as markers of a history forged on the water itself. By following the dhows closely, by reading alongside the nakhodas—indeed, by immersing ourselves in their writings—we can see a seascape come into being. We might then begin to understand *al-safar*—"travel," the term nakhodas used to describe their voyages—as a form of history-making, but we may also begin to read

their writings as traveling artifacts that opened up the possibility of movement over broad distances by weaving themselves into and through consecutive imperial regimes.³² This is not just a history of traveling mariners who happened to write; it is a reflection on how their movements were bound up in their writings—how their writing forged routes, built networks, and shaped attachments, and tethered them to a changing seascape, even as it increasingly slipped through their fingers.

NOTES

1. George Lydiard Sullivan, *Dhow-Chasing in Zanzibar Waters and on the Eastern Coast of Africa: Narrative of Five Years' Experiences in the Suppression of the Slave Trade*, 2nd ed. (London: Sampson Low, Marston, Low, and Searle, 1873), 64.

2. Sullivan, *Dhow-Chasing*, 65–66.

3. Philip Howard Colomb, *Slave-Catching in the Indian Ocean: A Record of Naval Experiences* (London: Longmans, Green, and Co., 1873), 217. For more on these safe-conduct passes, see Fahad Ahmad Bishara, “‘No Country but the Ocean’: Reading International Law from the Deck of an Indian Ocean Dhow, ca. 1900,” *Comparative Studies in Society and History* 60, no. 2 (2018): 338–66.

4. Colomb, *Slave-Catching*, 228–29. The presence of a suspicious young black boy on the dhow, however, caused Colomb some concern; upon further investigation he concluded that the boy was a slave being transported and had the dhow burned. Colomb, *Slave-Catching*, 229–33.

5. For recent contributions to Indian Ocean history specifically, see also Sebouh David Aslanian, *From the Indian Ocean to the Mediterranean: The Global Trade Networks of Armenian Merchants from New Julfa* (Berkeley: University of California Press, 2011); Gagan D. S. Sood, *India and the Islamic Heartlands: An Eighteenth-Century World of Circulation and Exchange* (Cambridge: Cambridge University Press, 2016).

6. “The Prize Papers Project,” Göttingen Academy of Sciences and Humanities, accessed April 7, 2020, <https://www.prizepapers.de/>.

7. Daniel Headrick, *The Tools of Empire. Technology and European Imperialism in the Nineteenth Century* (Oxford: Oxford University Press, 1981); Deborah Cowen, *The Deadly Life of Logistics: Mapping Violence in Global Trade* (Minneapolis: University of Minnesota Press, 2014).

8. Johan Mathew, *Margins of the Market: Trafficking and Capitalism Across the Arabian Sea* (Berkeley: University of California Press, 2016), 21–51; Erik Gilbert, *Dhows and the Colonial Economy of Zanzibar, 1860–1970* (London: James Currey, 2004).

9. Yacoub Yusuf Al-Hijji, *Kuwait and the Sea: A Brief Social and Economic History* (London: Arabian Publishing, 2010); Dionisius A. Agius, *Seafaring in the Arabian Gulf and Oman: The People of the Dhow* (London: Routledge, 2005), 111–26.

10. Republished in Yacoub Yousef Al-Hijji, ed., *Rūznāmat Al-Nōkhitha ‘Abdulmajīd Al-Mulla Aḥmad Al-Failakawi* [The logbook of the nakhoda ‘Abdulmajīd Al-Failakawi] (Kuwait: Center for Research and Studies on Kuwait, 2001), 86.

11. Al-Hijji, *Rūznāmat Al-Nōkhitha*, 42.

12. ‘Isa Al-Qitami, *Dalil Al-Muḥtār fi ‘Ilm al-Biḥār*, 3rd ed. (Kuwait: Government Printer, 1963).

13. ‘Isa Al-Qitami, *Al-Mukhtaṣar Al-Khāṣ lil-Musāfir wal-Tājir wal-Ghawwāṣ*, 2nd ed. (Kuwait: Kuwait Printer, 1924).

14. I was able to consult the 2007 reprint. ‘Isa Al-Qitami, *Al-Khāliṣ Min Kulli ‘Ayb fi Waḍ‘ Al-Jayb* (Kuwait: Center for Research and Studies on Kuwait, 2007).

15. Mohammed bin ‘Isa bin ‘Asfour and Hussain bin ‘Abdulrahman Al-‘As‘ousi, *Al-Natīja Al-Kuwaitiyya* (Basra, Iraq: Al-Wataniyya Printers, 1933).

16. Republished as Mansur Al-Khariji, *Al-Qawā‘id Wal-Mīl Wal-Natīja Wa ‘Ilm Al-Baḥar*, ed. Hassan Saleh Shihab (Kuwait: Center for Research and Studies on Kuwait, 2007). The manuscript is exceptionally rich in its detail, particularly in the hand drawings Al-Khariji provides.

17. Republished as Nasser bin ‘Ali Al-Khaduri, *Ma‘dan Al-Asrar Fi ‘Ilm Al-Bihar*, 2nd ed., ed. Hassan Saleh Shihab (Muscat, Oman: Ministry of Heritage and Culture, 2015).

18. This is the logbook of ‘Abdulmajeed Al-Failakawi, which I was able to consult in the home of his son ‘Abdulrahman in the summer of 2019.

19. On protection passes, see Bishara, “No Country but the Ocean.”

20. Al-Qitami, *Al-Mukhtaṣar Al-Khāṣ lil-Musāfir wal-Tājir wal-Ghawwāṣ*, 8.

21. Al-Qitami, *Dalil Al-Muḥtār fi ‘Ilm al-Biḥār*, 13.

22. Alan Villiers, *Sons of Sinbad* (New York: Charles Scribner and Sons, 1969), 272.

23. Here I cite the brilliant writing of Caitlin Rosenthal, *Accounting for Slavery: Masters and Management* (Cambridge, MA: Harvard University Press, 2018): 71–75. For an excellent discussion of these matters in European navigational practice, see Margaret Schotte, *Sailing School: Navigating Science and Skill, 1550–1800* (Baltimore, MD: Johns Hopkins University Press, 2019).

24. Villiers, *Sons of Sinbad*, 75, 143, 149, 186–87.

25. *Ibid.*, 143.

26. ‘Abdullah Yousef Al-Ghunaim, ed., *Mudawwanāt Al-Nōkhitha Sa‘id bin Salamah ‘Alā Al-Kharā’it Al-Admirāliyya Al-Bahriyya* [The nakhoda Sa‘id bin Salamah’s annotations on the Admiralty sea maps] (Kuwait: Center for Research and Studies on Kuwait, 2018).

27. This approach is typical of the field of world maritime history, which tends to chart a broadly whiggish narrative of the improvement of nautical technologies, often braided together with the narrative of a changing world of exploration and empire. See, for example, Lincoln Paine, *The Sea and Civilization: A Maritime History of the World* (New York: Vintage, 2017); Felipe Fernández-Armesto, *Pathfinders: A Global History of Exploration* (New York: W. W. Norton, 2006).

28. Renisa Mawani, *Across Oceans of Law: The Komagata Maru and Jurisdiction in the Time of Empire* (Durham, NC: Duke University Press, 2018), 17–26; Iain Chambers, *Mediterranean Crossings: The Politics of an Interrupted Modernity* (Durham, NC: Duke University Press, 2008), 24.

29. Ian Baucom, *Specters of the Atlantic: Finance Capital, Slavery, and the Philosophy of History* (Durham, NC: Duke University Press, 2005), 331.

30. The nautical manual of ‘Isa Al-Qitami, for example, was the subject of a centennial celebration. In 2017, the sultanate of Oman successfully submitted a similar manual, penned by the Suri nakhoda Nasser Al-Khaduri, for inclusion in UNESCO’s Memory of the World Register.

31. On partial societies, see also Engseng Ho, “Inter-Asian Concepts for Mobile Societies,” *Journal of Asian Studies* 76, no. 4 (2017): 907–28. For open societies, see A. H. J. Prins, *Sailing from Lamu: A Study of Maritime Culture in East Africa* (Assen, Netherlands: Van Gorcum, 1965), 57.

32. On travel and history, see also Engseng Ho, *The Graves of Tarim: Genealogy and Mobility Across the Indian Ocean* (Berkeley: University of California Press, 2006); Edward Simpson, *Muslim Society and the Western Indian Ocean: The Seafarers of Kachchh* (London: Routledge, 2006); Rhian Thum, *The Sacred Routes of Uighur History* (Cambridge, MA: Harvard University Press, 2014).

EIGHT

An Enduring Measure of
Twelve Thousand Cowries
*The Materialities and Life Histories of
a Well-traveled Marine Product*

EVA-MARIA KNOLL

INTRODUCTION

The ethnographic object I had come to see, a kind of a bag, was quite heavy but not fragile. Equipped with powder-blue disposable gloves and with the skilled help of a museum employee, we managed to carefully lift the bulky, triangular structure off the shelf. We put it on a stool so we could take a close look at it, investigating it from various angles. Even in the diffuse light in the depot, down in the basement of the Weltmuseum in Vienna, three things quickly became clear. This object was some kind of container, was made out of plaited natural fiber, and was filled to the brim. In a few places, interstices in the wickerwork allowed a glimpse of the contents, which had been carefully packed near the equator around

1885. More than seven thousand kilometers as the crow flies from the site of its packaging, and some 135 years later in the semidarkness of this storage room, the delicate smallness and unique glossiness of this filling were still alluring: slightly asymmetric shells oval and guppy-like in shape, “resembling that of a tortoise in miniature.”¹ Shimmering a whitish-yellow color and with a smooth texture, the shells were reminiscent of porcelain and just the size of a fingernail. The distinctive serrated orifice on their underside attracted attention. The long, slender black lines contrasted with and thus further enhanced the creamy, pastel-colored shells. This closer inspection increasingly convinced me that this object might be an example of the legendary Indian Ocean cargoes of cowries.

The cowrie, a small and rather inconspicuous looking oceanic mollusk, had a career as a cargo without parallel in the Indian Ocean. Due especially to its remarkable material properties, cargoes of cowrie were constantly in demand, being transshipped and traded over long periods and long distances. Resistant to saltwater and almost unbreakable, the shells often served as ballast and as cargo at once and had a formidable array of usages. The porcelain shells were collected and cherished as treasure and as a marker of status, used in rituals, and arranged as ornaments. Moreover, employed as a general medium of exchange and as small change, cowries were important in making other things circulate within, across, and beyond the Indian Ocean world. Shipped to West Africa, they became infamous as the seashell money of the slave trade.

Sustained academic interest allows us to envisage tremendous quantities of these *Cypraea moneta* shells circulating for at least 1,500 years within and beyond the Indian Ocean. However, we still know little about the respective logistics. In this chapter, I will take a closer look at the material properties of the travel history of cowrie cargoes and the life histories of these shells before and after their travel. What made this cargo particularly attractive both within and beyond the Indian Ocean? Where did the respective small sea creatures come from, and how were they transformed into empty shells? How was a cargo consisting of an unimaginable number of individual pieces, each not much larger than a fingernail, organized and handled? The ethnographic object in Vienna’s Weltmuseum, a bag plaited from a single palm frond into a robust structure and filled to the brim with cowries, might provide us with some insights and answers to these questions.

PERSISTENT YET UNMARKED: THE CIRCULATION
AND DESTINATION OF COWRIE SHELLS

For at least nine thousand years, cowries have accompanied humans through history. Early evidence for this comes from a human skull covered with plaster and with its eye sockets inlaid with cowrie shells. The skull dates from around 7000 BCE and is displayed in the Ashmolean Museum in Oxford.² In addition to their sustained ornamental value, cowrie shells have proved to have a remarkable potential for mobility. Scholars from various disciplines, referenced throughout this chapter, have emphasized the historical significance of cowries for particular local economies and cosmologies, within specific trade networks, and on defined trade routes. In the more general accounts of Indian Ocean trade, however, cowries, though hardly omitted from cargo listings, have played no more than a marginal role. Historian Kirti N. Chaudhuri, for example, briefly contrasts incense, an equally sought-after product in both producing and consuming societies, with cowries, which “became valuable only through the process of trade” to the local producing community.³ Yet, cowrie shells especially draw our attention toward aspects of materiality in the Indian Ocean trade and can enhance our understanding of some of the features that go toward making a successful cargo.

The properties, qualities, and affordances of cowrie shells reveal an inseparable conflation of “the physical world and the world of ideas” through which cowries are “engaged in the currents of the lifeworld”⁴ of Indian Ocean trade. The shells are extremely durable and thus naturally fulfill the most basic function of money: they have the potential to circulate indefinitely. Cowries circulated widely as small change in local markets in Asia and Africa. Metal coins of copper, silver, or gold were never of small enough value to pay for a bowl of rice. In contrast to coins minted for a certain sovereign and often displaying a name or a portrait, cowrie shells were not stamped, were not assigned to any particular ruler, and were not associated with a particular power. Without a distinct political imprint, the “unmarked” cowrie could more easily cross borders, whether political, cultural, language, or religious. In this way, the cowrie could establish and assert its position as a truly global currency across different geopolitical arenas and throughout various historical epochs of changing political influence and dominance in the Indian Ocean.⁵ The cowrie “was probably the first universal money and one that lasted longer than any

other kind of money in human history.”⁶ As a widely accepted type of small change, cowries can be seen as a crucial cornerstone of processes of monetization in the monetary history of the Indian Ocean.⁷ As “primitive money” (from Latin *primitivus*, the first of its kind), the cowrie has, therefore, repeatedly drawn the attention of various academic disciplines.

Moreover, its resilience to saltwater perfectly suited this maritime money for the transoceanic trade, allowing it to become what can rightly be described as “a medieval global commodity.”⁸ Since cowries grow in, and can therefore withstand, salt water—the very curse of any cargo in maritime shipping—unlike regular and more delicate cargoes, the shells could even be stowed as ballast deep in the belly of the sailing ships, in the bilge, the lowest compartment on a ship, where leakage water collects by penetrating the hull. Stowed below and in addition to merchandise cargoes,⁹ and serving simultaneously as commodity and ballast, cowrie cargoes generated extraordinary profits per voyage.

Between the sixteenth and nineteenth centuries, however, considerable quantities of cowries not destined for endless circulation as petty cash in local or regional markets around the Indian Ocean took off for a more remote final destination. Their route covered three continents, Asia, Europe, and Africa, before they were exchanged for slaves, the human cargo of an infamous transatlantic trade. At their final African destination, having traveled far, the shells entered African markets as petty cash or were subjected to a process of material transformation. Often, the elevated curvatures were cut off so that the shells could be threaded or sewn upon a surface as desirable ornaments.

In this way, cowrie barter, trade, and usage connected the overall Indian Ocean region with west and central Africa in the west, Europe in the north, and China via Southeast Asia in the Far East.¹⁰ Astonishingly, the lion’s share of the vast quantities of shells that circulated within and beyond the Indian Ocean seem to have originated in the tiny islands of the Maldivian archipelago.¹¹

THE HISTORY AND CULTURE OF COWRIES IN THE MALDIVES

Cowries belong to the zoological family of gastropods that includes snails and slugs and could be found in impressive varieties in Maldivian lagoons¹² before tourism-related overfishing began to take its toll in the

1970s. The Maldives based their “unique position as a supplier” on a quite small cowrie, Cypraeidae *Monetaria moneta*, but more commonly known as *Cypraea moneta* or money cowrie, or “the common Maldive.” “Cowrie” (Hindi and Urdu *kauri*) is a term of Sanskrit origin, while the Latin taxonomy *Cypraea* refers to the island of Cyprus where Aphrodite (Venus) was worshipped as a goddess of fertility.¹³

Although *moneta* is found throughout most of the Indian Ocean, the countless shallow Maldivian lagoons provide it with a perfect habitat and permit its easy fishing. Moreover, and significantly for cargo economics, the Maldivian *moneta* seems to be smaller in size than the average shell. Since one individual shell “had the same purchasing power as any other [. . .] the smaller the shell, the greater the number in each [. . .] shipment, the more profitable,” and the more convenient small change in one’s pocket.¹⁴

Verified cowrie culture in the Maldives dates back to the pre-Islamic Buddhist period.¹⁵ Cowries from deposits of up to sixty-two thousand shells found in an excavated Buddhist monastery in Kaashidhoo, Kaafu Atoll, have been interpreted as a sacrificial offering. Some of these shells have been radiocarbon dated to 165–345 CE.¹⁶ A local monetary system consisting of cowries is documented from the times of early Arab voyages.¹⁷ The benefits of using shells in this way were all too obvious in an archipelago that lacked metallic ores, such as copper, used elsewhere to produce small coins, but that produced cowries in abundance. The shell was also of local transcendental value; it was used, for example, in funeral processions, where they were scattered along the route between the deceased’s house and the burial ground.¹⁸ Young and Christopher describe the Maldivians as a suspicious people and report the “custom, which prevails among them, of suspending cowries to the inner side of the outer door of their houses, in order that the entry of a stranger may not surprise them.”¹⁹

Their greatest significance, however, in the Maldives was as an export. Forms of cross-oceanic exchange had always been essential for survival on the small, resource-scarce coral islands of the Maldives group. The Dhivehin (Maldivians) were a fishing and foraging people, coconut and maritime products forming the backbone of their economy. In addition to a small, regionally restricted local production of millet, yams, breadfruit, and some vegetables and fruits, essential staples such as rice and cereal flour had to be imported. Delivery bottlenecks all too quickly resulted in

famines. Even tools and raw materials for traditional Maldivian weaving, blacksmithing, and lacquer handicraft had to be imported. To survive, Maldivians were forced to produce products to barter and trade with, as well as to develop and acquire remarkable skills in seafaring and in producing, loading, unloading, shipping, bartering, and trading cargo.

BY THE *KOTTA*: THE COMMODIFICATION
OF MALDIVIAN COWRIES

Among the marine products that the Maldives traded across the Indian Ocean, the money cowrie ranks next to ambergris, pearls, tortoise shells, coco-de-mer, sea cucumbers, and dried fish. The Persian geographer and polymath Abu Zayd (850–934 CE) was the first to distinguish between the Maldives as *Diva-Kauzah*, the islands of cowries, and the Laccadives as *Diva-Kanbar*, the islands of coir.²⁰ Being fished, processed, and packed, the cowrie shell is a naturally occurring yet produced object²¹ that had a biosocial life history before it began to travel and circulate. By the mid-ninth century CE, Arab geographers, merchants, and travelers had become the first to describe cowries as living creatures that could be fished from the shallow lagoons by simply throwing a branch of a coco tree into the water.²² Easily collected from these branches some five or six months later,²³ the mollusk was “placed in pits dug out on the beach. Its flesh decays and there remains only the white shell.”²⁴

In the first decade of the seventeenth century, however, the cast-away François Pyrard de Laval described a different mode of marine extraction of this “kind of wealth”:

[T]hey are fished twice a month, three days before and three days after the new moon, as well as the full, and none would be got at any other season. The women gather them on the sands and in the shallows of the sea, standing in the water up to their waists. They call them *Boly*.²⁵

H. C. P. Bell also reports this fishing technique, which took place every fortnight at low tide. Men and women collected cowries attached to corals and debris by wading waist-deep into the lagoon.²⁶ In the course of his fieldwork in 1982, Hogendorn confirmed that this fishing technique was still active.²⁷

Cowries were reported as being packed, traded, transported, and paid as “bags” or “sacks.” The North African Muslim traveler Ibn Battuta (1304–1368) was the first to describe cowries being sold in larger numbers by the *kotta*, cotta, or kottey (twelve thousand pieces) and the *bosta* or bostoû (one hundred thousand).²⁸ An anonymous geographer writing in Portuguese before 1505 reported that every Maldivian islander paid tax to the sultan “in cowries, many thousands of cotas (Cota=12000) of shells. They pay to local tax-houses found on every inhabited island.”²⁹ Another anonymous author, whom Lars Vilgon, a Swedish compiler of fragments of Maldivian history, suspects to be William Hedges, captain of the *Britannia*, which left the Maldives in 1683, stated: “to buy the Cowrie, one Cowrie qt. (a bag containing) 12.000 Cowries, they are worth 2 Rupees (each bag of) Cowrie. They bale them up in bags made of Coire, or you may throw them into the Hold loose.”³⁰ Next to Ibn Battuta, Pyrard, who was a chronicler on an unfortunate French trade expedition to the East Indies, provided the second substantial eyewitness report on Maldivian culture from his five-year involuntary sojourn there in the early seventeenth century, alluding to the logistics of the cowrie trade. Pyrard reports a


parcel of shells: for all these *Bolys*³¹ are put in parcels of 12,000, in little baskets of coco leaves of open work, lined inside with cloth of the same coco tree, to prevent the shells falling out. These parcels or baskets of 12,000 are negotiated there as bags of silver are here [in Europe], which between merchants are taken as counted, but not by others: for they [Maldivian or foreign merchants?] are so clever at counting, that in less than no time they will take tally of a whole parcel.³²

In Pyrard’s time, “Portuguese-flag shipping was still calling for cargoes of cowries. The packets of 12,000 shells were standard, as they continued to be for another two hundred years.”³³ In 1834/35, Young and Christopher still observed in Male’ traders being required “to supply the public stores with a certain quantity of rice, at a price [. . .], which is about half the market value. The trader is always paid for such rice in kotas of cowries, a kota consisting of 12,000.”³⁴

Calculated from the earliest written source, Ibn Battuta’s observations in the early 1340s, the *kotta* (or kottey—*كوتة*) therefore served for

at least five hundred years as the measure of twelve thousand cowries, and as volume and packaging all at once. Ragupathy's *Etymological Dictionary* lists a *kotte* or *koṭṭe* as measure of twelve thousand or eighteen thousand pieces of money shells (*Cypraea moneta*). This Sri Lankan historian also gives Tamil *kōṭṭai* as a cognate term for "a large measure of paddy; measurement of land based on the number of *kōṭṭai* it produces."³⁵ The social anthropologist Clarence Maloney, however, derives *koṭṭe* from Tamil *kattu*, a tied bundle.³⁶ The figure of twelve thousand shells per *kotta* reoccurs for centuries, spanning diverse sources of the history of cowrie cargoes. By contrast, Ragupathy's alternative indication of eighteen thousand pieces in a *cotta*, just cited, is not confirmed by any of the documents I have consulted. Hence, the figure of twelve thousand was an enduring quantitative standard of value.

The twelve thousand *kotta* served as a unit of cowries for packaging, trading, and shipping, and also as a denomination. "Distance [adds] greatly to their value," notes Gray about cowrie cargoes in his 1887 edition of Pyrard's *Voyage of François Pyrard of Laval*: Ibn Battuta would purchase four to twelve *bostou* (100,000 cowries) for one dinar of gold in the Maldives but only 1,150 shells in the Sudan. In Bengal, a larin purchased only 3,840 cowries, but 12,000 in the Maldives.³⁷ In Pyrard's time (1602–1605), twelve thousand cowrie shells were worth one silver larin, coined by the Maldivian king.³⁸ Hogendorn and Johnson interpret this as a "signal of an attempt to maintain a fixed exchange rate."³⁹

Currencies had always been an accompanying cargo in the Indian Ocean trade, with their own stories to tell of dissemination and interconnectedness.⁴⁰ Larins, for example, were silver or gold objects about ten centimeters long that were used as coins around the Arabian Sea. Bent in shape, the larin was also known as "fish-hook" money. The name is derived from the Persian town of Lar, and it is the root of the present-day small coin, the laari, in the Maldives.⁴¹ Interestingly, today *moneta* shells are known as *Dhivehi boli* (Maldivian cowrie) or *laari boli*—  (Dhivehi: small change shells) in the Maldives.

A SACK MADE OF PALM LEAF

Two ethnographic objects in storage at the Weltmuseum in Vienna might shed some additional light on the materiality and logistics of Indian Ocean cowrie cargoes. These two objects, the "sack" mentioned

at the beginning of this chapter and a glass flask illustrating the content enclosed in the sack, namely a sample of Maldivian cowrie shells, were collected by Carl Wilhelm Rosset (1851–1923). In the course of an expedition from 1884 to 1886, this German adventurer and collector visited the British island colonies of the Maldives, Laccadives, and Ceylon. Presumably in 1885, he arrived in the Maldives during the “unhealthy season” of the *hulhangu moosun*, a southwest monsoon that added to the European’s health concerns, since the archipelago had a bad reputation for deadly Maldivian Fever.⁴² As a second obstacle, Sultan Ibrahim Nooraddeen denied Rosset’s request to go collecting throughout the atolls and outer islands. Rosset, therefore, acquired ethnographic objects representing daily Maldivian island life in the capital of Male’, including a sample of cowries and a sack full of these shells.⁴³ The Maldivian cowrie trade had always been monopolized by the sultan and run centrally. Of course, ocean-dominating powers and companies also sought to establish, and contested, their own monopoly over the cowrie trade.⁴⁴

As the sultan’s residence and the general hub of the Maldives, Male’ also served as a transshipment port for the transoceanic cowrie trade.⁴⁵ It thus comes as no surprise that collector Rosset, stuck as he was in rainy Male’, identified the cowrie trade as a significant element in Maldivian culture.

Until my inquiry began, the glass flask and the “sack” had not been identified as particularly attention-grabbing objects in the Weltmuseum’s single collection from the Maldives.⁴⁶ Registered in the museum’s inventory book under the heading “Post XX - Ethnographic objects 1886 collected in the Maldives by C.W. Rosset” and given inventory number 24.959 is a round glass container holding a sample of Maldivian *moneta*. The description of inventory number 24.961 reads: “A *sack made from palm leaf* and lined with coconut fiber, with cowrie shells, the money of the Maldives as content; in the shape of a sugar loaf. Height 47cm” (English translation by E. Knoll; emphasis in the original). The German word *Muscheln* (mussels) in the inventory descriptions of both objects was later corrected in a different pen by the museum’s first director, Franz Heger, and replaced by the term *Schnecken* (snails).

The “sack” is a triangular-shaped container (Figure 8.1) and 14.5 kilograms in weight filled to the brim with Maldivian *moneta* shells. Could it be a *kotta*, the packet of twelve thousand shells described by Ibn Battuta and Pyrdard, among others, in the fourteenth and seventeenth



Figure 8.1. Made from palm leaf, lined with coconut fiber, and filled with cowrie shells. Collection Carl Wilhelm Rosset 1886, KHM Museumsverband, Weltmuseum Wien.

centuries? Was this still a standard measure in the cowrie trade around 1885, when the collector Rosset arrived in Male? Its weight and materiality indeed suggest it is a *kotta*. “About 400 pieces would make one pound.”⁴⁷ Twelve thousand shells would therefore weigh 13.6 kilograms, leaving less than a kilogram for the sturdy packaging, which seems plausible. It would, of course, be exciting to open the sack and count them, but out of respect for the beauty and integrity of this 135-year-old ethnographic object, I preferred to carry out a more detailed inspection of its visible physical properties in the hope of acquiring some additional insights.

THE MATERIAL WORLD OF COWRIE PACKING AND TRADE

Coral islands are generally rather scarce in resources. The low-lying Maldivian archipelago had just two resources in abundance, namely maritime products and coconuts. It is clear that one served as packaging for the other. The “sack” containing the cowries has been plaited from a single palm frond of the *Dhivehi rub*, the Maldivian palm tree (*Cocos nucifera* L.).⁴⁸ The natural form of the palm frond was used as an obvious starting point for this kind of braided bag. A palm frond consists of a strong midrib, from which up to 250 pinnate leaves emerge in a symmetrical arrangement to the right and left, obliquely angled towards the leaf’s frond syringe.⁴⁹ Looked at from the side, we can detect the strong, lignous midrib in the museum’s object. Thriving at rather exposed locations on islands and in coastal areas, palm trees must withstand strong winds and occasional storms. Their pinnate leaves are therefore particularly stable, being secured to the midrib through special cells that act like hinges and swell or shrink, depending on the water content.⁵⁰ In the 135-year-old museum object these cells are no longer swollen, but visibly and still firmly anchor the individual leaflets to the strong, wooden midrib, both continuing to provide stability for the container. Folded at a forty-five-degree angle, the central rib forms a tip and allows the leaves of both halves to be intertwined.

A single leaflet of a palm frond is up to 130 centimeters long and 3 centimeters wide, and has a hard leaflet rib as its middle line.⁵¹ Figure 8.1 shows that the single leaflets were used as strips that were passed over and under each other at a roughly ninety-degree angle in a simple plaiting technique, which resulted in a crosswise intertwined structure.⁵² For the braiding process, the leaflets were folded along the leaflet rib, doubling the strength of the individual leaflet.

On the petiole side, where the palm frond is connected to the trunk, the central rib is square, but the edges at the top of the leaf taper to a single line about half the length of the leaf so that the remaining central rib is triangular in shape.⁵³ In the Weltmuseum’s store I could see that the strong midrib of the cowrie container is square at one end and triangular at the other. It was made from the middle part of a palm frond.

However, the museum’s object is not a simple *mulhoashi*, that is, a basket or bag woven from a palm leaf and in widespread use before the



Figure 8.2. Interior lined with coconut fiber to prevent the shells falling out. Collection Carl Wilhelm Rosset 1886, KHM Museumsverband, Weltmuseum Wien.

era of the plastic bag. This object, by contrast, reveals an interior that fits Pyrrard's description of the *kotta* as being "lined inside with cloth of the same coco tree, to prevent the shells falling out."⁵⁴ It resembles a coarsely woven fabric (Figure 8.2) and is made out of the up to sixty centimeters long and particularly long-lasting leaf sheath of the coconut palm, which protects the young coconut leaf as it unfolds. The interior lining is tied together with another, particularly enduring coconut product, that is, coir, a coconut rope made from the fibers of the coconut husk. Coir is another medieval global commodity with qualities that are valued when of Maldivian or Laccadive origin. Figure 8.2 shows the tied interior lining at the base of the triangular structure, opposite the tip of the shape resembling a "sugar loaf," as the museum's inventory book describes it. Viewed with practical cowrie handling in mind, however, this comparison with a sugar loaf is not entirely apt.

Creatively imagining and discussing practical usages of this ethnographic object with Ms. Jordan, object conservator at the Weltmuseum in Vienna, we agreed to change the perspective by turning the sugar loaf concept upside down. Viewed with its tip downward, a cone-shaped

basket becomes recognizable with clear advantages in cowrie handling. In this position, the strong, conically converging midrib of the palm frond forms a stable frame for the crosswise intertwined structure of the folded pinnate leaves. Now a durable basket becomes apparent that makes optimal use of the robustness of the palm leaf. Its weakest point, the tied interior lining, no longer forms the base of the container, where the weight of the shells needs maximal support, but is on the top.

Moreover, the end of the plaited structure forms a pair of unequal handles at the top of this rearranged object (Figure 8.1). I could even imagine the robust tip of the conical container representing an additional advantage on the islands' sandy beaches, as the container could be deposited in the sand without falling over—similar to a Roman amphora.

THE TWELVE THOUSAND (COWRIE MEASURE) ISLANDS

My preoccupation with the Maldivian collection in the Weltmuseum drew my attention to the figure of 12,000, which occurred in two historical contexts: one was the *kotta*'s standard quantity, the other was the number of islands comprising the Maldives. This figure, however, is much larger than the 1,192 islands the archipelago officially consists of. Pyrrard reckons:

The natives informed me that there were as many as 12,000 [islands], but my notion is that there is not the appearance of so great a number, and that they say 12,000 to indicate an incredible number, which cannot be counted. Yet, true it is that there is an endless number of little ones which are mere sandbanks, altogether uninhabited. Moreover, the king of the Maldives puts this number among his titles, for he called himself Sultan Ibrahim dolos assa ral tera atholon: that is to say, Ibrahim Sultan, King of 13 provinces and 12,000 isles.⁵⁵

However, Ibn Battuta's exact description of cowries being sold by the *kotta* (twelve thousand pieces) contradicts Pyrrard's interpretation that the number 12,000 referred to an incredible number of islands which cannot really be counted. Referring to the social anthropologist Clarence Maloney, Hogendorn and Johnson locate the roots of "the importance of 12,000 as a measure of cowrie volume" in the traditional Maldivian

duodecimal system of counting, which has 12 as its base number.⁵⁶ The number 12 was of particular significance and had been used regionally with decimal multipliers since medieval times. Maloney also mentions the Maldivians' skills in rapid counting, extending high numbers for counting cowries.⁵⁷ As a result, I conclude with reasonable certainty that a *kotta* was indeed counted as equivalent to twelve thousand cowries. In addition, I also wonder whether the "twelve thousand islands" could be read as "the islands that use the twelve thousand-cowrie measure." The *kotta* can therefore be seen as a central and unmistakable element in the identity of the historic Maldives that was ascribed to the archipelago, once again underlining the importance of cowrie cargoes in the Indian Ocean.

CONCLUSIONS: WHAT REMAINS

The properties, qualities, and affordances of cowrie shells allowed for three main kinds of use: convenient long-distance shipping, long-lasting circulation as petty cash, and attractiveness as ornaments. These factors formed the material foundations of a remarkable career as a cargo. Yet, cowries were more than a cargo that was widely transported in its own right across several centuries: they were also an important means and facilitator, making other things circulate within, across, and beyond the Indian Ocean world. It is in these contexts that cowries were transported and thus acquired their own history of travel. Yet outside these contexts they also have life histories before and after their traveling lives as cargoes. The *moneta's* pretravel life history draws attention to the Maldives.

A wealth in cowries and the challenge of reefs and shallows to navigation had put the Maldives on the maps and crossroads of the Indian Ocean early in history.⁵⁸ The Maldivian historian Naseema Mohamed argues that the reason for the Maldives' contact with large parts of the ancient world, "if any, may have been the availability of cowrie shells."⁵⁹ Majumdar and Chatterjee connect the name of the archipelago, Maldives, to *māla* (Bengali load or ballast and money), while James Heimann argues for a causal link between the transoceanic cowrie trade and the local development of the long-lasting, highly centralized political structure of the Maldives.⁶⁰

When Rosset acquired the *kotta* in 1885, the heydays of the cowrie trade between the sixteenth and eighteenth centuries were long gone.⁶¹ The successive abolition of the slave trade and the shifting of Indian

Ocean trading interests to the Bengal-China opium and tea route in the earlier decades of the nineteenth century contributed to its decline.⁶² The “replacement of cowries by copper coins, however, was a slow process.”⁶³ By 1866, the collapse of the Maldivian cowrie trade was nearly complete.⁶⁴ Perhaps the general decline made the cowrie sack more readily available for Rosset. Most probably he acquired the *kotta* and a sample of its content as a historical example of a cargo of a time that had almost passed when he visited the archipelago.

During my own fieldwork in the Maldives, carried out on a regular basis primarily on health-related topics since 2011, I occasionally saw *moneta* cowries as living ocean creatures. I also encountered empty *moneta* shells as a component of coral gravel in the front gardens of Maldivian houses, as lovingly arranged decorative elements in living rooms, and as board-game tokens. Yet, the cowrie also lived on for some time as a means of payment in the Maldives. The previous rufiyaa banknote series, in circulation from 1983 to 2015, displayed imagery with cowrie shells as a framing tondil or garland. Cowrie shells are also still in use as decorative elements on tourist paraphernalia, despite it being illegal to take any form of shell, sand, or coral out of the country. Allegedly, the tourist *boli* are imported. The ban is designed to help preserve the natural beauty of the Maldives’ beaches and to protect the scarce, less than one percent landmass of the archipelago’s overall surface. Facing climate change and rising sea levels, the authorities have obviously calculated the theoretical loss if each of the more than 1.5 million tourists in 2019 were to remove three to five shells. Due to such ecological concerns, sand for the thriving Maldivian construction industry is imported on a large scale, while illegal sand mining and coral gravel mining in the lagoons is subject to the criminal law. In the boom years of the cowrie trade in the eighteenth century, up to 327 tonnes of cowries annually crossed the Indian Ocean, while the year 1845 showed a record of almost 570 tonnes.⁶⁵ If about 80 percent of the average of 327 tonnes had been fished out of Maldivian lagoons, this would mean a continuous annual ecological loss of about 19,235 *kottas* containing some 230 million shells. Also, for ecological reasons, therefore, cowries no longer follow a mode of existence as cargoes, but are meant to stay where they are.

Other cowries have ended their travel as frozen history, preserved and stored in museums. Collecting constitutes a specific relationship with both the material and the non-European worlds. Through the European

activity of collecting assortments of diverse objects of daily local use, purchased and sometimes even stolen objects joined the ever incomplete lists of Indian Ocean cargo.⁶⁶ En route, the cowries described in this chapter were transformed from a cargo in their own right and a means to make other things circulate into collector's items, among them ethnographic objects. On their way into European museums and collections, these collected items often significantly increased in value. Over time, however, ethnographica also increased their symbolic and material values for local communities and Indian Ocean research. As time capsules representing the material culture of a past long gone, ethnographica have been preserved and can therefore be rediscovered in museum storage.

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PART III

Cargoes in Use

NINE

Arab Perfumes and the Indian Ocean Trade in Animal-Derived Aromatics

*The Case of Civet*¹

HANNE SCHÖNIG

INTRODUCTION

Classical compound Arab perfumes came in several kinds, namely unguents and ointments, liquids, oils, scented powders, and incenses. They were composed of aromatic and fragrant substances of both vegetal and animal origin. Since pre-Islamic times, their use has been known not only for aesthetic reasons but also for medicinal, preservative, religious, magic, culinary, and aphrodisiac purposes, uses that often overlap and cannot be separated from each other. Depending on demand, aromatic substances and perfumes have been important cargoes in both overland and maritime trade. The ancient South Arabian kingdoms (eighth century BCE to sixth century CE) played a major role in this trade not only as the countries of origin of famous and expensive resins,

such as frankincense and myrrh, but also because their harbors connected the Indian Ocean to the caravan trade routes leading to the Mediterranean, primarily the frankincense road. Busy commerce, including of aromatic substances, is reported in the first century CE for the Red Sea ports, for example, in the anonymous *Periplus Maris Erythraei*, and is later attested for Mocha in the sixteenth to eighteenth centuries, the heyday of the coffee trade, when it superseded Aden's trading power during the Rasulid period (1229–1454) (see below). The fragrant simples and compound products were offered in the druggists' market, part of the traditional Oriental market still operating today in some cities such as Damascus and Sanaa.

While the majority of Arabic sources and the secondary literature focus on the origin, use, and trade of the animal aromatics musk and ambergris, civet, the secretion of the civet cat, has been largely neglected. This chapter will trace and analyze the scarce, often vague, and even false materials on civet and its trade in Arabic texts of different genres, and thus provide knowledge about the history, distribution, and value of an exotic aromatic cargo.

CIVET: THE ANIMAL AND THE AROMATIC

According to the physician Ibn Māsawaih (ca. 777–857)² and the historian and geographer al-Mas'ūdī (before 893–956),³ the five principal aromatics (*uṣūl al-ṭīb*) at the times they wrote were the vegetal substances saffron, agarwood,⁴ and camphor,⁵ as well as the animal products musk, i.e., the glandular secretion from the musk deer, and ambergris, a digestive product of the sperm whale.

Not mentioned among the principal aromatics is civet (*zabād*),⁶ the “soft, fatty, yellowish glandular secretion formed in a discharging pocket of two sacs or perineal glands located between the anus and the genitals of both the male and the female civet cat.”⁷ The six species⁸ of the civet cat are native to Africa and Asia. The principal species exploited for their secretions are the African civet (*Civettictis civetta*) in Ethiopia and Equatorial Africa and the Large (*Viverra zibetha*) as well as the Small Indian civets (*Viverricula indica* = *V. malaccensis*), which are native to the Indian subcontinent and South and Southeast Asia.

A zoological *Handbook* informs us that the gland of African civet cats can accumulate up to fifteen grams of this substance per week, the

small Indian civet two to six grams a month.⁹ They use it as a pheromone and to mark their habitat with scent.¹⁰ The secretion is collected from places where the wild civet cats have deposited it. Pure civet is strong and very unpleasant smelling. Only after dilution does it release a fragrant, musk-like scent,¹¹ accordingly being used in perfumes, namely as a fixative,¹² that is, as a natural substance that helps a fragrance last longer on the skin.

Up until the present day, information about civet has been scarce, inexact, and even inaccurate, and not only in Arabic sources. It has been rather neglected in literature, but not in use: “indeed, considering the hundreds of years in which civet has been an article of commerce, it is surprising how little we really know of the animal.”¹³ These gaps in knowledge concern the animal’s identity¹⁴ and habitat, the kind of material it secretes, where in the body it is produced, and how it is obtained. Consequently, details of its trade and trade routes are also left unmentioned or vague, as will be shown by the following evaluation of Arabic texts¹⁵ written by geographers, historians, encyclopedists, and pharmacologists, by trade statistics and fiscal lists, and by travel literature and the secondary literature, starting with the beginnings of Islam.

EARLY TEXTUAL EVIDENCE

The sole reference to the Prophet’s time, and one of the first pieces of evidence for civet in any Arabic text, is that provided by the historian and biographer Ibn Sa’d (784–845) in his *Large Book of Generations*. In it, the Prophet’s wife, Umm Ḥabība, reports that the Abyssinian king has offered her perfumes and aromatics, including civet. When she goes with all of these to the Prophet, he does not object.¹⁶ Another early piece of evidence for civet, a precedence-dispute poem between musk and civet attributed to the polymath al-Jāhīz (776–869), is lost.¹⁷ His contemporary, the botanist and geographer Abū Ḥanīfa al-Dīnawārī (between 815 and 828–894/5 or before 902/3), mentions musk, ambergris, and civet in the chapter on scents and aromatics (*bāb al-rawāʾiḥ*) contained in his *Book of Plants*. He reports that civet is a small animal resembling a small cat that one milks by squeezing its teats and collecting a kind of foam (*zubb*) from them. This secretion has a pleasant smell and is used in perfumes (*tīb*).¹⁸

In the tenth century, in addition to the five principal aromatics mentioned above, al-Masʿūdī, who traveled to East Africa, India, and

perhaps as far as China, lists twenty-five aromatic substances (*afāwīh*), among them civet.¹⁹ Elsewhere in his historical account, *Meadows of Gold and Mines of Gems*, he mentions that civet is as common an animal in India²⁰ as the cat is in Muslim countries. From its teats is obtained the perfume (*ṭīb*) called civet milk (*laban al-zabād*).²¹

However, civet was not known in the early days of the Arab perfume makers and was not an ingredient of the classical Arab perfumes *nadd*, *ghāliya*, and *khalūq*.²² In important treatises on perfumes like the *Chemistry of Perfume and Distillations* by the philosopher and polymath Yaʿqūb b. Ishāq al-Kindī (ca. 801–73), civet is absent. And even much later, at the beginning of the fourteenth century, the historian and encyclopedist Aḥmad al-Nuwairī (1279–1333), who dedicates a whole volume (12) of his encyclopedia *The Aim of the Intelligent in the Art of Letters* to scents and perfume, does not mention civet at all.

THE ROOTS AND ROUTES OF A LUXURY GIFT

In the Western part of the Indian Ocean, in Ethiopia's early history, civet was used as a currency, was valued above ivory, gold, and myrrh, and was traded with Egypt, Zanzibar, and India. In the Ethiopian tradition, the legendary queen of Sheba, Makeda, brought civet with her along with other gifts when she visited King Solomon of Israel in the tenth century BCE.²³ In fact, for centuries Ethiopia has been one of the main civet-producing countries, mainly exporting it from the ports of Zaila, Massawa, and Suakin.

The thirteenth-century compilation *The Light of Knowledge*, a corpus on administration, economy, and international trade during the Rasulid period in Yemen in the reign of al-Muzaffar Yūsuf (1249–95), mentions civet being imported to Aden from Abyssinia, mainly through the port of Zaila, now in Somalia.²⁴ Civet, together with ambergris, camphor, and pearls, was a gift that merchants offered to rulers when arriving at the Yemeni ports of al-Shiḥr and Aden, receiving clothing and equipment in exchange.²⁵ During this time, Yemen played an important role in the trade between India and the Mediterranean, and therefore maintained good relations with the Mamluks in Egypt. The Yemeni Rasulids regularly sent ostentatious gifts to the Mamluk court in Cairo, among them large quantities of animal aromatics. Their use is mentioned, for example, in the anonymous cookbook *Treasure Trove of Benefits and*

Variety at the Table, dating probably from thirteenth- to fifteenth-century Egypt. It contains not only recipes of dishes and beverages, but also medicinal preparations and perfumes, while animal aromatics, including civet, are listed as ingredients in recipes for scents and aphrodisiacs. Under the heading “great fragrance that stimulates sexual appetite,” the ingredients rose, rosewater, sandalwood, aloeswood, ambergris, and finally some civet and a little musk are mixed, the mixture then being dried and fumigated.²⁶ The historian al-Maqrīzī (1364–1442), in his chronicle of Mamluk dynasty history, gives a detailed report of Yemeni envoys arriving in Cairo in 1353. Among the gifts that they offered to the Sultan, he lists musk, ambergris, and civet;²⁷ a Rasulid delegation in 1416 even brought civet cats.²⁸ However, Yemeni rulers also received civet as a gift. In 1646/7 an embassy from Abyssinia offered a present of slaves, weapons, and civet to the Zaidite imam of Yemen, al-Mutawakkil ʿalā Allāh Ismāʿīl b. al-Qāsim (1644–76).²⁹ Civet seems to have been used as a diplomatic gift until the last century. It was found in the National Museum in Taʿizz among the personal belongings and official gifts of the last Yemeni imam, Aḥmad b. Yaḥyā, who ruled from 1948 to 1962.³⁰

As a prestigious gift, Ethiopian civet has been taken as far as India. In the second half of the seventeenth century, the French physician and traveler François Bernier (d. 1688) reports how an ambassador from Ethiopia presented civet to the Moghul emperor Aurangzeb (r. 1658–1707).³¹ However, the civet cat was also native to both India and China, as we learn from, for example, the Andalusian geographer al-Idrīsī (1100–1165),³² as well as from local written evidence. Native civet appears in Chinese sources from the eighth century,³³ but it was also imported into the country. According to the Chinese official Zhao Rugua (1170–1228) in his book on Chinese and Arab trade in the twelfth and thirteenth centuries, civet was brought to China by the Arabs from a town that can be identified as Qalhāt in Oman, located about fifteen kilometers north of Sur.³⁴ As for India, civet is first mentioned in texts on perfumery in the ninth to tenth centuries, and it was used locally for temple services and medicinal purposes.³⁵ It is again al-Idrīsī who records civet animals (*dābbat al-zabād*) also in the Rahun mountains in Sarandib³⁶ and on islands in the eastern part of the Chinese Sea.³⁷

However, in general, African civet³⁸ seems to have been widely esteemed and even preferred to the more numerous Asian species,³⁹ as attested by the geographer al-Dimashqī (1256–1327), who, in his *Book of Wonders*

of *the Land and Sea*, reports that on an island (jazīrat al-Tinnīn)⁴⁰ in the Indian Ocean adjacent to the Chinese Sea there are civet cats like those in Abyssinia, though the Abyssinian civet is better than the Indian one.⁴¹ In addition, after the consolidation of Ottoman rule over Yemen in 1571, when the Red Sea port of Mocha became an important port between the Mediterranean, the East, and the Far East, Gujarati ships returning from Mocha transported civet originating in Ethiopia.⁴² The preference for the African civet, therefore, makes us doubt whether Goitein is correct when he comments, on a “note from Alexandria” (ca. 1110) to a merchant in Fuṣṭāṭ “to inform you that the Kohen al-Fāsī [merchant in Fez] sent to me a bar of gold for you from Fez with the notification that he sold civet perfume for you,”⁴³ that civet “was imported from far away Tibet or Indochina and the Malay archipelago.”⁴⁴

IMPLICATIONS OF INCREASING DEMAND

Demand, availability, and cost were all reasons for capturing the civet cat. In order to obtain more civet and to avoid the time-consuming and exhausting collection of the civet cats’ natural deposits, they have been captured or trapped, “milked,”⁴⁵ and then released or, increasingly, also kept on farms.⁴⁶ The secretion was then extracted by curettage from the pouch with a spatula or kind of spoon.⁴⁷ A list of port revenues from the beginning of the fourteenth century documents the arrival of wild civet cats offered as gifts in the Yemeni port of al-Shihṛ.⁴⁸ From the administrative encyclopedia *The Dawn for the Dim-Sighted on the Art of Correspondence*, written by the Egyptian legal scholar al-Qalqashandī (1355–1418), we learn that “the civet cat is imported from al-Sind and al-Hind [Pakistan and India] [. . .], and the aromatic (*tīb*) is found in its armpit, thigh, tail, and around its back (*dibr*). It is taken from these places with a spoon or the like.”⁴⁹ This quote proves that parallel to the trade of civet secretion a flourishing trade in the animal itself had started. Besides being farmed for the production of civet, in some areas free-range, self-sustaining populations emerged.⁵⁰ Thus, all at an unknown date, the Large Indian civet was introduced to the Andaman Islands, and the Small Indian civet, among others, to the Indonesian islands of Lombok and Sumbawa, the Philippines, and also westward to Madagascar, the Comoros, and Socotra.⁵¹ In the report on the travels of Henri Hagenaar, Dutch ambassador in Cambodia, to the

East Indies, we read that on Socotra in 1633 “[o]n y trouve passablement de la civette. [. . .] Les habitans nourrissent beaucoup de chats civettes dans leurs maisons [. . .].”⁵² In addition, even earlier, an English merchant in the service of the East India Company, William Finch (d. 1613), observed that civet cats there were hunted and then sold to foreigners.⁵³

However, as civet production in captivity was lower in both quantity and quality, the trade in the civet cat itself could not completely replace the trade in its secretions. As a result, new trade routes emerged when the secretions of recently introduced civet species were exported from their new habitats. Thus, the Socotran civet was brought by the trading boats to Aden, the Persian Gulf, and East Africa.⁵⁴ Markets for all sorts of Socotran products revived during the British administration of Aden from 1839 to 1967, when merchants increasingly visited the island, and “the demand for *zabād* rose with the demand for pearls, when boats and divers came from Oman and elsewhere: they highly valued *zabād* and were keen to barter for it. [. . .] At this time its price was higher even than that for ambergris.”⁵⁵

Civet cats and their secretions have thus been transported along several Indian Ocean trade routes. In addition to the civet trade from the animals’ new habitats mentioned above, the regions in which the animal is native both exported and imported the commodity, reflecting different opinions about the best variety of civet. In opposition to the voices quoted above, which judged the Ethiopian civet to be of higher quality, we read elsewhere that the best civet is that which is brought from the seaport of Sumatra: e.g., in a sixteenth-century text, namely in the Persian language annals, the *Āʾm-i Akbarī* of the Moghul emperor Akbar (1542–1605), written by his grand vizier Abū al-Faḍl ‘Allāmī, and in which the description and preparation of civet occupies an entire article.⁵⁶ In 1616, the merchant Pieter van den Broecke observed ships arriving from Pati and Mogadishu at the Yemeni port of Mocha, the cargo of which included “much” civet. He reported that the quality of civet from Pati was praised as being “very good.”⁵⁷

AN EXOTIC MATERIAL BETWEEN FACT AND FICTION

The example of civet shows how difficult it can be to trace a single commodity. Little concrete data can be extracted from the representative textual examples given above, and it remains uncertain when exactly

the Arabs became acquainted with civet. The texts are confusing and contradictory, and false information has been perpetuated. Besides missing, imprecise, and false information on the geographical origin of civet, knowledge of the production of the secretions has always been very vague. The essence of many texts can be reduced to fable-like descriptions of civet cats living in or being traded to and from places that the author may never have visited and that lacked unambiguous and precise identification. A frequent idea was “that the musk of civet is the sweat of an animal, which when it becomes hot, sweats musk. Then they scrape it from the animal with a knife,” as is related by the geographer Yāqūt (1179–1229) in his *Dictionary of Countries* for the island of Zābaj, “an island situated in a remote part of the land of India behind the Harkand Sea on the borders of China. It is said that it is the land of Zanj.”⁵⁸ The Persian geographer and historian al-Qazwīnī (1281–1349) stated that “a secretion is obtained from the sides of his chest, which they scrape off on to a stick; this is civet. And between the passages of the urine and of the excrement there is another passage; also from this it produces civet, but of an inferior quality to the first.”⁵⁹ Al-Idrīsī relates that the civet animal resembles a cat, is kept in cages, is fed with meat, and produces a secretion in its testicles at the beginning of the summer. This dirt (*daran*), as he calls it, is gathered continually until the end of autumn.⁶⁰

Most of the authors who write on the topic never visited the countries they are talking about, and original texts are rare. Thus, as was common practice, Arab geographers⁶¹ compiled their works from information provided by Arab merchants and sailors or even partly reproduced their predecessors’ words literally, and only some of them gave their sources.⁶² The perpetuation of vague passages on civet has surely been fostered because of their congruence with the tradition of the well-liked and entertaining *ʿajāʾib* literature on mirabilia, or marvels, that is so common and much loved in Arabic travel reports and geographical texts from the tenth century onward, and that did not bother about scientific precision. “As the scientific interest decreased, however, and the popular interest in amusing literature grew, the data lost their precision and their exact geographical localization.”⁶³

Regardless, civet has been used less often than ambergris or musk, and it is mentioned much less in the literature than either, although one finds statements that “civet is a more pleasant fragrance than musk,” as

the tenth-century Persian historian and geographer Ibn al-Faqīh (fl. 903) argues in his *Concise Book of Lands*.⁶⁴ James McHugh, an expert in the cultural and material history of premodern India who has also published on civet and other aromatics, argues “that the fame and prestige of an aromatic is both a function of its natural availability, as well as being related to inclusion to what we might think of as classical canons of great aromatics.”⁶⁵ In our Islamic cultural context, the crucial point is that, in contrast to civet, ambergris is mentioned in the hadith literature, the record of the sayings and actions of the Prophet Muhammad, and, in addition, it is easily available, as it can be found on plenty of coasts all over the world. More importantly, musk is even mentioned in the Qur’an⁶⁶ and, as attested in the hadith literature, it was the Prophet’s most beloved scent.⁶⁷ Accordingly, in the musk *maqāma*—*maqāma* being an Arabic literary genre—written by the religious scholar and polymath al-Suyūṭī (1445–1505),⁶⁸ civet falls behind its animal fellows musk and ambergris “because you [civet] are mentioned neither in the Koran nor in a tradition about the lord of the offspring of ‘Adnān.”⁶⁹ Moreover, both musk and ambergris are already frequently mentioned in pre-Islamic and early Islamic poetry, often as metaphors used in the description of the beloved woman, the expensive scents underlining her social status.⁷⁰

Another serious problem when pursuing evidence for civet in written sources is a terminological one. It is probable that, because of musk’s similar consistency, smell, and use, and not least its precedence, civet has been confused with musk, perhaps even deliberately. “Musk” has been used as a generic term for aromatic animal secretions, and “musk cat” and “musk of civet” often elliptically resulted in reduction to “musk” alone.⁷¹ This confusion has been widespread, though with variations, as when Faure mentions that “under the generic term musk, Arabic *zabad*, the merchants from the Gulf of Oman have traded also another animal secretion, namely civet.”⁷² The terminological problem is complex, and “each instance must be evaluated according to its context,” according to Anya King in her monograph on musk and the medieval Islamic world.⁷³

To make things even more complicated, as trade commodities, aromatics have often only been mentioned under collective names such as aromatics, spices, drugs (*ṭīb*, *afāwīḥ*,⁷⁴ *adwiya*), and the like, categories that embrace various fields of application, namely perfumes, incenses, foods, and medicines. And in the Middle Ages, not only were the latter

two “closely related and often (to our way of thinking) confused,” as the historian Paul Freedman points out,⁷⁵ adding elsewhere that “[t]he border between fragrance and drugs was porous and ill-defined.”⁷⁶

TRANSPORT DETAILS

These are all conditions that seriously complicate the tracing of a single commodity of this kind. The problem is not restricted to Arabic texts. The Dutch scholar C. G. Brouwer, who draws a detailed picture of the Yemeni Red Sea port of Mocha in the seventeenth century from Dutch letters and logs and publications on the history of aromatics, complains that “ports of origin or destination, quantities, prices, weighing and packaging methods: nothing of this appears in the literature consulted. Nowhere are sweet-smelling products the centre of interest.”⁷⁷ From 1614 to 1640, only six seasonal prices for aromatics at Mocha have come down to us, and according to the average prices calculated by Brouwer, civet was the most expensive material, costing half as much as ambergris, two-thirds more than musk, thirty-two times more than agarwood, and an incredible 4,800 times more expensive than frankincense.⁷⁸

In contrast to these incomplete or imprecise details, however, the packaging of civet was well known: it was frequently transported in buffalo-, zebu-, or other cattle horns. The large openings were sealed with leather or wood and the tops cut and sealed with wax. The horns are mentioned in some Arabic texts, such as by al-Maqrīzī in his above-quoted report of the gifts presented to the Mamluk sultan in Cairo.⁷⁹ According to the annals of the Moghul emperor Akbar, in the sixteenth century civet was imported in small cups, leather bottles, or horns.⁸⁰ Pankhurst, in his “Trade of Northern Ethiopia in the Nineteenth and Early Twentieth Centuries,” reports that in the first part of the nineteenth century, in one year the maximum estimated quantities of civet exported from the Ethiopian Red Sea port of Massawa were 4,800 horns.⁸¹ They came mainly from the Oromo people and contained about five kilograms each.⁸² In the 1860s, the Red Sea port of Suakin exported three hundred to four hundred horns annually,⁸³ but we do not learn about the ports of destination. In an article published in 1904, Hooper says that civet “is still collected by the Abyssinians who put [it] in small cattle horns. There is produced annually from 250 to 300 pounds of the article, about one-half of which is shipped to New York, a considerable amount goes to France.”⁸⁴ And

in the mid-nineteenth century, the surgeon James Vaughan, in his “Notes upon the *Drugs Observed at Aden*,” saw horns there containing civet,⁸⁵ from where they were shipped to London, Marseilles, and New York.⁸⁶ In the 1990s, I came across such horns with residues of civet on them offered to tourists by merchants in Wadi Hadramawt.

CONCLUSION: THE PERSISTENT APPEAL OF ANIMAL AROMATICS

Rare and precious animal-derived aromatics have consistently been used as fragrances and in Arab perfumes even since the invention of synthetic substitutes from the mid-nineteenth century⁸⁷ and the implementation of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in 1975. Though the Convention places controls on the international trade in the three civet species treated in Appendix III⁸⁸ at the request of India and Botswana, their natural secretions are still used and traded. And as the aforementioned Western port destinations suggest, it has not only been an ingredient in Arab perfume compositions. By the early fifteenth century, civet was known in Europe, and its “fame and availability [. . .] was a result of European expansion and discoveries [. . .].”⁸⁹ As an exotic aromatic with aphrodisiac capacities, it is mentioned in famous pieces of literature: “Give me an ounce of civet, good apothecary, to sweeten my imagination,” says King Lear,⁹⁰ and Patrick Süskind mentions civet as a perfume ingredient in his novel *Perfume*, where he warns, “Utmost caution with the *civet*! *One drop* too much brings catastrophe.”⁹¹ Today civet is still an ingredient in international perfumes, such as in Shalimar (Guerlain 1925) and the Omani Amouage (1983),⁹² one of the most famous and expensive perfumes, and also in fragrances for men.⁹³

Tracing the ingredients of some of today’s most exclusive perfumes to their mentionings in early Arabic texts, this contribution has tried to shed some light on the still largely neglected history of animal-derived aromatics and the role they played in Indian Ocean trade. By focusing on the secretion of the civet cat, this chapter has examined the rare and often vague sources on its mobility, allowing for a unique insight into the origins, transportation, and distribution of this highly valuable cargo. Moreover, by referring to a variety of mainly Arabic texts and its different genres, it highlights the complex relationship between its materiality

and the myths surrounding it. In this regard, new regulations such as CITES may direct attention to the material and once lively ingredients of perfumes, which, when applied, are often rather considered as an immaterial, sensual experience often in close connection with exoticized images of the Arab world.

NOTES

1. My transliteration of Arabic words generally follows the system of the *International Journal of Middle East Studies*. Personal names and place names that have no accepted English spellings are written in full transliterated form.

2. Yūḥannā Ibn Māsawaih, *Kitāb Jawāhir al-ṭīb al-mufrada* [Book on Simple Aromatic Substances] (n.p.: n.d.), f31v. Refaiya Library, University of Leipzig/Germany, MS Vollers 0768–02, accessed November 24, 2019, http://www.refaiya.uni-leipzig.de/receive/RefaiyaBook_islamhs_00006475.

3. al-Masūdī, *Maḥoudi: Les prairies d'or*, trans. Charles Barbier de Meynard and Pavet de Courteille, 9 vols., Société asiatique, Collection d'ouvrages orientaux (Paris: Imprimerie Impériale, 1, 1861–77), 367.

4. A resinous wood that forms in certain *Aquilaria* trees in East and Southeast Asia when they become infected with a type of mold.

5. A pale or white substance which is obtained by water vapor distillation of the wood of *Cinnamomum camphora* trees, which are indigenous to (South)East Asia.

6. The Arabic *zabād* denotes the secretion, but is also used to produce a perfumed cream, as well as elliptically for the animal.

7. Karl H. Dannenfeldt, “Europe Discovers Civet Cats and Civet,” *Journal of the History of Biology* 18, no. 3 (Autumn 1985): 404–5.

8. Order: Carnivora, Suborder: Feliformia (or Feloidea), Family: Viverridae, Subfamily: Viverrinae (Andrew P. Jennings and Geraldine Veron, “Family Viverridae [Civets, Genets, and Oyans],” in *Handbook of the Mammals of the World*, vol. 1, *Carnivores*, ed. Don E. Wilson and Russell A. Mittermeier [Barcelona, Sp.: Lynx Edicions, 2009], 174).

9. *Ibid.*, 201–2.

10. *Ibid.*, 187–88.

11. Günther Ohloff, *Irdische Düfte—himmlische Lust: Eine Kulturgeschichte der Duftstoffe* (Frankfurt am Main, Ger.: Insel, 1996), 140.

12. Dannenfeldt, “Civet Cats and Civet,” 405. Animal-derived fragrant substances are excellent fixatives (Nigel Groom, *The New Perfume Handbook*, 2nd ed. [London: Blackie Academic and Professional, 1997], 123).

13. Ernest John Parry, *The Raw Materials of Perfumery: Their Nature, Occurrence and Employment* (London: Sir Isaac Pitman and Sons, [1921]), 67.

14. In Islam, identifying the animal is important in order to decide whether its consumption or other uses of (parts of) it—in this case its secretion—is legal (halal) according to religious law (shari‘a).

15. Similarly, in most Persian sources dealing with perfumes and scents, civet is not treated (Mehr-Ali Newid, *Aromata in der iranischen Kultur: unter besonderer Berücksichtigung der persischen Dichtung* [Wiesbaden, Ger.: Reichert, 2010], 103n1039).

16. Carl Brockelmann, ed., *Kitāb al-Ṭabaqāt al-kabīr* [The Large Book of Generations], *Ibn Saad. Biographien*, vol. 8, *Biographien der Frauen* (Leiden, Neth.: Brill, 1321/1904), 69, lines 22–23. Al-Suyūṭī in his musk *maqāma* (see below) refers to this report as an incompletely transmitted (*mursal*) tradition (Samīr Maḥmūd al-Durūbī, ed., *Sharḥ maqāmāt Jalāl al-Dīn al-Suyūṭī* [Bairūt: Mu‘assasat al-risāla, 1409/1989], 1110).

17. “R. fī mufākharat al-misk wa-l-zabād” (Charles Pellat, “Nouvel essai d’inventaire de l’œuvre Ġāḥiẓienne,” *Arabica* 31 [1984]: 148, no. 142). The same al-Jāḥiẓ discusses the use of musk and civet by the Prophet in his *Book of the Animals* (Abū ‘Uthmān ‘Amrū b. Baḥr al-Jāḥiẓ, *Kitāb al-Ḥayawān* [Book of the Animals], ed. ‘Abd al-Salām Hārūn, 8 vols. [Cairo: Muṣṭafā al-Bābī al-Ḥalabī, 1384/1965], 5: 304–5) which Anya King judges as “perhaps the earliest Arabic reference to civet” (Anya King, *Scent from the Garden of Paradise: Musk and the Medieval Islamic World* [Leiden, Neth.: Brill, 2017], 212n232).

18. Bernhard Lewin, ed., *The Book of Plants: Part of the Monograph Section by Abū Ḥanīfa ad-Dīnawarī*. Bibliotheca Islamica 26 (Beirut, Lebanon: Franz Steiner, 1974), no. 728. As he gives no source for this information and only says “what has been mentioned to me,” he might have taken the information from his own interviews with Bedouin. He lived in Dīnawar and studied in Isfahan, Kufa, and Basra.

19. Barbier de Meynard and de Courteille, *Maḥoudī*, 1: 367.

20. India is referred to as al-Hind by Arab geographers and travelers (M. S. Khān, “Al-Mas‘ūdī and the Geography of India,” *Zeitschrift der Deutschen Morgenländischen Gesellschaft* 131, no. 1 [1981]: 123).

21. Barbier de Meynard and de Courteille, *Maḥoudī*, 3: 57.

22. See the alphabetically arranged entries in Groom, *New Perfume Handbook*.

23. Y. D. Abebe, “Sustainable Utilisation of the African Civet (*Civettictis civetta*) in Ethiopia,” in *2nd Pan-African Symposium on the Sustainable Use of Natural Resources in Africa*, ed. Bihini Won wa Musiti (Gland, Switzerland: IUCN, 2003), 198.

24. Muḥammad ‘Abd al-Raḥīm Jāzim, ed., *Nūr al-ma‘ārif fī nuḥum wa-qawānīn wa-a‘rāf al-Yaman fī al-‘ahd al-Muḥaffarī al-wārif* [The Light of Knowledge: Rules, Laws, and Customs in Yemen under the Reign of al-Muḥaffar], 2 vols. (Ṣan‘ā’: al-Ma‘had al-faransī li-l-āthār wa-l-‘ulūm al-iḥtimā‘iyya bi-Ṣan‘ā’, 2003, 2005), 1: 359.

25. Éric Vallet, *L’Arabie marchande: état et commerce sous les sultans rasūlides du Yémen (626–858/1229–1454)* (Paris: Publications de la Sorbonne, 2010), 275–76.

26. M. Marín and D. Waines, eds., *Kanz al-fawā’id fī tanwīr al-mawā’id* [Treasure Trove of Benefits and Variety at the Table]. Bibliotheca Islamica 40 (Beirut, Lebanon: Franz Steiner, 1413/1993), Appendix: 285, no. 68.

27. Taqī al-Dīn Aḥmad b. ‘Alī al-Maqrīzī, *Kitāb al-Sulūk li-ma‘rifat duwal al-mulūk* [The Book of the Way to Knowledge about Dynasties and Kings], ed. Muḥammad Muṣṭafā Ziyāda and Sa‘īd ‘Abd al-Fattāḥ ‘Āshūr, 5 vols. (Cairo, Egypt: Maṭba‘at lajnat al-ta’līf wa-l-tarjama wa-l-nashr, 1934–73), 2(3) (1958): 892–93.

28. *Ibid.*, 345.

29. Robert Bertram Serjeant, “The Post Medieval and Modern History of Ṣan‘ā’ and the Yemen, ca. 953–1382/1515–1962,” in *Ṣan‘ā’: An Arabian Islamic City*, ed. Robert Bertram Serjeant and Ronald Lewcock (London: World of Islam Festival Trust, 1983), 80b.

30. Dinah Jung, *An Ethnography of Fragrance: The Perfumery Arts of ‘Adan/Lahj* (Leiden, Neth.: Brill, 2011), 36n34.

31. David Hooper, “The Perfume of the Moghuls,” *Calcutta Review* 235–37 (1904): 508–9.

32. Al-Idrīsī, *Kitāb Nuzhat al-mushtāq fī ikhtirāq al-āfāq* [The Book of Pleasant Journeys into Faraway Lands], n.ed. (Cairo, Egypt: Maktabat al-thaqāfa al-dīniyya, 1422/2002), 204.

33. James McHugh, “The Disputed Civets and the Complexion of the God: Secretions and History in India,” *Journal of the American Oriental Society* 132, no. 2 (2012): 251.

34. Friedrich Hirth and William Woodville Rockhill, trans. and annot., *Chau Ju-Kua: His Work on the Chinese and Arab Trade in the Twelfth and Thirteenth Centuries, Entitled Chu-fan-chi* (Saint Petersburg, Russ. Printing Office of the Imperial Academy of Sciences, 1911), 234, entry no. 38: “Castoreum, civet.” The secretion is taken from the scrotum and mixed with oil. In the note the translators remark that the Chinese term (“ku-na-ts’i or wu-na-ts’i”) denoted two different drugs, castoreum and civet, the latter being actually brought from Oman. As the two the secretions are produced in similar ways, “the Chinese, quite naturally, gave both products the same name” (*ibid.*).

35. Rajamani Nandini and Divya Mudappa, “Mystery or Myth: A Review of History and Conservation Status of the Malabar Civet *Viverra*

civettina Blyth, 1862,” *Small Carnivore Conservation* 43 (2010): 55–56; McHugh, “Disputed Civets,” *passim*.

36. Al-Idrīsī, *Kitāb Nuzhat al-mushtāq fi ikhtirāq al-āfāq*, 73.

37. *Ibid.*, 87–88.

38. The civet secretion that has been imported to Europe from the beginning of the fifteenth century came from the African civet and later from Asian species (Dannenfeldt, “Civet Cats and Civet,” 406, 411).

39. Newid, *Aromata in der iranischen Kultur*, 104–511046.

40. Ferrand translates this as “île du dragon” (Gabriel Ferrand, *Relations de voyages et textes géographiques arabes, persans et turcs relatifs à l’Extrême-Orient du VIIIe au XVIIIe siècles* [Paris: Ernest Leroux, 1913], 388), in note 5 he adds that Mehren erroneously translates the phrase as “île de la baleine” (August F. Mehren, trans., *Manuel de la cosmographie du moyen âge: traduit de l’arabe “Nokhbet ed-dahr fi ‘adjaib-il-birr wal-bah’r” de Shems ed-Dīn Abou-‘Abdallah Moh’ammed de Damas* [Copenhagen, Den.: Reitzel, 1874], 214).

41. Al-Dimashqī, *Kitāb Nukhbat al-dahr fi ‘ajā’ib al-barr wa-l-baḥr* [Book of Wonders of the Land and Sea], ed. Aghushṭus b. Yaḥyā named Mahran (Saint Petersburg, Russ.: Maṭba‘at al-akādimiyya al-imbarātūriyya, 1281/1865), 159.

42. Michel Tuchscherer, “Des épices au café: le Yémen dans le commerce international (XVIe–XVIIIe siècles),” *Chroniques Yémenites* 96–97 (1997): 95/96.

43. Shlomo Dov Goitein, *Letters of Medieval Jewish Traders*. Translated from the Arabic with introductions and notes (Princeton: Princeton University Press, 1973), 50.

44. *Ibid.*, 49.

45. Morris gives a detailed description of the procedure in Socotra (Miranda J. Morris, “Civet Cat Paste,” in *Manual of Traditional Land Use Practices in the Soqatra Archipelago*, Morris [Gef Yem/96/632 report, 2002], chap. 7, “Sources of Income,” 1–2).

46. Mainly farms in Africa, especially Ethiopia, also in India and China (Jennings and Veron, “Family Viverridae,” 201–3).

47. The statements on the frequency and quantity differ and often are not precise: every four days (Parry, *Raw Materials*, 67–68), 10 gr. every ten days (Ohloff, *Irdische Düfte*, 144), several times a week (Jonathan Kingdon, *East African Mammals: An Atlas of Evolution in Africa*, vol. 3, part A, *Carnivores* [London: Academic Press, 1977], 159).

48. Rex Smith, trans., introd., and annot., *A Medieval Administrative and Fiscal Treatise from the Yemen: The Rasulid Mulakḥkhaṣ al-ḥiṭān by al-Ḥasan b. ‘Alī al-Ḥusaynī*. A facsimile edition of the Arabic text together with an introduction and annotated translation. With additional material

from the unpublished research of the late Claude Cahen and R. B. Serjeant. *Journal of Semitic Studies*, Supplement 20 (Oxford: Oxford University Press, 2006), Arabic 17a, English translation 40.

49. Al-Qalqashandī, *Ṣubḥ al-aʿshā fī ṣināʿat al-inshāʾ* [The Dawn for the Dim-Sighted on the Art of Correspondence], ed. Muḥammad Ḥusain Shams al-Dīn, 15 vols. (Bairūt: Dār al-kutub al-ʿilmiyya, 1433/2012), 2: 55, my translation.

50. Nandini and Mudappa, “Mystery or Myth,” 56.

51. Ibid.

52. [Constantin de Renneville], *Recueil des voyages qui ont servi à l’établissement et aux progrès de la Compagnie des Indes Orientales, formée dans les Provinces-Unies des Païs-Bas*, 2nd ed., 10 vols. (Amsterdam, Neth.: Frédéric Bernard, 1725), 5: 294.

53. Marie-Claude Simeone-Senelle, “Suqutra. Parfums, sucs et résins,” *SABA* 2, *Aromates & senteurs du Yémen* (1994): 16/17.

54. Morris, “Civet Cat Paste,” [1].

55. Ibid., [3].

56. Hooper, “Perfume of the Moghuls,” 508.

57. C. G. Brouwer, “Sweet-Scented Shipments: Frankincense and Other Aromatics Landed and Loaded in al-Mukhā (1st Quarter of the 17th Century), According to Dutch Letters and Logs,” *Bibliotheca Orientalis* 64, no. 1–2 (2007): 84.

58. Ferdinand Wüstenfeld, ed., *Kitāb Muʿjam al-buldān* [Dictionary of Countries]: *Jacut’s Geographisches Wörterbuch*, 5 vols. (Leipzig, Ger.: Brockhaus, 1867), 2: 904, my translation. Here we have a well-known example of the occasional mixing of two toponyms with similar spellings in Arabic: the island of Java and the East African coast, or Zanj. The mixing was facilitated by Ptolemy’s conception of the Indian Ocean, which located them near to each other (Ferrand, *Relations de voyages*, III–IV).

59. John Stephenson, trans. and annot., *The Zoological Section of the Nuzhatu-l-qulūb of Ḥamdullāh al-Mustaufī al-Qazwīnī* (London: The Royal Asiatic Society, 1928), 18.

60. Al-Idrīsī, *Kitāb Nuzhat al-mushtāq fī ikhtirāq al-āfāq*, 204.

61. See the map of “Southeast Asia according to the Arab geographers” in Tibbetts (Gerald Randall Tibbetts, *A Study of the Arabic Texts Containing Material on South-East Asia*. Royal Asiatic Society, Oriental Translation Fund, n.s., 44 [Leiden, Neth.: Brill, 1979], fig. 5).

62. Ferrand, *Relations de voyages*, gives the example of ca. ten geographers between the tenth to seventeenth centuries who repeat that civet is the sweat of a muskrat living on what they call Djāwaga/Zābaj.

63. Cesar E. Dubler, “Adjāʿib,” in *Encyclopaedia of Islam*, 2nd ed., ed. P. Bearman et al., accessed November 10, 2019, http://dx.doi.org/10.1163/1573-3912_islam_SIM_0319.

64. Michael Jan de Goeje, ed., *Mukhtasar kitāb al-buldān* [Concise Book of Lands]. *Compendium libri Kitāb al-Boldān: Auctore Ibn al-Fakīh al-Hamadhānī*. Bibliotheca Geographorum Arabicorum 5 (Leiden, Neth.: Brill, 1885), 11.

65. James McHugh, “*Blattes de Byzance in India: Mollusk Opercula and the History of Perfumery*,” *Journal of the Royal Asiatic Society* series 3, 23, no. 1 (2013): 54.

66. 83:25 “as they are given to drink of a wine sealed” 26 “whose seal is musk [. . .]” (Arthur John Arberry, *The Koran Interpreted: A Translation* [London: Oxford University Press, 1964]). There is even earlier evidence for musk in the South Arabian kingdom of Sheba in Sabaeen inscriptions on wooden sticks from the second and third centuries CE (Walter W. Müller, “*Namen von Aromata im antiken Südarabien*,” in *Profumi d’Arabia*. Atti del convegno, ed. Alessandra Avanzini [Rome: “L’Erma” di Bretschneider, 1997], 209).

67. “*Al-misk* [. . .] *aṭyab al-ṭīb*”—musk is the best scent (Muslim b. al-Ḥajjāj, *Ṣaḥīḥ Muslim*, ed. N. M. al-Farayābī, 2 vols. [Al-Riyāḍ: Dār ṭay-yiba, 1427/2006], K. al-Alfāz min al-adab wa-ghairihi, Bāb isti‘māl al-misk, no. 2252).

68. Al-Durūbī, *Sharḥ maqāmāt Jalāl al-Dīn al-Suyūṭī*, 1082–111. See the English translation in van Gelder (Geert Jan van Gelder, “*Four Perfumes of Arabia: A Translation of al-Suyūṭī’s al-Maqāma al-miskiyya*,” in *Parfums d’Orient*, ed. Rika Gyselen. Res Orientales 11 [Bures-sur-Yvette, Fr.: Groupe pour l’Étude de la Civilisation du Moyen-Orient, 1998], 206–11).

69. Ancestor of the North Arabs and thus of the Prophet Muhammad.

70. Anya King, “*The Importance of Imported Aromatics in Arabic Culture: Illustrations from Pre-Islamic and Early Islamic Poetry*,” *Journal of Near Eastern Studies* 67, no. 3 (2008): 183.

71. E.g., Aubaille-Sallenave assumes that in the Mediterranean region musk rather denotes the secretion of the African civet that is frequent in the Sahel of the NFA (Françoise Aubaille-Sallenave, “*Parfums, épices et condiments dans l’alimentation arabe médiévale*,” in *La alimentación en las culturas islámicas: una colección de estudios editados*, ed. Manuela Marín and David Waines [Madrid: Agencia Española de Cooperación Internacional, 1994], 230).

72. Paul Faure, *Magie der Düfte: Eine Kulturgeschichte der Wohlgerüche. Von den Pharaonen zu den Römern* (Munich, Ger.: dtv, 1993), 196, my translation.

73. King, *Scent from the Garden*, 149.

74. Arabic *ṭīb* covers the meanings of perfume, scent, and fragrant or odoriferous substance. Widely synonymous is the plural *afāwīḥ*, but it also includes spices. See the detailed terminological explanation in King, *Scent from the Garden*, 272–75.

75. Paul Freedman, *Out of the East: Spices and the Medieval Imagination* (New Haven, CT: Yale University Press, 2008), 60.
76. *Ibid.*, 14.
77. Brouwer, "Sweet-Scented Shipments," 67.
78. *Ibid.*, 89.
79. Al-Maqrīzī, *Kitāb al-Sulūk li-maʿrifat duwal al-mulūk*, 892–93.
80. Hooper, "Perfume of the Moghuls," 508–9.
81. See the estimated exports of Massawa by value and by quantity between 1838 and 1862 (Richard Pankhurst, "The Trade of Northern Ethiopia in the Nineteenth and Early Twentieth Centuries," *Journal of Ethiopian Studies* 2, no. 1 [January 1964]: tables at 117–18).
82. *Ibid.*, 109.
83. *Ibid.*, 72.
84. Hooper, "Perfume of the Moghuls," 50.
85. James Vaughan, "Notes upon the *Drugs* Observed at *Aden, Arabia*," *Pharmaceutical Journal and Transactions* 12 (1852): 386–87. See also Ohloff, *Irdische Düfte*, 144 and ill. 145, no proof of origin.
86. Most horns were shipped via Aden to London, Marseille, and New York (William Jackson, "The Story of Civet," *The Pharmaceutical Journal* 271 [2003]: 860).
87. Groom, *New Perfume Handbook*, 322.
88. Appendix III lists wildlife and plant species identified by particular CITES member countries as being in need of international trade controls, <http://www.cites.org/fra/app/appendices.shtml>.
89. Dannenfeldt, "Civet Cats and Civet," 406.
90. William Shakespeare, *King Lear*, 4.6.
91. Patrick Süskind, *Perfume: The Story of a Murderer*, trans. John E. Woods (London: Penguin Books, 1987), 60.
92. Among the base notes of Amouage are musk, ambergris, and civet; see, e.g., Amouage Gold (Barbara Herman, *Scent and Subversion: Decoding a Century of Provocative Perfume* [Guilford, CT: Lyons Press, 2013], 186).
93. E.g., Eau de Patou (Patou 1976), Monsieur de Givenchy (Givenchy 1959), and Burberrys for men (Burberry 1981) (Ohloff, *Irdische Düfte*, 152).

TEN

When Gecko Tails Travel from Island Forests to Laboratories

*From Materiality to Information
in Scientific Cargo*

LISA JENNY KRIEG

DAY GECKOS of the genus *Phelsuma* are small, green, and cosmopolitan. Originally from the islands of the Western Indian Ocean, such as Madagascar, Mauritius, and the Comoros, these curious lizards are highly mobile species. They fascinate humans all over the world and make homes in many places. As an endemic species, they are protected on their islands of origin. As an invasive species, they circulate between these islands, and have reached remote places such as Hawaii or Florida. As pet reptiles, they live and breed in terrariums all over Europe, and as scientific specimens they can be found—dead—in taxonomic collections.¹ As *scientific samples*, geckos are transformed from embedded living beings into samples of organic matter, and from organic matter into

information about ecological niches and species evolution. This is the process I will focus on in this chapter.

Anna Tsing has argued that worlds are built by intersecting trajectories of humans and nonhumans.² She states: “Making worlds is not limited to humans [. . .]; in fact, all organisms make ecological living places, altering earth, air, and water. Without the ability to make workable living arrangements, species would die out. In the process, each organism changes everyone’s world.”³ This is also true for *Phelsuma* day geckos. Small and seemingly insignificant, they are entangled in making worlds with humans and other species. They become parts of different projects, conserving nature and recreating endemic ecosystems,⁴ being bred as pets in communities of gecko-lovers, or providing scientific knowledge. It is in these relations between humans and geckos that worlds are shaped and value is assigned, if only on a small scale.⁵

The scientific process of which these samples form a part connects different locations within and beyond the Indian Ocean. Nature conservation organizations on islands such as Mauritius and La Réunion cooperate with biologists at the local island’s universities and with universities, zoos, and research institutions in Europe. Frequently, European institutions have easier access to funding and better laboratory equipment, while local organizations have comprehensive knowledge of the field and of current ecological challenges. In these translocal relationships, scientists, animals, samples, and knowledge all become mobile.

The topics explored here are part of my postdoctoral research project on translocal relations between humans, geckos and technology in Germany and the Indian Ocean. For this research, between 2017 and 2019 I conducted ethnographic fieldwork in ecological projects on islands in the Western Indian Ocean (Mauritius, La Réunion, and Mayotte) and participant observation in German terraristics communities, followed by visits to two herpetological labs in German universities in 2019 and 2020. Most of the data discussed here come from a herpetological expedition to Mayotte, which I had the opportunity to join.

In this chapter, I will explore the translocal movements and transformations of *Phelsuma* geckos’ tail tips and fecal samples in the context of a scientific research project, and look at how they are transformed from living beings in relation, to samples that are mere organic matter, to information. Despite their small size, the traveling samples and the information that is eventually extracted from them are significant for

the communities of biologists and nature conservationists they connect, both in the Indian Ocean and beyond.

MOBILE GECKOS, VALUABLE CARGO

The mobility of small animals has been neglected in historical and anthropological research. There are some notable exceptions, such as archaeological research on commensal species⁶ and anthropological research on microbes.⁷ In this chapter, I show that, as scientific samples, *Phelsuma* geckos create relationships between people and shared mobilities in the Indian Ocean and beyond. Their organic matter will be broken down in order to extract information, which illustrates the tension between the material and the immaterial in the translocal contexts in which small, mobile animals exist.

The concepts of translocalities, hubs, and archipelagos have been used to emphasize the relational nature of islands and port cities and their central position in facilitating flows of people, goods, and ideas.⁸ Such hubs or translocalities are not constructed *prior* to but *through* these circulations and flows of, for example, “people, material objects and ideas,”⁹ through cargo that is both material and immaterial. As translocalities, they are also “important arenas of scale-transcending interaction.”¹⁰ Thus, geckos are also hubs for even smaller entities, such as atoms and microorganisms on the move. On a larger scale, however, they connect human communities of scientists and environmentalists.

Their small size makes *Phelsuma* geckos particularly mobile. Attaching themselves or their eggs to smooth surfaces, they travel through plant nurseries and on driftwood, often unnoticed.¹¹ Reptiles are known to be “rafters,” able to survive long journeys over water on rafts.¹² Scientific research capitalizes on this: biologists analyze *Phelsuma* geckos’ DNA to gain insight into ecological niches, evolutionary history, and even the geological histories of islands.¹³ In order to do so, scientists take *samples* from geckos, such as organic tissue and feces. Separated from the geckos, these samples become cargo in their own right. While their specific *materiality* is the reason they become cargo, their main scientific interest lies in the *information* they carry. The matter itself will likely dissolve in the course of the analyses the samples will undergo.

In treating geckos as cargo, the colonial history of sending animals north has to be taken into account. During colonialism, animals and

plants of the Global South became *resources* that the Global North accumulated in support of imperial projects.¹⁴ Imperial science and natural history projects explored, measured, and categorized nature and its many living beings. Controlling natural resources and exploring the rich biodiversity of the different colonies contributed to national prestige.¹⁵

Thus, masses of plants and animals collected in colonies in the Global South were shipped to Europe, including *Phelsuma* geckos. The scientists who received these packages extracted information from the dead bodies, assessed their value, and sorted them into taxonomic categories.¹⁶

Underlying this process is the idea that valuable knowledge is *encoded* in animal bodies, that they are like books that simply need to be read. The biologist Edward O. Wilson writes that “[e]ach species, when examined closely, offers an endless bounty of knowledge and aesthetic pleasure. It is a living library.”¹⁷ A German biologist I worked with emphasized the importance of taxonomic collections, saying that these animals and samples are “treasures in storage” that “might become valuable in ways we cannot currently foresee,”¹⁸ especially if technological progress provides new ways of extracting data from them. Enabling the mobility of *material* animal bodies is thus a prerequisite to granting scientists access to this information stored away inside the organic matter.

Hayles criticizes the posthuman notion of thinking about information and matter as separate entities, in particular the assumption that information is superior. She argues that this “erasure of embodiment”¹⁹ is a problematic fallacy creating a loss of meaning. This tension between matter and information will accompany us throughout this chapter.

THE EXPEDITION: COLLECTING GECKOS/CARGO/VESSELS

In March 2019, I set out with two biologists to sample *Phelsuma* day geckos in the Comoros archipelago. The goal of this expedition, undertaken as part of the PhD research of one of the biologists, was to understand the adaptation of endemic *Phelsuma* species to dietary niches in the presence or absence of invasive *Phelsuma* species by analyzing tissue and fecal samples.²⁰ For me, this was an ethnographic opportunity to observe scientific practice, human-gecko encounters, and the circulation

of people, animals, and knowledge between Germany and the Indian Ocean.

Taking tail clippings and fecal samples is a standard method of accessing the tissue and DNA of smaller reptiles in the context of genetic research.²¹ Small reptiles are caught by hand, their measurements are noted, and, subsequently, samples are taken. Gamble writes: “Tail clips are a good source of tissue and can be easily sampled from most lizards, snakes, salamanders, turtles, and larval amphibians. The distal tip of the tail, up to 2–3 cm, can be clipped using a sharp, clean [pair of] scissors.”²² Alternatively, the gecko can be caused to autotomize, i.e., drop its tail, for example, by pinching it.²³ On our expedition, the biologists, Bhoomi²⁴ and Hannah, took tail-tip samples with scissors and fecal samples by applying pressure to the gecko’s abdomen and massaging it with one or two fingers, which causes the feces to be expressed through the cloaca.

After traveling to Germany in little bottles, the tail tips will undergo stable isotope analysis. Isotopes are variations of the same kind of element, but with different numbers of neutrons at their core. The distribution of such stable isotopes of the elements carbon (C) and nitrogen (N) in a tissue sample is a tool “in studies on organic matter flow and food webs in aquatic and terrestrial ecosystems.”²⁵ Bhoomi will use this method to acquire a long-term perspective on the ecological niche of *Phelsumas* essentially by looking at how its body is built up. The fecal samples will be analyzed for DNA, creating a fingerprint of the distribution of microbe species. This will provide more clues about the geckos’ dietary niche.

STEP ONE: FROM GECKO TO SAMPLE—SELECTING MATTER THAT CARRIES INFORMATION

During the expedition to Mayotte, Bhoomi cut off the tail tips of roughly twenty geckos per species per island and collected their feces from two islands in the Comoros archipelago, as well as from Le Réunion and Mauritius, where several *Phelsuma* gecko species coexist (sometimes more peacefully, sometimes less), thus turning them into scientific samples. Altogether, roughly 450 tail tips and fecal samples thus traveled north to laboratories in Germany to tell their stories of how geckos coexist on their respective islands, in their respective niches.



Figure 10.1. Endemic *Phelsuma robertmertensi*, caught by a biologist on the island of Mayotte. Photo by author.

Sampling geckos is no easy feat. In the tropical summer sun, at a humid 35 degrees Celsius (95 degrees Fahrenheit), Bhoomi, Hannah, and I walked around forests and plantations for hours. Spotting geckos demands concentration. They are small and well concealed, and they often sit high up in the trees, basking in the sun. In a collaborative effort using sticks and arms, we shooed the geckos down until Bhoomi or Hannah caught them in their flattened hands. More often than not, the geckos escaped.

When we were successful, however, Bhoomi put the gecko in a numbered cloth bag and saved the GPS location. Later, she sat down with her bags and sampled the geckos one by one. She measured them, wrote down the gecko's species name and sex, and the tree on which she found it. Then, she cut off a few millimeters of the tail and expressed the feces. Hannah and I helped her. Tweezers in hand, I carefully transferred the tiny samples into tiny numbered bottles. Each bottle had its own particular location in a grid box. On our way back, we released the geckos where we caught them.

A gecko's body is not an abstract form, but has a history. It is matter shaped by an individual gecko biography (scars from a fight, a missing

tail), by the situation of a particular population (having scarce or abundant resources, little or much competition, the ability to grow fat or remain small), and the evolutionary history of their species, their genes. It is never stable, but ever changing. Taking a sample means choosing *one* moment in time and stopping the constant flow and exchange of matter. It is a snapshot. Taking a dead gecko or a sample means taking all the things that have moved through this gecko up until this very moment: the food it has eaten, the insects it has killed, the microbes it has ingested with them, the molecules that make up its tissue, the genes that have moved down the generations. But it also means *not* taking much other matter. It means not knowing its future. It means not taking all the living and nonliving entities it is related to: its social web, other geckos, insects and plants, its favorite tree, a nearby forest, the soil that nourishes the local fauna, and the air.

Appadurai has argued that “the commodity is not one kind of thing . . . but one phase in the life of some things.”²⁶ What is true of the commodity is also true of the sample. For the tail tip, being a discrete thing, a sample in its own right, is but *one* phase, right between being part of a living gecko and being pulverized in the lab, between the gecko’s examination and exploitation, and the rest of its life once released. Similarly, Collard has argued that animals become “lively commodities” by having their “wild lives [. . .] ‘taken apart’.”²⁷ They are, she writes, “disentangled from their previous behaviors and ecological, familial, and social networks.”²⁸ Kopytoff describes turning *humans* into commodities as “a process of initial withdrawal from a given original social setting, his or her commoditization, followed by increasing singularization (that is, decommoditization) in the new setting.”²⁹ Similarly, the geckos’ tail tips and feces not only leave one context, they also enter another. Stripped of their prior lives, they will ultimately be stripped of their matter as well.

In order to be able to do this, not *all* matter can move with it. Instead, a sample is cut out and set apart, a sample that carries the answers, *the information* that the scientists are looking for. The sampling process described above is the first step in this transformation. It lays down a pattern for the sample, a template that can retain the information once extracted, the “new setting” Kopytoff talks about.³⁰ Separated from local ties and the rest of the gecko’s body, the sample enters a grid of numbers, locations, and GPS points, a collection of other samples in

relation to which its existence is now defined, in comparison to which it becomes meaningful.

However, this process also reveals the irresolvable tensions between matter and information, the limitations of the sample. Separating the sample from the gecko and embedding it in the sampled collection is a process of abstraction in which much is lost. It means accepting that more matter that could tell the gecko's story is left behind. It means that the sample is fixed and frozen at a contingent moment in time. Where the "information" in a living body is always in flux and continuously changing, this dynamic comes to a halt in the sample, maybe at a moment that is not favorable for the analysis. Similar to what Kopytoff has written, samples are embedded in a new context that endows them with meaning—the collection—while traces leading back to the original context are retained.

In the process of sampling, the well-being of the gecko still matters, its local relations being acknowledged, as this extract from my field diary shows:

It is 35°C hot, and humid. We are in the forest. Sweat drips down our faces, mud and leaves stick to our clothes.

"We'll let you go eventually," says Hannah, as she holds the struggling little blue-green gecko between her fingers. Bhoomi has the scissors in one hand, tweezers in the other. "Hold him still!" she says to Hannah.

She cuts. "Oh no, he dropped his tail!" Bhoomi shakes her head. "Such a waste."

Blood drips from the gecko's tail wound, in its center a little white protruding spot: a vertebra. A big piece of tail lies on the ground and wriggles like a worm. Too big. Out of fear, the gecko dropped its whole tail, instead of the few millimeters that Bhoomi needed as a sample. She takes the tail with the tweezers, cuts two little pieces off, and puts them in two tiny bottles she takes out of a box. (Field diary, March 31, 2019)

While out sampling in the forest, Bhoomi and Hannah made an effort to reduce the negative impact of the sampling process on the geckos. They tried to cut as little tissue as possible, and returned the geckos to exactly where they had caught them. They would talk jokingly

to the geckos while sampling them, addressing them as individuals. However, after the samples and the geckos had gone their separate ways, their care focused on the samples, on the well-being of the collection. Have the tubes been properly closed? Is the temperature right? Do the identification numbers match? The sample was the cargo that mattered, and it quickly became embedded in its new context.³¹

“Information viewed as pattern and not tied to a particular instantiation is information free to travel across time and space,” Hayles states,³² which is exactly the hope for this kind of scientific analysis. These patterns will become visible statistically through the distributions of isotopes and microbes, in comparison with other samples in the collection, other *snapshots*. This *message*, however, will never be independent or free from its original body. It will always be contingent on the *one* moment in the gecko’s life, frozen in time, when the sample was taken, and it will only become meaningful by being read back into the original context from which the geckos were taken: the local island forest.

The samples indeed need to be frozen in time—and in ethanol.³³ They need to be stored in such a way that they halt the process of decomposition. They are kept strictly separated to avoid contamination with other DNA. Each sample is contained in a separate tube, in a separate liquid, and possesses a separate number. Even though disentangled from their prior lives, they need to retain the capacity to be singularized, in Kopytoff’s³⁴ words—they need to be identified as having belonged to a certain gecko at a certain place and a certain time, without any doubt. *Traceability*, or the creation of a *pattern*, is thus what enables the decoding, what makes the extraction of information from matter possible. Without this traceable yet severed relationship, the sample would be useless, the matter not readable.

While the distinct identity of the samples is central, the geckos’ bodies are actually rather porous. Their bodily boundaries enable differential flows. Anthropologists writing about the human body have discussed the role of constant *material* flows that question the existence of clear bodily boundaries, arguing that “the human body is not such a neatly self-sufficient island after all.”³⁵ Donna Haraway emphasizes that we need to rethink our relations with the nonhuman world in light of the fact that only 10 percent of the cells in the human body have human DNA.³⁶ “I am vastly outnumbered by my tiny companions; better put, I become an adult human being in company with these

tiny messmates. To be one is always to *become with* many,” Haraway writes.³⁷ Similarly, Mol and Law discuss the ability of microorganisms to move inside the body through what they call “semipermeable boundaries.”³⁸ In the case of geckos, some *matter* can travel through them, but certainly not everything. The boundaries of their bodies are what shapes their uniqueness, what makes them singular both as living geckos and as scientific samples, and what pragmatically decides the size of the sample: not a whole forest, but a piece of tail.³⁹ But their boundaries are porous. The traces of the trajectories of microbes and atoms through their porous boundaries are what scientists are interested in: these are the patterns they are looking for, based on mobile matter that *can* be rendered legible.

STEP TWO: FROM SAMPLE TO DATA—
EXTRACTING INFORMATION FROM MATTER

In the lab, the process of separating and disentangling the samples continues. I participated in two days of DNA extraction from forty-eight fecal samples together with Bhoomi. I tried to be an assistant, but ended up mainly observing because of the delicacy of the process. The samples underwent many cycles of breaking matter up with different solutions, supported by a shaking machine called “the vortex” and a centrifuge. Through the course of several cycles, larger and smaller particles were separated from each other. With every step, the matter was broken down and reduced further. In the “clean lab,” as Bhoomi called it, contamination is reduced to a minimum. We wore gloves, put on lab slippers, tied our hair back, and avoided talking in order to not distribute our own DNA in the form of hair, skin, or spittle. After hours of breaking, separating, and extracting, only small fragments of DNA remained. The fecal matter had been turned into a transparent solution that contained almost nothing of which made up the feces in the first place. Bhoomi deposited what was left at minus 20 degrees Celsius in one of the many freezers that lined the lab’s walls. Disentangled, broken apart, and frozen in time, separated, yet still connected to their past lives by traces of names and numbers, the samples awaited further analysis. In the next step, the DNA fragments would be compared with the DNA of known microbe species and counted, thereby creating a “fingerprint” of microbe distribution for each feces sample.



Figure 10.2. Part of the process of extracting DNA from a gecko's fecal sample. Photo by author.

“Wherever there is life there is movement,” Ingold writes.⁴⁰ Not only do geckos move incessantly, they also move things, and things move through them. Thus, they are like the islands they live on: *hubs* for humans and animals passing through and meeting, for mobile atoms, molecules, and microbes. Hubs have been described as “significant points, indeed ‘actants,’ of convergence, entanglement, and divergence in the global streams of human beings, animals, finances, ideas, and other matters, as well as being instrumental in the networks that these streams create.”⁴¹ The geckos are cargo, transported on ships and planes, but they are also vessels carrying other cargo: microorganisms, molecules, and atoms.

Elements such as carbon, nitrogen, hydrogen, and oxygen are responsible for making a body, including a gecko body. As a result, a tail tip can reveal the history of the particular *isotopes* of those atoms that compose it, differing only in the number of neutrons. Eating from particular trees, drinking particular water, breathing particular air—every environment is composed differently, featuring a different distribution of these isotopes. This is how their distribution relates to a gecko's specific life history in a specific environment, as well as to the life histories

of populations under certain pressures, in certain circumstances. This story is difficult to read, being written not in words, but in statistics.

It is the combination of stable carbon and nitrogen isotopes that gives each tail tip a “signature” of how many isotopes of each element are to be found there.⁴² This type of analysis, developed in the late twentieth century,⁴³ tells the story of the movement of atoms through soil, plants, fruit, and insects into gecko bodies, the story of how a gecko’s body was built, what it has eaten, how it has lived. It is only in comparison with other tail tips and isotope signatures that this analysis becomes meaningful and tells stories about ecological niches and adaptation under pressure, about what happens when more and less mobile gecko species meet, and how this changes the flows of atoms. If a gecko were a book—an analogy often used to illustrate the idea of information encoded in matter—this kind of analysis would mean, analogously, scrambling up all the sentences in the book and counting how often the different words appear, and then creating a fingerprint out of their frequency. Clearly, much is lost in the process. The story one reads from a gecko’s tail tip is very different from a story read from a book. The scientists do not want to read the whole book, they want an answer to a question; they are looking for a *signal*, a pattern in the chaos.

Once analyzed, these answers will travel back south—immaterial, tail-less materiality transformed into information, completing a circle. The numbers and words from an expensive isotope analysis will be awaited by many local nature conservationists, especially by those who can re-entangle this knowledge, re-embed it, and imbue it with social meaning for the actual lives of actual geckos in actual forests.

CONCLUSION: SHAPING THE WORLD ON A SMALL SCALE

In this chapter, I have discussed *Phelsuma* geckos’ tail tips and fecal samples as a cargo that consists of very little actual material. Yet the matter is crucial, because it contains DNA, the information that will answer the scientists’ questions.

Building on other scholars’ explorations of the commodification of humans, animals, and objects,⁴⁴ I have discussed how samples are disentangled from gecko bodies and their prior lives, and how they are embedded in the new context of the sample collection in which they will

become meaningful. The samples retain traceable connections to their previous contexts through the GPS coordinates, numbers, documents, names, and labels that are employed to connect the constantly shrinking amounts of matter back to the released gecko that lives on in the wild. Secured by this thread, the sample shrinks from two millimeters of tail tip, or 0.2 grams of feces, being pulverized, broken up, and distilled down until all that remains is a transparent solution from which information in the form of a distribution of fragments can be extracted.

Geckos tie humans from different spheres and places together. In relationships between living geckos, tail tips and fecal samples, scientists, ecologists, gecko breeders, and anthropologists, shared human-gecko mobilities shape realities and environments in Germany and the Indian Ocean. In Anna Tsing's words:

Whether or not other organisms "tell stories," they contribute to the overlapping tracks and traces that we grasp as history. History, then, is the record of many trajectories of world making, human and not human.⁴⁵

Answers gained from the analyses described here will travel back to the Indian Ocean for use in ecological conservation projects.

This example of treating gecko samples as cargo thus shows the tension inherent in the relationship between matter and information. Assuming that data travels inside these samples that is disembodied and, even more particularly, superior to its opposed bodily form, as Hayles' criticism has it,⁴⁶ is misleading. Even though the sample has been separated and become dematerialized, it always remains connected to its gecko of origin by a data trace, and it will be connected back to its forest and island of origin in the context of conservation.

Human attempts to relate to geckos and their island forests, to gain knowledge about them, to utilize them, and sometimes also to protect them, together with translocal relations and the uneven distribution of resources and institutions, make the practice of scientific *sampling* necessary and common. Samples that are parts of animals are thought of as information storage, and thus introduce the notion of matter and information being entities that can be separated from each other. Information, as Hayles put it, is assumed to be able to travel freely.⁴⁷ However, taking a closer look at the gecko samples in this chapter shows that, in their case,

the tension between matter and information is complex, and a full separation is neither possible nor attempted. On the one hand, the issue of the contingency of the *time* of sampling introduces a fissure in the process of extracting information from matter that limits its meaning, a limitation that cannot be removed due to the nature of the analysis and its inherent translocality. And while the information extracted through isotope and microbial DNA analyses is indeed more mobile, it needs to remain traceable and connected to its embodied form to remain meaningful. On the other hand, the analysis described in detail here also makes it clear that a gecko's body is not like a book from which a story, the information, is extracted. Rather, the isotope and fecal analysis create a fingerprint based on distributions that can only be read in the context of the sample collection, and that will only deliver a limited answer to a specific question.

In the context of shared human–gecko mobilities and relations, the research project and the gecko samples have contributed to building relationships between people across and beyond the Indian Ocean. Despite their small size, *Phelsuma* geckos, with their sticky feet and iridescent colors, are proof that no cargo is too small not to be a hub for translocal relations, or to contain even more cargoes on an even smaller scale, and that no reptile is too small to shape worlds.

NOTES

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30. Ibid.

31. I must emphasize that the biologists on this expedition adhered closely to the relevant ethical guidelines. Permits are needed to conduct such sampling, and ethical clearance is an important factor in being given permits. The tail-tip is chosen as a sample because of the gecko’s ability to autotomize (drop) its tail and regrow it. Keeping the harm to the animal at a minimum while collecting data is a high priority, and publications from this study ultimately contribute to protecting the species.

32. Hayles, *How We Became Posthuman*, 13.

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44. Appadurai, "Introduction"; Collard, "Putting Animals Back Together"; Kopytoff, "Cultural Biography of Things."
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ELEVEN

From Cargo to “Inalienable Possessions”¹

Beads and Beadwork in Penang

MAREIKE PAMPUS

INTRODUCTION

The bead trade in the Indian Ocean world has a long and multi-faceted history with implications that go beyond the merely economic. Glass beads may well have been imported into Southeast Asia from India as early as the first centuries CE.² Even though they were being produced locally by the thirteenth century, glass beads from China increasingly became a trade commodity, being exchanged for spices and other local items of trade.³ In the late fifteenth century, they were also being mass-produced in Europe and became an imported good much in demand in Southeast Asia. The large quantities of beads that were imported and exported through the Straits Settlements, especially Penang and Singapore, and the prevalence of beads throughout the Malayan hinterland suggest that the Straits Settlements acted as a distribution center for the glass bead trade.⁴

However, the Straits Settlements did not function solely as distribution hubs. By the end of the nineteenth century, the three port cities of Singapore, Melaka, and Penang had been transformed from distribution centers into absorbing hubs, as the local use of glass beads increased dramatically. In fact, glass beads became a key element in the local material culture, promoting a new and altered art form as a mode of expression.

This chapter investigates this new art form that arose from the bead trade and examines the social implications of beadwork in the city of Penang, Malaysia. Trade cannot be understood exclusively as an economic activity because exchange goods also have social and cultural significance for the societies between and within which they are traded. In line with this insight, the emphasis in this chapter is therefore on showing how a cargo became an intrinsic part of Penang's local heritage. As such, the chapter contributes to the cargo theme of this edited volume in a particular way by looking at the final phase in the life history of beads as a cargo. In Penang, beads left the commodity phase and became integral parts of "inalienable possessions." Accordingly, beads as "things," as well as the practice of beading, acquired significant social implications.

Following Tim Ingold (2010), I refer to beads as things rather than objects in order to emphasize the processual and ever-changing state of things, which are constantly in a process of both making and unmaking.⁵ I agree with Ingold that things and materials do not simply exist in the form of objects with ascribed characteristics but are "substance-in-becoming" as they go through "continual modulation."⁶ This processual conceptualization of things, especially materials, is applied in this chapter by focusing on the practice of beading. This will enable us to determine how materials such as beads, threads, and knots are made into a different thing, as in this case a beaded shoe.

The attention to making, says Ingold further, means carrying out anthropology *with* art rather than *of* art. For Ingold, this means focusing on practice, as this relates anthropology to the "movement of growth and becoming" of art by following its paths.⁷ Combining Ingold's processual conceptualization of materials and his related focus on practice with Daniel Miller's call to investigate the sensual and material qualities of things,⁸ this chapter examines the practice of beading in depth in order to unveil the underlying values and social implications of the

materials, their sensual characteristics, and related practices. The social implications of beadwork deeply intertwined with Penang's Baba Nyonya heritage.⁹ Acting as repositories of Baba Nyonya identity, this contribution will illustrate how beads are consequently transformed into “inalienable possessions.”

NYONYA BEADWORK OF PENANG

As with many cultural practices, it is difficult to determine just where and when beadwork in Southeast Asia originated. In the mid-seventeenth century a Dutch surgeon visiting Java encountered locally born Chinese women who embroidered, knitted, and sewed.¹⁰ Beadwork at that time was also a favored practice in China, though the use of metallic thread and some of the early designs differentiate local Chinese needlework from that found in China. The difference was mainly characterized by the inspirational role played by a mixture of European and local influences in how Nyonya-style beadwork developed.¹¹

The term “Nyonya” denotes the female members of the Baba Nyonya community, while “Baba” signifies its males. As beadwork at home



Figure 11.1. Example of Nyonya beaded shoes. Photo by author.

is a gendered activity, the particular style being investigated here is done by the women and is thus called “Nyonya” beadwork. Generally, the Baba Nyonya are considered to have been the offspring of the first wave of Chinese settlers who came to Southeast Asia in the seventeenth and eighteenth centuries.¹² As Chinese women were initially not permitted to travel, Chinese men came to Southeast Asia on their own and subsequently established families with local women.¹³ Certainly, not all these men actually settled in Southeast Asia, as many sojourned between the two regions or returned to China after temporary residence overseas. But those who did decide to settle and who married locally formed communities that became endogamous in subsequent generations, this being the “dominant model in the Malay world during the eighteenth century.”¹⁴ As a result, Baba Nyonya communities exist in several parts of Southeast Asia, including present-day Indonesia, Singapore, and Malaysia, though they vary in their specific local practices and customs. These local variations manifest themselves in language, cuisine, and their specific relationships with their colonial rulers.¹⁵

Thus, the term “Baba Nyonya” differs contextually depending on place and time. However, shared characteristics entrenched in all definitions of the term are first, being born locally, and second, having practices that express distinct local habits and customs. In this definition, “Baba Nyonya” refers not only to the offspring of Chinese migrants and local women, but also to locally born Chinese with certain cultural characteristics.¹⁶ As the content of the term varies depending on place and time, it is important to stress that the present chapter presents a specific case study within the wider discourse on Chinese migration to Southeast Asia and the localization that took place in subsequent generations, resulting in a specific Penang Baba Nyonya heritage.

Nyonya beadwork is an integral craft to the Baba Nyonya heritage in Penang. What is characteristic of Nyonya beadwork, in contrast to other local beadwork styles, is the use of glass seed beads. Given that this type of bead was only widely produced and traded in the mid-nineteenth century, Nyonya beadwork is a relatively young phenomenon.

Between 1870 and 1899, the Straits Settlements’ main sources of glass beads were located in Europe, especially Germany, Italy, and Bohemia,¹⁷ which exported cut, molded, and blown-glass beads.¹⁸ Next to

these European imports, beads also came from India, especially between 1895 and 1898, China, and Hong Kong. From 1890 to 1899, Penang's main source of imports was Germany at 40 percent, followed by British India at 36 percent. The large quantities of German imports into Penang were connected to the well-established German trading firms that were based in Penang, for instance, Katz Brothers and Huttenbach Brothers.¹⁹

Even though the quantities imported increased dramatically between 1904 and 1914, the export trade in beads from the Straits Settlements declined in the same years, indicating that the growing local demand was being serviced from the imported beads, instead of exporting them further.²⁰ As a result, the three port cities transformed from distribution centers to absorbing hubs. Simultaneously, the beads stopped being a transmaritime cargo but entered a different phase of mobility and exchange within the port cities.

The local demand for beads in the Straits Settlements started to increase significantly in 1918, peaking in 1925 and again in 1929.²¹ Since beadwork has a long tradition in China, it is not likely that in Malaya its production started because of European influence, but what becomes clear from the trading statistics is that, although the materials involved in Nyonya beadwork, especially in Penang, were to a large extent of European origin, the chosen designs showcase a mixture of Chinese and European motifs.

Over the roughly 150 years that Nyonya beadwork has existed, its designs have been constantly changing, reflecting the Nyonya's "changing ideals, aspirations and lifestyles."²² Broadly speaking, the designs went from Chinese influences to European-inspired ones, especially after the 1920s. Older Nyonya beadwork reflects mythical and auspicious Chinese motifs, such as depictions of the Eight Immortals, lotus flowers, chrysanthemums, orchids, and peonies, as well as animals like the phoenix, peacock, duck, deer, and goldfish.

In the early twentieth century, the Chinese motifs used in Penang Nyonya-style beadwork included deer and vases of flowers, but it was also common to employ a European twist to these Chinese motifs, with stags replacing the deer and floral bouquets reminiscent of European naturalist drawings replacing the Chinese vase motif.²³ Flower patterns and designs known from European embroidery were widely employed,

but the most striking example of a European floral motif to find great resonance in Nyonya beadwork is the rose.

The rose seems to have a special position in Nyonya beadwork, which adopted it at the end of the nineteenth century. Some of the *chintzes*²⁴ featuring floral designs found in the Settlements were probably also used for inspiration. These *chintzes* were imported into Southeast Asia from India and already combined different European and Asian influences, adding another transmaritime connection to the manifold influences in Nyonya-style beadwork. In addition, similar birds and fish are common motifs in some Malay artwork, especially batik.²⁵ Given Javanese and Sumatran connections with the Strait Settlements, there exists a further potential for cross-influences.

Nyonya beadwork can be distinguished from other beadwork in the region through its materials, especially the use of metallic and silver thread and beads, as well as the conjunction of influences in the motifs just described and its combinations of colors. For example, the use of different shades of a similar color in one piece is an indicator of Nyonya beadwork, reflecting in some cases an interest in European naturalism.²⁶ But it also situates the start of Nyonya beadwork in the mid-nineteenth century, coinciding with the existence of a potentially wide range of colors and types of beads from which to choose. In terms of embroidery²⁷ and beadwork, the technique used also makes Nyonya needlework distinguishable from European and Chinese beadwork. The Nyonya knot stitch is substantially tighter and therefore far smaller than in other traditions, highlighting the explicit need for elaborate skills, meticulousness, diligence, and patience, virtues closely tied to the tactility of making Nyonya beadwork.

In order to investigate this tactility, the following ethnographic section draws attention to the specific materiality and sensitivity of the practice of beading, including its tactile feel and the significance of assemblage in the beading process. During my twelve months of fieldwork in Penang, I participated in a workshop on making Nyonya beadwork in order to acquire a sense for the fine handicraft and its materials. A haptic perception, which literally means to grasp something, is only acquired through active engagement with, and a feel of, the materials. Addressing beadwork solely as an object of art or crafts(wo)manship means decontextualizing it. Conversely, by focusing on the materiality, sensuality, and practice of beading, insights into the economic and social contexts can also be attained.

THE TACTILITY OF MAKING NYONYA BEADWORK AND ITS SOCIAL IMPLICATION

“I inherited this. I was born into a Peranakan family,” Nyonya May Lim said proudly, while she let her eyes wander around the beaded shoes surrounding her. She had put some of them out for display on the tables in front of her, next to some beaded handbags and beadwork on cloth in the wooden frames in which they are initially stitched. She continued:

My mum was very strict. She said, girls, the four of us, you get educated, but you must know handwork, you must know cooking, and in those days these were very important skills to have. Actually, in the beginning the only thing I did about *manik* [bead] work was that I used to go to my great-great-uncle’s house. I had two great aunts, and they used to sew sarongs²⁸ and do this beadwork. Our job when we went there was to thread the needle for them. And in those days the needles they used were only one inch long. Yes, one inch only! You want to see them?²⁹

She reached for one of her many plastic containers, placed in an orderly row and mostly already open, containing tiny glass beads of various colors, each color in a separate little round-shaped glass with a screw cap. She got out the smallest needle I had ever seen and started passing it around to the fourteen female participants at her beadwork introduction workshop that day.

If you don’t have these needles, you cannot do the *halus* [fine] piece. The eye of the needle is like when you use a mechanical pencil and you write a full stop. Not bigger than a full stop. That is the kind of needle I threaded for my great aunts every time we went to their house. You don’t get them anymore in Penang these days. I have to get them from England.

May Lim also runs more elaborate workshops lasting longer periods of time and at three different levels. The one I was attending that day was just a one-day workshop, a short introduction to “level zero,” as she stressed. “But in the future you can come in any time and sit with me in my workshop and learn. I am not doing it for the money,” she said

to me, smiling. “Why did you decide to share your knowledge of beadwork?” I asked, and she replied:

I am kind enough to pass on all this, I’ll tell you the reason why: because I don’t want it to happen that the day I pass on I stand in front of the creator and will be asked, “What have you done?” I am afraid of that moment, so I pass the knowledge on. I think it is my duty.

Initially, when May Lim retired, she became involved in a state government project teaching cooking and sewing to single mothers. At one point, however, she decided to go back to another craft, drawing on her Baba Nyonya roots, namely beadwork. She was dissatisfied with the courses she could find, as no one could teach how to design beadwork; instead the workshops focused solely on following ready-made patterns. Therefore, she spent more and more time doing beadwork by herself and developed her own technique for designing elaborate motifs and patterns. After perfecting the technique and her skills in it, May Lim decided to start her own workshops, which she is still teaching today, although following a different approach than her predecessors. Even though she starts by teaching how to follow a pattern and how to copy and paste manually following a system of numbers, her main goal is to explain how to design personal patterns once her students have understood the copying process and incorporated the techniques.

It was always important to be able to design your own motifs as a Nyonya. It was a way of being creative, of expressing yourself. Also of adapting to new fashions. It is important to keep this alive, otherwise it will die out.

At “level zero,” we started with a small piece of cloth, only five centimeters by six, on which we were supposed to stitch the first letters of our names. May Lim had brought a number of template copies for stitching each letter, so that each of us could take one copy of the letter required, choose beads of two colors, one for the letter and one for the background, and return to our seats. “It is important to start with something small,” she said:

If I give you a big piece in the beginning, you will run away. So we start with something small. The little square I give you, you stitch your initial on it, one letter only.

Prepared and back on my seat, I waited for May Lim to come around while I tried to thread my needle. She stopped at each of the three tables and explained how to go about the stitching. Since the needle was so small, threading it was already a task that was testing my patience, and I could only imagine May Lim having to do nothing but this for hours as a young girl in her aunts' house.

Working with exceedingly small beads, namely rocailles and charlottes, is a characteristic of Nyonya beadwork. Rocailles and charlottes both belong to the category of seed beads, which got their name from the size of the beads, measuring between one and two millimeters. Because of their high quality, reflected in the consistency of their shape, rocailles were among the most popular glass beads. Charlottes have an additional flat facet, which gives them a more intense shimmer. In order to apply the shimmer to the beadwork, Nyonya were trained to stitch the bead so that the flat site faced upward, thus creating a shiny surface. In line with this aesthetic, metallic seed beads also found a use in Nyonya beadwork, as they, too, create a glimmering surface.

Personally, I found that having to deal with only two colors, one for the background and one for the actual letter, made picking the correct beads easier than in an elaborate piece of work with different shapes and shades. Nonetheless the miniature bead still has to be positioned at the right angle to make sure that it covers the hole. All the beads have to be stitched on at the same angle because only then do they sit symmetrically next to each other, with no gaps between them. The right angle means that the thread must run diagonal from the bottom left to the top right while simultaneously sewing through the hole. The accuracy required in aligning the minuscule beads turns the beading practice into a particular intricate task.

After aligning the bead, the first and last bead of the work must be secured with three back stitches. Nevertheless, every bead in-between is, after alignment, secured separately by means of a single backstitch. This technique of aligning and securing each bead individually with a knot results in a particularly tight surface without any gaps and no thread visible, while simultaneously ensuring that if a bead falls off, the whole row of beads will not fall like beads strung on a string. Applying this

intricate technique in practice thus meant tediously picking, positioning, and securing each minuscule bead with a separate stitch while holding the cloth taut to be able to see the holes.

The workshop took six hours. Except for the last row, I managed to complete almost the whole piece in that time. What looked like a minor task in the beginning, as the cloth was rather small, turned out to be a laborious, fastidious, and painstaking undertaking. The delicacy of the beads and beadwork becomes visible in the miniature sizes of the materials involved, the elaborate skills needed in handling them, and the care with which each minuscule bead must be secured with at least one separate knot.

The aim of this detailed description of Nyonya beading practice is to stress the sensual use and significance of the specific materiality of beadwork in order to propose a sensual interpretation of this form of handicraft. The dissection of beadwork into beads, thread, and knots is not opposed to examining the social significance of beadwork but essential to it. To scrutinize the practice of beading thus demonstrates how, by investigating the sensual and material qualities of things, to paraphrase Miller, underlying connections with cultural lives and values can be analyzed when they are manifested in the specific form and enabled by the particular material of things.³⁰ Thus, in order to understand the social, economic, and aesthetic meanings of beadwork, its particular materiality assists in investigating how imaginaries of hierarchies, gender roles, and social standing are constituted and manifested. By examining the particular materiality and context of beads in the economic and social history of the port city of Penang, it becomes evident why beadwork “matters.”³¹

May Lim’s story of her strict mother, who was eager to teach her and her sister all the Nyonya crafts, is not an exception; this was a common practice at that time. A Nyonya’s training began in her early childhood years and consisted mainly of three skills: cooking, beadwork, and embroidery.³² All three activities not only demand high levels of skill but also embody the virtues of the Nyonya, which are seen as crucial in order to become a “good” Nyonya, synonymous with being a good daughter, daughter-in-law, wife, and mother. A well-known Baba Nyonya poem from Penang, originally written in Penang Hokkien, vividly expresses the idea of what it means to be a good Nyonya:

Dried bean curd, sweet flour cakes
A daughter-in-law must know how to behave
Goes to sleep late, rises early
Combs her hair, powders her face, applies lipstick
Upon entering the kitchen, washes the dishes
Upon entering the hall, dusts the furniture
Upon entering the room, picks [up] the embroidery needle
She speaks well of her elders and juniors
Praises to our in-laws for having brought her up so well.³³

The virtues of the Nyonya are respect for the elders, dedication, patience, meticulousness, and diligence, all of which manifest themselves in the practice of beading. Use of the smallest seed beads available, described above, as well as the particular tight knot stitches and the technique of aligning the beads, clearly bear witness to the skills the Nyonya needs and the dedication she must devote to her work. As the women in the Baba Nyonya community are perceived as those who transmit the culture,³⁴ their knowledge and practice of their heritage is integral to the understanding of what it means to be a “good” Nyonya.

The Nyonya’s role as a daughter to her parents, a valuable bride in the eyes of a matchmaker, a wife to her husband, and a daughter-in-law, were characterized by these virtues as expressed through the level of skill the Nyonya demonstrated in the results of her work. Thus, beadwork at home was gendered, but implicitly the outcome of the Nyonya’s artistic endeavors also demonstrated her family’s social standing.³⁵ As such, this heritage has links with Chinese customs dating from the eighteenth century, when young women were required to learn similar skills.³⁶ For women, the opportunity to reject manual labor was not an obvious marker of a rise in status, as was the case for men. On the contrary, “diligent productive manual labor [. . .] was the mark of virtue for all women, regardless of class.”³⁷

Free time as an indicator of social standing becomes evident in all three Nyonya crafts since they are all highly time-consuming. One of my interlocutors in Penang, a Chinese Malaysian, who has no links to Baba Nyonya culture but is himself of Cantonese origin, argued similarly in relation to Nyonya crafts:

Look at how they define themselves: hours of cooking with the finest cuts and the maximum of ingredients, the most elaborate embroidery and this *halus* [fine] beadwork using the tiniest of beads. They had time on their hands and the capacity to buy all the needed ingredients and materials. This self-definition makes them an elite culture. It is almost impossible to be a poor Nyonya because you cannot follow what they describe as their culture and lifestyle, with which they identify who they are.³⁸

The “capacity to buy” the essential materials for Nyonya beadwork encompasses the particular beads, threads, and needles. As explained at the beginning of this chapter, these materials were imported mainly from Europe, which made them costly. As seed beads required the longest production time of all glass beads, they were the most expensive beads available.³⁹ Thus, using seed beads is a marker of distinction in terms not only of the skills needed to work with them, but also of the costs.

Bearing in mind that the practice of beadwork is extremely time-consuming, the time dedicated to the craft is not only an additional indicator of wealth, it also extends to the aspect of Nyonya domesticity and thus acts as a tool of control. Beaded shoes played a significant part in the Baba Nyonya’s elaborate twelve-day wedding celebrations as gifts the bride presented to her future husband and in-laws, through which they turned into “inalienable possessions.”

BEADED SHOES AS “INALIENABLE POSSESSIONS”

During a Baba Nyonya wedding, the beaded shoes were displayed to the guests to be studied and examined, situating Nyonya beadwork in a “particular socio-cultural framework.”⁴⁰ Since the bride was always the giver in this scenario, her subordinate role was manifested in the practice of gift-giving, as she had to produce the gifts herself. Therefore, how she spent her time prior to the wedding was controlled through the practice of gift-giving.⁴¹

However, the Baba Nyonya wedding gift exchange included a return gift, though very different in character, as it did not need to be hand-made. In return, the bride received inherited and new jewelry from her in-laws. As part of the wedding ceremony, the female members of the groom’s family decorated the bride with necklaces, bracelets, and

rings symbolizing the acceptance of the bride's gifts (i.e., the beaded shoes) and subsequently the acceptance of the bride as a new member of the in-law family and her consequent accommodation in the in-law's household.

Once the beaded shoes had entered into the gift-exchange rituals, they were not meant to be gifted, sold, or exchanged any further, but were expected to stay in the same family—the family of which the bride became a new member. This is when beads, as parts of this particular beadwork, are transformed into “inalienable possessions.” “Inalienable possessions,” as defined by Weiner, are “sacred repositories of wealth”⁴² that have an essential influence on cultural reproduction and are thus to be kept.⁴³ The resulting concept of “keeping-while-giving”⁴⁴ supplements theories of exchange and the gift in two important respects, which are both highly relevant for understanding the transformation of a cargo into an inalienable possession.

The first contribution is the idea that some things must stay put, not being meant for exchange, selling, or giving. As just noted, once the beaded shoe was used in a gift-giving wedding ritual, it was not meant to be gifted any further and had to be kept in one family. In contrast to jewelry or embroidered items, no secondhand market for beaded shoes existed, so once they were worn, they lost almost all their monetary value. The loss of monetary value again indicates the high status of the Baba Nyonya, as they needed to be able to bear this economic loss. Yet applying the concept of inalienable possessions to beaded shoes demonstrates that the decrease in monetary value should not be equated with their social value.

The specific kind of value of inalienable possessions, of the things that have to be kept, is closely linked to Baba Nyonya identity, as such possessions function as distinction markers. Beaded shoes act to differentiate one's own from other Baba Nyonya families, as well as to differentiate between larger groups such as the Baba Nyonya and other (Malaysian) Chinese. These emphasized differences are hierarchical, suggesting that keeping is as important as giving in the task of continuously (re)producing these hierarchies.⁴⁵

The second critical contribution that the concept of inalienable possessions adds to exchange theories is that it pays attention to the role of women in the production and control of inalienable possessions. Weiner convincingly demonstrates how Trobriand women create inalienable

possessions, particularly through the production of cloth. Since women have the skills to produce such items, which are crucial for identity, distinction, and hierarchy, their pivotal role in negotiating social and political relations becomes evident.

In conclusion, the specific social role of Nyonya beadwork and how beadwork entered the public domain through rituals, thus linking the domestic and public spheres, differentiated this craft from other domestic crafts. Weiner's concept of keeping-while-giving illuminates how the control of inalienable possessions by kinship groups, and particularly by women, enables the emergence of social and political hierarchies. As such, keeping-while-giving becomes "the central issue of social life,"⁴⁶ while the gender dimension of power is configured by women's access to inalienable possessions.

CONCLUSION

The maritime bead trade through the Straits Settlements demonstrates how, by the end of the nineteenth century, beads went from being merely a trade commodity or cargo to becoming an integral part of Baba Nyonya heritage. Given approximately 150 years of existence, Penang Nyonya beadwork is a relatively young phenomenon. Emphasizing its recent history does not imply undermining its status as heritage. Rather, its young history permits a well-rooted examination of how an item of cargo can be transformed into a key material for an emergent heritage that truly "matters."⁴⁷

Nyonya-style beadwork involves a mixture of Chinese, European, and other motifs, silver thread and metal beads, a variety of shades of the same color, and miniature tools compared with other traditions. It is the smaller needles, thinner threads, and tinnier beads, leading to tighter and smaller knots, which make Nyonya beadwork recognizable and distinguishable from other beadwork. This chapter has accordingly examined the time-consuming and delicate practice of beading, as well as the social meaning of beaded shoes as inalienable possessions.

The practice of beading reflected the Nyonya virtues of dedication, patience, meticulousness, and diligence. Beadwork was a marker of domesticity and determined how women spent their time, as it was crucial for marriageability, marriage, and gift-giving. Yet beaded shoes were not restricted to the spheres of women, due to their significance

to Baba Nyonya heritage as wedding gifts and display items, through which they entered wider social spheres. Consequently, even though beading is domestically a gendered activity,⁴⁸ beadwork played a significant role for those who used, received, displayed, and viewed it. Beaded shoes are critical items for identity construction and must be kept within the family the bride (and maker of the shoes) became part of through marriage, thus transforming beaded shoes into inalienable possessions. In this sense, they are embedded within the wider relationships that link gender, generation, and social hierarchy in the port city of Penang.

Although the travel history of the bead as a transmaritime cargo ends in the port city, its life history, which continues within the port city, reveals existing power relations through its specific materiality and the skills needed to handle the miniature beads. The social dimensions of the materiality of the beads and their transformation into Nyonya beaded shoes are integral to the life of a cargo that was turned into a key marker of the local heritage. After their final movement as part and parcel of wedding gifts from the bride to her husband and in-laws, the beads are key elements of inalienable possessions, immobile items that have to be kept.

In light of the Nyonya's creation and control of such inalienable possessions, their influence becomes visible. As I have pointed out above, for May Lim it was important for Nyonya to be able to design their own motifs in order to adapt to changing fashions and express themselves. Penang's upper-class women changed and adapted their techniques and motifs by following new fashions, creating new designs, and incorporating influences that connect Chinese to English aesthetics across the Indian Ocean. As such, beadwork is a significant medium of expression, offering an additional perspective on male-determined views of history.

Simultaneously, in being transformed into particular Nyonya beaded shoes, beads became not only an intrinsic part of Baba Nyonya but also of the port city's own heritage, intimately interwoven with the histories of trade, migration, fashions, and social implications. The transmaritime connectivity of the port city of Penang manifested itself through the material and stylistic mixtures represented in Nyonya beadwork. In the practice of beading, Penang's Nyonya found a creative way to reinforce and emphasize a local identity connected to the port city while simultaneously drawing links to their migration history by adapting some Chinese aspects into their beadwork. Taking the changes in

Nyonya motifs and arts seriously can open up a window to historical changes, their significance, and how the Nyonya dealt with them. Thus, focusing on the materiality and related practices of beads and beadwork is an essential supplement to the study of historical changes and the making and unmaking of things in the Indian Ocean world.

NOTES

1. The title is inspired by the groundbreaking work of Annette B. Weiner, *Inalienable Possessions: The Paradox of Keeping-while-Giving* (Berkeley: University of California Press, 1992).

2. For a detailed history of the glass bead trade in the Indian Ocean, see Sumarah Adhyatman, “Indonesian Beads,” in *Magical Ancient Beads: From the Collection of Ulrich Beck*, ed. Jamey D. Allen (Singapore: Times Edition, 1998), 82–91; and Peter Francis Jr., *Asia’s Maritime Bead Trade: 300 B.C. to the Present* (Honolulu: University of Hawai’i Press, 2002).

3. Francis, *Asia’s Maritime Bead Trade*, 71–84.

4. Hwei-Fen Cheah, “Beads in the Straits Settlements: Trade and Domestic Demand, 1827–1937,” *BEADS: Journal of the Society of Bead Researchers* 15 (2003): 23–40.

5. In this approach, Ingold criticizes the use of “objects” and “agency.” According to Ingold, to focus on the “objectness of things” (Tim Ingold, “The Textility of Making,” *Cambridge Journal of Economics* 34 [2010]: 97) would mean losing the notion of constantly making and unmaking things, which would result in a relatively lifeless conception of things as objects. Thus, agency, Ingold argues, is nothing but a solution to this self-created problem of trying to “re-animate” (ibid.) static (and dead) defined objects.

6. Tim Ingold, *Making: Anthropology, Archaeology, Art, and Architecture* (London: Routledge, 2013), 31.

7. Ibid., 8.

8. Daniel Miller, “Why Some Things Matter,” in *Material Cultures: Why Some Things Matter*, ed. Daniel Miller (Chicago: University of Chicago Press, 1998), 11.

9. The concept of heritage employed in this article is taken from critical heritage studies (see especially Barbara Kirshenblatt-Gimblett, *Destination Culture: Tourism, Museums, and Heritage* [Berkeley: University of California Press, 1998]). Particularly relevant for the Indian Ocean context are the politics of heritage-making, as have been recently discussed in Burkhard Schnepel, “Travelling Pasts: An Introduction,” in *Travelling Pasts: The Politics of Cultural Heritage in the Indian Ocean World*, ed. Burkhard Schnepel and Tansen Sen [Leiden, Neth.: Brill, 2019], 1–18).

10. Victor Purcell, *The Chinese in Southeast Asia*, 2nd ed. (Oxford: Oxford University Press, 1965), 399f.
11. Hwei-Fen Cheah, "Nyonya Needlework from Penang," *Journal of the Malaysian Branch of the Royal Asiatic Society* 82, no. 2 (December 2009): 145–55.
12. Baba Nyonya are also known as *Chinese Peranakan*, though this term is rarely used in Penang.
13. Gungwu Wang, *The Chinese Overseas: From Earthbound China to the Quest for Autonomy* (Cambridge, MA: Harvard University Press, 2000), 57.
14. *Ibid.*, 58.
15. *Ibid.*, 85.
16. Leo Suryadinata, "Introduction," in *Peranakan Communities in the Era of Decolonization and Globalization*, ed. Leo Suryadinata (Singapore: Chinese Heritage Centre; NUS Baba House, 2015), xi.
17. Also, but to a lesser extent, Britain.
18. For a detailed description of the glass bead production of Murano and Venice, see Karlis Karklins, "Dominique Bussolin on the Glass-Bead Industry of Murano and Venice (1847)," initial trans., Carol F. Adams, *BEADS: Journal of the Society of Bead Researchers* 2 (1990): 69–84.
19. Hai Ding Chiang, "Sino-British Mercantile Relations in Singapore's Entrepot Trade 1870–1915," in *Studies in the Social History of China and Southeast Asia: Essays in Memory of Victor Purcell (26 January 1896–2 January 1965)*, ed. Nicholas Tarling and Jerome Ch'en (Cambridge: Cambridge University Press, 1970), 253.
20. Cheah, "Beads in the Straits Settlements," 30.
21. *Ibid.*, 32f.
22. Hwei-Fen Cheah, "'Made in China'? A Case Study of Nonya Beadwork," *Textile History* 38, no. 1 (2007): 60.
23. Cheah, "'Made in China?'" 68.
24. Chintzes are glazed calico textiles.
25. *Batik* refers to specific decorated textiles and the related technique to produce these textiles, in which parts of the cloth that are not to be colored are covered in molten wax.
26. Cheah, "'Made in China?'" 80.
27. Especially silk thread embroidery.
28. A sarong is a tube of cloth bounded and worn around the waist similar to a skirt.
29. Here and in the following I make use of my conversation with Nyonya May Lim (Penang, May 15, 2016).
30. Miller, "Why Some Things Matter," 9.
31. *Ibid.*, 11.

32. For an anthropological study of Penang Nyonya cuisine, see Mareike Pampus, “Heritage Food: The Materialization of Connectivity in Nyonya Cooking,” in *Travelling Pasts: The Politics of Cultural Heritage in the Indian Ocean World*, ed. Burkhard Schnepel and Tansen Sen (Leiden, Neth: Brill, 2019), 195–218.

33. A Penang Baba Nyonya poem documented in Raymond Kwok, *Hokkien/Baba Sayings for All Occasions* (Penang, Malaysia: Published by the author, 2005).

34. The idea of being the transmitter for a certain culture and heritage is also visible in May Lim’s statement quoted above on why she shares her knowledge of beadwork. For her, this even has religious connotations, as she talks about passing the heritage on as her duty, which she plans to effect when she is standing in front of her Creator after dying.

35. Heidi Tan, “‘Peranakan Legacy’ at the Asian Civilisations Museum, Singapore,” *IIAS Newsletter*, no. 31 (July 2003): 50.

36. Susan Mann, *Precious Records: Women in China’s Long Eighteenth Century* (Stanford, CA: Stanford University Press (1997), 14.

37. *Ibid.*

38. Quote from my conversation with Hong, Penang, July 27, 2015.

39. Francis, *Asia’s Maritime Bead Trade*, 76.

40. *Ibid.*, 58.

41. Hwei-Fen Cheah, *Phoenix Rising: Narratives in Nyonya Beadwork from the Straits Settlements* (Singapore: National University of Singapore Press, 2010), 115.

42. Weiner, *Inalienable Possessions*, xii

43. *Ibid.*

44. *Ibid.*, 131f.

45. For further elaboration on the relationship between inalienable possessions and hierarchy, see Weiner, *Inalienable Possessions*, 60–63.

46. *Ibid.*, ix

47. Miller, “Why Some Things Matter,” 11.

48. In contrast, in the professional sphere men also produce beaded shoes, but this does not apply to Baba, as this would have been impossible to combine with the male attributes of the Baba ideal. Nowadays, as most Nyonya are not capable of beading anymore, beaded shoes are purchased but still used as identity and distinction markers, as I have shown elsewhere (Mareike Pampus, “Connected Heritages: The Inner Life of a Port City in the Indian Ocean World,” [PhD diss., Martin Luther University Halle-Wittenberg, 2021]).

TWELVE

The Elephant with the Seven Tusks

*Maritime Commodities in East Indonesian
Clan Houses and Marriage Cycles*

KARL-HEINZ KOHL

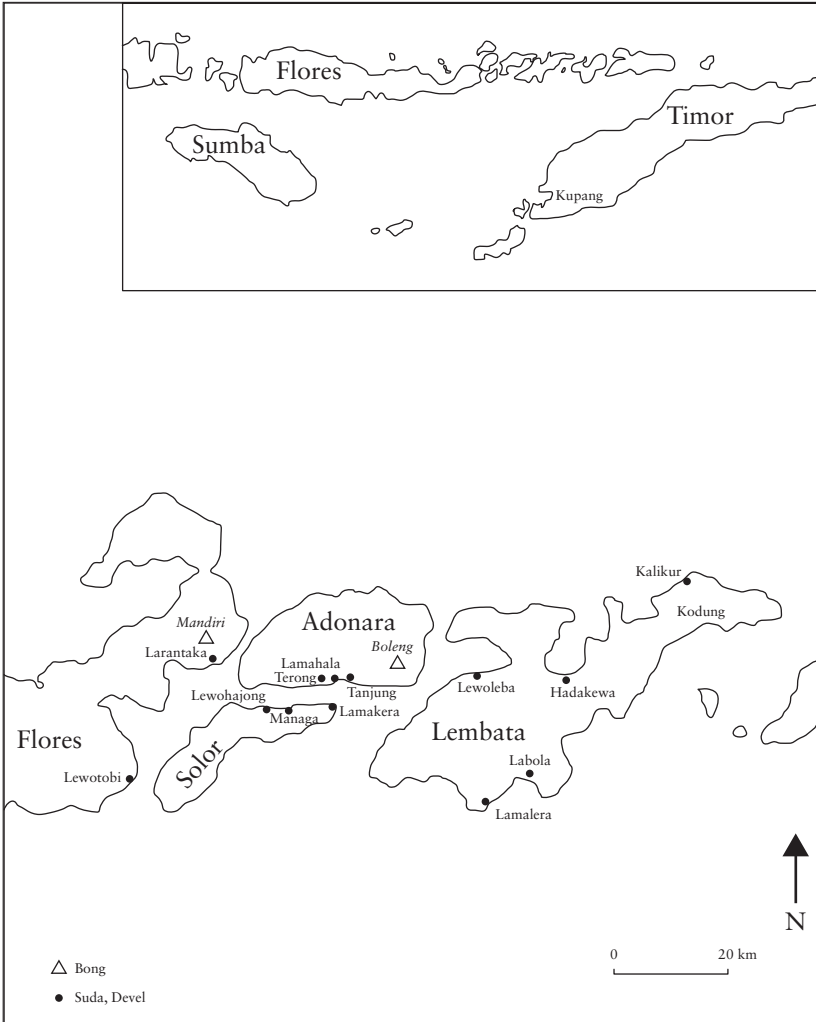
I

Many different and also contradictory theories have been developed to explain why European colonialism was so successful in establishing its rule over so many other societies around the world. Yet all these theories agree in highlighting the dynamics of Europe's economic system, culminating in nineteenth-century modern capitalism, as one of the most decisive factors. As Karl Marx remarked in his *Communist Manifesto* of 1848, which also contains one of the first economic theories of globalization, capital has the natural tendency to cross all borders and conquer new spaces. To avoid the devaluation resulting from overproduction, Europe's capitalist economy was forced to open up new markets for its commodities, which could be produced at much lower costs through increased technological improvements to the means of production. It

is true that fire and sword had always played an important part in the history of colonial expansion, but the astonishing success of Western colonialism was seen to be due even more to the particular quality of the commodities European traders sold all over the world. These goods, so it was thought, connected usefulness and attractiveness in an exemplary fashion. They allowed overseas trade to penetrate into local markets and regions in which commodity production had hitherto been unknown. Just as epidemic diseases contributed more to the extinction of indigenous populations than the direct use of violence, commodities contributed more to the disintegration of traditional forms of life than the colonial administrations' interventions in subject peoples' economic, political, and social structures.

Yet by no means did all non-Western cultures succumb to the dynamics released by the importation of Western commodities. A good example are the many small-scale societies one can find on the chain of islands that begins east of the Wallace Line with Sumbawa, Flores, Adonara, Lembata, Pantar, Alor, and Wetar in the north, and with Sumba, Timor, and Babar in the south, geographically known as the Lesser Sunda Islands. Dutch anthropologists like J. B. P. de Josselin de Jong and F. A. E. van Wouden called this part of the Malayan Archipelago *De Groot Oost* (the great east) and identified it as a more or less closed "anthropological field of study" with a number of common features.¹ One of these features is eastern Indonesian societies' strong resilience to foreign influences, to which they have always responded with a high degree of flexibility.

At first glance, this resilience seems counterintuitive, since the Lesser Sunda Islands lie on the maritime trade route from Malacca in the west to Timor and the Moluccas in the east, from where sandalwood, nutmeg, mace and cloves—natural products only to be found on these islands at that time—were exported by Chinese, Malayan, Indian, and Arab merchants to Asia and the Arabian Peninsula long before European ships "discovered" this chain of islands. Yet obviously it was their familiarity with the newcomers from abroad and the strange goods they had brought with them that enabled the local village inhabitants to cope with the new situation that arose from the early sixteenth century onward. This is the time when heavily armed Portuguese merchant galleons came to take over the trade in the spices that were so much sought after in Europe and used the small islands' bays, which lay in the



Map 12.1. Lesser Sunda Islands. Created by author.

shadow of large volcanoes and were protected from the wind, to shelter their ships during the strong monsoon storms. Besides fresh water and food supplies, there was not much the local population could give the Portuguese in exchange for their goods. However, like their Indian and Arab rivals before, the Portuguese tried to win over the villagers as allies in creating footholds on the maritime route to the Spice Islands.² To seal these alliances, they offered them gifts. Because of their long

acquaintance with foreigners, the local rulers and inhabitants of the politically autonomous villages of their domains made their choice and took what they thought would be especially useful for their own needs and purposes. These were, first, the superior firearms of the newcomers, and secondly, special kinds of rare objects that could not only provide their owners with prestige, but could also be used in the traditional regional exchange cycles.

Still today, a visitor to the small towns and village communities along the coasts of Flores, Solor, Adonara, Lembata, Pantar, or Alor will be surprised by the many antiquities stored in the modest palaces of the former local rajas and in the villagers' lineage houses. Most of them have become "inalienable objects,"³ being part of the *pusaka*, or holy treasure, of each clan that must never leave the place where they are kept. Nobody would dare sell them because they are strongly connected to the history of the clan's ancestors and are thought to guarantee the group's physical and mental well-being. Other items, often of the same kind as the ancestral heirlooms, are used as bridewealth goods and circulate inside the closed matrimonial exchange systems of asymmetric alliance that are very widespread in this part of eastern Indonesia. In addition, they are of great age, also showing that they have never left these matrimonial exchange circles during many centuries of such exchanges.

All these ancient objects of foreign origin are witnesses to the long-term contacts the inhabitants of this only apparently remote chain of islands had with their "outer world." Presumably the oldest of these items are the *moko* bronze kettledrums that are especially valued on the islands of Pantar and Alor. These drums were produced by the North Vietnamese Đông Sơn culture from the seventh century BCE. They are shaped like an hourglass, are approximately three feet high, and are richly decorated with geometric patterns on all sides. In interisland commerce, they were for many centuries a much sought-after commodity. Historians and archaeologists assume that the first *mokos* came to the Malayan archipelago in the third century BCE, brought by Chinese merchants from the province of Funan.⁴ In the eastern part of the Lesser Sunda Islands they had always been so popular that in the nineteenth century Javanese workshops specialized in fabricating copies of these antique pieces in order to sell them there. In some places, they were also used as a kind of currency both on and between the islands. When the German anthropologist Ernst Vatter visited Alor in 1929, the

villagers told him that these *moko-java* had a monetary value of 80 to 300 Dutch guilders. But they also owned some antique *moko*, the value of which they estimated at three thousand Dutch guilders and more.⁵ This was actually a fantasy price none of them would ever have been able to pay, but it shows the symbolic value of the antique *mokos*, which, according to tradition, were not imported goods but had come out of the village's land and were regarded as the "residences" of the dead souls of the ancestors. Still today, on Alor and Pantar these *moko tanah*, or "earth drums," are considered sacred objects equipped with magical powers. They are not allowed to leave the village. It is believed that whoever tries to sell or steal them will be punished by the ancestors, either by falling seriously ill or by being driven insane.⁶ In some regions of Alor and Pantar, the less precious *moko jawa* are also used as part of the bridewealth the wife-takers have to hand over to the wife-givers.

Besides the bronze kettledrums, Chinese merchants may also have been the agents that introduced old Chinese coins, porcelain plates and bowls into the islands' barter economy. Together with silver coins that still wear the stamp of the Dutch VOC, —the *Vereenigde Oostindische Compagnie*—gold chains, ivory bracelets, and other smaller objects of foreign origin are stored as *pusaka* in clan houses on Flores, Solor, Adonara, Lembata, and adjacent islands. All these items, after ending their lives as "cargoes" and entering the islands to become "inalienable objects" there, came to be connected to one of the clan's ancestors, each member of a descent group knowing under what conditions they came into their possession. Some are said to have fallen from the sky, while others were believed to have been received as gifts from benevolent mountain or sea spirits. Rituals differ from ethnic group to ethnic group, but everywhere at least once a year a ceremony takes place which is known in Bahasa Indonesia as *kasih makan* and which can be translated as "giving to eat" or "feeding." It is usually at the end of harvest time that the oldest member and head of the clan takes these items out of their basket and slaughters a chicken, with the blood of which, together with some tiny amounts of cooked rice, he "feeds" the sacred heirloom while praying to the ancestors and begging them to safeguard their descendants and grant them health, welfare, and prosperity.

Among other kinds of extraordinary objects venerated on these islands are Portuguese and Dutch battle helmets, suits of armor, sabers,

harquebuses, and small cannons that found their way there in the sixteenth and seventeenth centuries. They are part of the *pusaka* of the old raja houses in the small coastal towns where the later colonial powers had established their first footholds and built small fortresses. In these cases, their foreign origin is not denied. The raja families regard them as prestigious goods, tribute the rulers of Portugal and the Netherlands had paid them for the support and protection their forefathers had granted the subjects of these foreign powers. For their offspring, they are prestigious goods, witnesses to their families' glorious past that are shown to the public on ceremonial occasions, at weddings, and at major religious holidays such as Easter or Christmas, almost all the inhabitants of the former Portuguese part of the Lesser Sunda Islands being Roman Catholic today. Nevertheless, for some of these items, very similar rituals are performed as for the clan's *pusaka*. That is, their owners slaughter chickens or goats, smearing their blood on the weapons and asking their ancestors for their blessings.

II

The examples mentioned so far show how the indigenous societies of this part of the Lesser Sunda Islands succeeded in appropriating and "nostrifying" the commodities brought to them by the traders and colonial invaders from the West by integrating them into their own traditions. They use them as memorabilia of their ancestor's deeds, and sometimes, as on Pantar and Alor, they are even regarded as the physical embodiments of their forefathers' souls. Besides this, they assume still another function by helping to preserve and continue the existing social order. This is especially the case in the east Indonesian Lamaholot language and culture region, which includes the eastern part of Flores and the adjacent islands of Solor, Adonara, and Lembata, together with some enclaves on Pantar. In the two decades following my first eighteen months of fieldwork in one of the villages of the Lewolema area of eastern Flores in 1986 and 1987, I have had many opportunities to undertake return visits to continue my ethnographic research in this area.

In this culturally relatively homogenous region, one can find two further kinds of objects of foreign origin that play a central role in the social life of its inhabitants: elephant tusks and patola, double ikat woven silk clothes from the Indian state of Gujarat.



Figure 12.1. Elephant tusks. Photo by author.

While in other parts of Flores elephant tusks provide the raw materials for carving ivory jewelry, in the Lewolema area they are kept as they are, proving their age by their yellow patina and being surrounded by a kind of majestic aura. Each of the villagers' patrilineal clans owns one or more tusks, which for them are inalienable goods. Like the *moko* kettledrums of Pantar and Alor, they are reminiscent of the ancestors and are ritually fed on several occasions. Apart from these sacred tusks, each exogamous marriage group, consisting of three to five patrilines, owns a certain number of tusks that are used as bridewealth when one of its male members wants to get married. The silk *patolas* are divided in a similar way. While the oldest and most precious ones belong to the clan's or family's collection of sacred heirlooms, others are reserved as gifts for marriage transactions.⁷

In the Lewolema area and the adjacent regions, a form of marriage has been practiced for many centuries—and is still practiced today—which anthropologists have labeled matrilineal cross-cousin marriage. This means that a man should marry a girl who is either his actual mother's brother's daughter or at least a classificatory equivalent. As anthropologists of kinship have shown, this rule creates a system of asymmetric matrimonial exchange between at least three, possibly more, exogamous groups related to each other as "wife-givers" and "wife-takers." This means that for many generations Group A has given its female members to the male members of another Group B. Because of the rule "marry



Figure 12.2. Silk *patolas*. Photo by author.

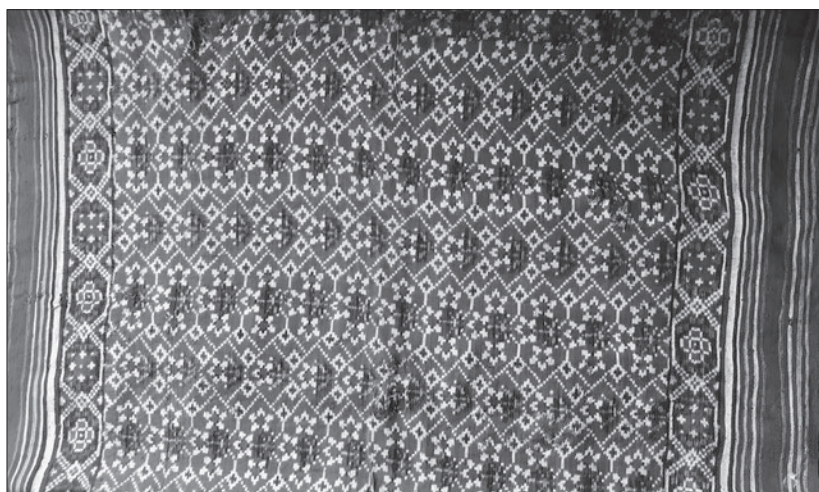


Figure 12.3. Silk *patolas*. Photo by author. Imported Indian silk *patolas* from Gujarat (top) and locally produced Lamaholot cotton ikats (bottom) have to be given by the wife-givers in return for the elephant tusks of their wife-takers.

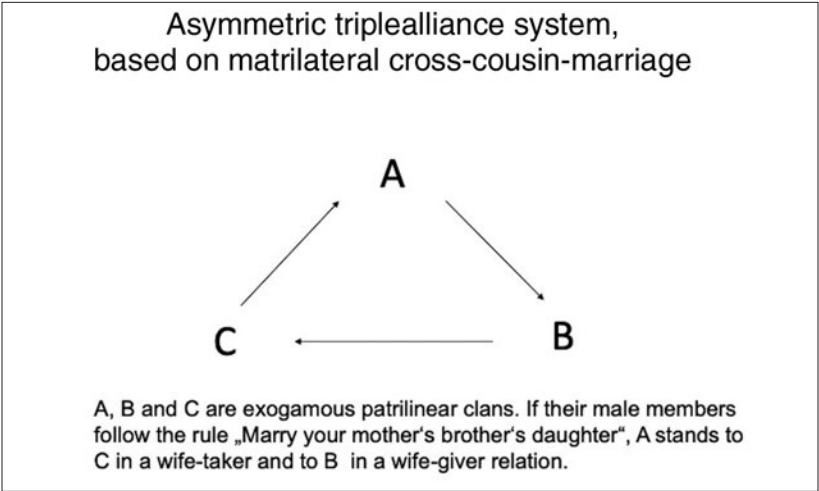


Figure 12.4. Asymmetric triplealliance system, based on matrilateral cross-cousin-marriage. Created by author.

your mother’s brother’s daughter,” Group B can never reciprocate this exchange by giving back a female member of its own group to Group A. Therefore, it is necessary to have a third group, C, for which B takes on the role of the wife-giver. In this way, C is B’s wife-taker, but needs another group into which its female members marry. Any other Group X can serve as a third party in this way, but this role can also be played by Group A, which is then a wife-giver in its relation to B, but a wife-taker in its relation to C. In this case, which is ideal but not always very common, we can talk about a triadic matrimonial circle.

According to Claude Lévi-Strauss, matrilateral cross-cousin marriage poses a risk because a group has to give its female members away, but it can never be sure of getting any future wives in return.⁸ Therefore, in this kind of asymmetric matrimonial exchange, we often find a high bridewealth, which guarantees that this system is kept working. If this bridewealth were only a bride “*price*” consisting of a certain amount of money, polygamous societies would run the risk of certain of its male members using their wealth to accumulate women from different wife-giving groups. This creates a need to find some matrimonial exchange goods that are not only precious but also very rare. The harder certain items are to obtain and the smaller their supply, the more suitable they are as gifts and counter-gifts in asymmetric cycles of affinal alliance.

Being used as such gifts is exactly the purpose for which the elephant tusks and silk ikats are destined among the Lamaholot people of eastern Flores and the adjacent islands.

When a young man wants to marry, therefore, the head of his clan goes to the head of its traditional wife-giving group to negotiate the number of elephant tusks the latter wants as bridewealth. For the official wedding between the bridegroom and the bride, it is enough if one of these tusks is ceremonially handed over. The rest can wait until the wife-taking group has received its share of elephant tusks from its own wife-takers when the next marriage with one of its female members is arranged. However, the exchange of goods is never one-sided. After all, the bridewealth has been handed over, the wife-takers will receive one or more Indian silk patolas from its wife-givers, according to the number of tusks and size it has “paid.” The elephant tusks the wife-givers receive are regarded as male goods, while the patolas as the counter-gift are regarded as female goods.⁹ Both kinds of goods are stored in the village’s clan houses and are regarded as a clan’s most precious possessions, representing the relationship between wife-givers and wife-takers that stands at the core of all social relations in the east Flores Lamaholot area.

The elephant tusks and patolas were introduced to the area through the Asian trading network.¹⁰ This must have happened long before European contact because both items are already mentioned as trade goods in Tomé Pires’ *Suma Oriental* of 1512–1515, the first book written by a Portuguese author on the Malayan Archipelago. The precious patolas or double ikat woven clothes, made of silk and produced in Gujarat as ceremonial saris for the royal court and the local aristocracy, were to become one of the most successful export commodities of this former sultanate in western India.¹¹ From Portuguese and Dutch travel accounts we know that the Indian silk ikats were a highly sought-after merchandise without which it was almost impossible to participate in the lucrative east Indonesian spice and sandalwood trade. The first mention of patolas and elephant tusks in east Flores’ Lamaholot culture in European reports only dates from 1624, but we can suppose that they had already been commodities in this region for many centuries.¹² In later historical sources, we can read that the tusks were bartered in exchange for local products such as wax, ambergris, bird’s nests, fish, and whale oil, as well as for slaves.¹³ Like the patolas, most of the elephant tusks stored in Lamaholot clan houses came from India, while others came

from Cambodia and Laos. Because of the remarkable length of some of them, measuring seven feet or more, one can assume that they came from the larger African elephants and took an even longer route to arrive in eastern Indonesia.

On the Lesser Sunda Islands east of Bali, elephants were completely unknown. People may have had a vague idea of what they looked like; on some of the Gujarat silk patolas we can find elephant figures as decorative motives. Nevertheless, it remains a mystery why the tusks were so much cherished by the inhabitants of the Lamaholot villages, and an even bigger one why they have a such prominent place in their matrimonial exchange system. As anthropologists, we are not satisfied by observing and documenting the customs of the people we study—we also want to know the reason why people do what they do. After I had won the confidence of “my” village’s inhabitants and also acquired a basic knowledge of the local language, I often touched on this topic in our conversations. But the more I asked, the more I was disappointed, because I always received the same answer: “We do it because it has always been done that way.” Only at the end of my second stay did I hear about a myth potentially containing a reply to the question with which I had bothered them so often. One of the village elders, Bapak Anton Ado Wekin, told me the story, which is partly in Lamaholot ritual language—for the villagers, a proof of its authenticity.¹⁴ I recorded, transcribed, and translated it with the help of my main informant and friend Bene Boli Tenawahang, who had also mastered the old ritual language, with its many special idioms, metaphors, and parallel couplets.

III

The story is about two orphan brothers. The name of the older one is Bahi, the name of the younger Beda. Day by day they work very hard in their garden high up the mountain. But because their mother and father have both died, they have nobody to care for them and prepare their meals when they get home in the evening. One day, however, they find seven wild beans in their garden. They take the beans home with them and put them beside the fireplace in their hut. When they come home the next evening, they are very surprised to see seven young women in their hut who have prepared their meals. While they were working in the garden, the seven beans had turned into the seven young women.

Bahi urges his younger brother Beda that they should take them as their wives, four for himself and three for his little brother. But Beda does not want to. That must have been sorcery, he thinks. Bahi does not understand his brother's refusal. He becomes angry, and curses and insults him. If he does not want to marry any of them, he should go away to find his bride in the land of the Elephant with the Seven Tusks¹⁵ and his wife, the Horse with the Two Necks. Beda takes literally what his annoyed brother tells him. He cuts down a tree to build a sailing boat and embarks on a journey to search for his future bride. He touches on many shores and asks for the land of the elephant, just as often being given the answer that he must go further west, to the end of the world, where a large crocodile guards heaven's trunk and the treetops grow into the earth. After a long and dangerous journey, he finally reaches the land of the elephant.

Not far from the shore, he sees a young maiden sitting under a tamarind tree, weaving. She is the daughter of the Elephant with the Seven Tusks and the Horse with the Two Necks he has travelled so far to find. He courts her, and immediately they fall in love. Yet Oa Perseja, as the girl is called, is very concerned for her lover, because she knows that her father is a notorious maneater. With her weaving tool she digs a hole in the ground to hide him. When in the evening her parents come home from the mountain where they have been grazing the whole day, the elephant smells his favorite food and asks the girl whether she is hiding a human being. Oa Perseja denies it. The next morning, after her parents have left the house, she prepares everything for her and her bridegroom's flight. They succeed in escaping from her cruel parents because Oa Perseja has brought with her four magical baskets filled with maize, alang-alang grass, lime, and salt. As soon as their parents come near, she pours out one basket after another. Immediately, the maize begins to grow and the alang-alang grass begins to spread, the lime piles up and the salt whitens the plains. Each time the elephant and his wife stop to satisfy their insatiable appetite. Thanks to Oa Perseja's magical skills, she and her lover are able to reach Beda's boat and set sail. Seeing them flee away, the Elephant with the Seven Tusks asks his daughter whether she has taken her loom and weaving tool with her and admonishes her never to forget her parents.

Coming back after a long journey to Beda's brother's home, Bahi's seven wives become jealous of Oa Perseja because she is so beautiful

and because the ikat clothes she makes are much better than theirs. Bahi also becomes aware of this very quickly. He envies his younger brother and wants to possess his wife. Several times he tries to kill his brother, but Beda is able to escape his fate with the help of Oa Perseja's magical powers. Finally, Bahi challenges his younger brother to test their strength by jumping over a large fire of dry wood they had collected to burn the lime out of coral stones. Once again, Oa Perseja helps her husband. With her magical devices he wins the competition, while his envious older brother crashes into the flames and is burnt to death.

IV

Having recorded, written down, and translated this tale, I was left rather disappointed, because it gives no direct answer to the question I had asked so often. Yet at least it shows how the mythical narrative of the imagined source and original owner of the ivory tusks expresses some of the central values, norms, and tensions in the social fabric of Lewolema. Although elephants are not found on Flores,¹⁶ some of the characteristics of the tale's main figure are quite realistic, while others remind us of the role this animal plays in South Asian mythology and religion. We may presume that people in Lewolema had taken over these ideas from the Indian and Arab merchants who had sold them the ivory tusks. In India, Thailand, and Burma, elephants were harnessed as "beast[s] of burden and as mighty, terror-inducing weapon[s] of warfare."¹⁷ On the other hand, people revered them, associating them with fertility and regarding them as mediators between humans and gods. We can find the same traits in the elephant of our tale, who lives together with his wife in the land where heaven touches the earth and whose daughter possesses superhuman magical powers. Yet the Elephant with the Seven Tusks still has some other attributes that do not fit this positive image: his maliciousness, his voraciousness, and his cannibalistic craving for human flesh. These traits are surely not of Indian origin, but they fit his role as the greedy father-in-law of the tale's young hero perfectly.

In east Flores Lamaholot culture, the father and brothers of a man's wife must be respected as the highest authorities in his personal matters. They are even more important than one's own parents because they are the "givers of life." A Lamaholot proverb says, "Your father-in-law comes immediately after god."¹⁸ He and his sons receive the number

of tusks that have been negotiated as bridewealth, his son-in-law must always be at his service, and when he dies, the son-in-law must also provide him with a last ivory tusk, on which the dead man's head will be placed. The father-in-law is also believed to possess supernatural power. Most feared is his curse, because it may cause misfortune and infertility to his son-in-law. From the wife-taker's point of view, the greedy and horrifying elephant of the myth seems to embody all the negative traits of the powerful wife-giver. On the other hand, the younger brother's way of acting does not conform to the traditional rules. He meets the elephant's daughter secretly and hides himself in her father's house instead of asking him for her hand. And he steals his bride instead of paying the bridewealth to which her father has a right. Through his bold behavior, he wins a beautiful, diligent, and talented girl. But the story does not end well, because it is precisely her excellent talents and qualities that awaken her husband's brother's desire and the jealousy of her sisters-in-law.

As with Beda's marriage, his elder brother Bahi's marriage does not follow tried and tested custom, either. According to Lamaholot tradition, the founder of the villages' privileged aristocratic and land-owning clans climbed out of the mountain in the shadow of which their village lies. The seven girls who grow up out of the beans the brothers find while working on the mountain have the same autochthonous origin. Like the two brothers, they are also "children of the land." Lamaholot listeners understand well why Beda refuses his older brother's suggestion that he marry one of them. Would it not be like an incestuous relationship between brothers and sisters? Therefore, we can conclude that neither the older nor the younger brother's way of marrying is the right one. Marrying a female member of one's own patrilineal descent group is a strong taboo in Lamaholot culture. Yet traveling to the end of the world to find a wife is not an option either, because it causes envy and other problems in one's own family. Their different ways of marrying divide the two brothers, and the story ends in disaster.

Of the two ways of marrying, it is the existing marriage practice that seems to be the best possible. Marriage with one's classificatory matrilineal cross-cousin is neither too close nor too far. From the wife-giver's point of view, their wife-takers live near enough to lend a helping hand and fulfill all the other services they are obliged to render by custom. Yet the wife-givers' ability to exploit them or even treat them like slaves

(or, in the myth's metaphorical language, their greed, voraciousness, and man-eating habits) are limited by the minimal, closed system of triple alliance. And it is precisely the bridewealth circulating between the three groups that serves as a "social cement" and keeps the system together.

∨

The tale of the Elephant with the Seven Tusks is a narrative in the best sense of the term. It does not provide a direct explanation, but it does contain an implicit answer to the question with which we started: Why do people use elephant tusks as bridewealth? To make the mutual matrimonial exchange system work, bridewealth goods must meet the following requirements: First, they should not be commonplace items that anyone can produce on his or her own. Second, they must be hard to get, either because they are very rare or because they are expensive, or because they are rare *and* expensive. This means they must be prestige goods of high social and monetary value. Third, their use should be restricted to the sphere of matrimonial exchange or other ceremonial purposes. Fourth, in addition to their exchange or monetary value, they should also have a specific symbolic value.

All these criteria are perfectly fulfilled by ivory tusks: they cannot be produced in the villages, they are rare and expensive, and they have a high prestige value due to the fact that they come from such faraway, exotic places. Their highest value, however, is their symbolic value. The oldest and most highly respected ivory tusks are hoarded as heirlooms in the clan houses. Old and uncarved, in their phallic form they represent the authority of the dead ancestors. Being ceremonially fed once a year, they are mediators between the living and the dead. In the matrimonial exchange cycles, they fulfill a similar function: as mediators between the wife-giving and wife-taking groups, they bridge the gap between the two extreme ways of marrying—that which is too far away and that which is too near—and it helps ensure the longevity of the matrimonial alliances once they have been formed. Coming back again to the question we started with, we may come to a conclusion very similar to that whereby Claude Lévi-Strauss famously solved the riddle of totemism when he wrote that certain animals are chosen as totems not because they are "good to eat" but because they are "good to think."¹⁹ The same may be true of the elephant tusks: Lamaholot people chose

them as bridewealth not because of their material value, but because they are perfect tools for holding their society together.

From another point of view, however, the ways in which Lamaholot people deal with these strange and exotic items is also a good example of how they have succeeded in preserving their old economic regime and political autonomy. A commodity can be seen as a sort of economic implant which, once inserted, can in the long run change whole cultures by transforming them from subsistence to market societies. In this part of eastern Indonesia, however, sustainable economic transformation of this sort did not occur because its indigenous population had obviously found a way to cope with the seductive force of the goods brought to them by the foreigners from the west. The long journey of these cargoes came to an end in the villages in the hinterland of the old maritime routes. In extending the common meaning of “connectivity in motion,” they were used to connect the living with the dead and, simultaneously, guarantee the never-ending flow of life. The most impressive elephant tusks found their way into the clan houses to commemorate the ancestors. Separated from daily life, they became inalienable sacred objects, while all the other tusks entered the restricted sphere of matrimonial exchange as counter-gifts for the most precious present that, in the eyes of the Lamaholot people, one human group can make to another: a woman as the bearer of life. Something similar happened to the Indian patolas: most of them were also integrated into the matrimonial cycle to seal the alliance between two intermarrying groups. However, a small number were kept in the houses of the heads of the four leading village clans to serve as shrouds to cover their corpses and were buried with the latter. Decommodification and sacralization were two alternative and complementary modes of cultural appropriation and nostrification neutralizing the inherent destructive power of the “commodity implants.” Despite the multitude of foreign influences, they had always been confronted with, they enabled many of the small-scale societies of this region of eastern Indonesia to keep their traditions intact up until the last decades of the twentieth century.

NOTES

1. J. P. B. Josselin de Jong, “The Malay Archipelago as a Field of Ethnological Study,” in *Structural Anthropology in the Netherlands*, ed. P. E. Josselin de Jong (The Hague, Neth.: Nijhoff, 1977), 164–82.

2. One of the most important allies of the Portuguese in the Solor-Alor Archipelago was the raja of Larantuka. See Ronald Daus, *Die Erfindung des Kolonialismus* (Wuppertal, Ger.: Hammer Verlag, 1983), 323–43.

3. See Annette B. Weiner, *Inalienable Possessions: The Paradox of Keeping-while-Giving* (Berkeley: University of California Press, 1992).

4. Janina von Römer, *Pusaka—Ahmensätze im ostindonesischen Raum. Fremdkulturelle Herkunft und sakrale Verwendung* (Berlin: Regiospectra Verlag, 2018).

5. Ernst Vatter, *Ata Kiwan. Unbekannte Bergvölker im tropischen Holland. Ein Reisebericht* (Leipzig, Ger.: Bibliographisches Institut AG, 1932), 238–39.

6. Susanne Rodemeier, *Tutu kadire in Pantai—Munaseli. Erzählen und Erinnern auf der vergessenen Insel Pantar (Ostindonesien)* (Berlin: Lit Verlag, 2006), 3; Römer, *Pusaka—Ahmensätze im ostindonesischen Raum*, 343.

7. Penelope Graham, “Vouchsafing Fecundity in Eastern Flores,” in *Gift of the Cotton Maiden: Textiles of Flores and the Solor Islands*, ed. Roy W. Hamilton (Los Angeles: Fowler Museum of Cultural History, University of California, 1994), 228–45.

8. Claude Lévi-Strauss, *The Elementary Structures of Kinship* (Boston: Beacon Press, 1969), 110–44.

9. While elephant tusks and patolas are the most important items of affinal exchange, they are not the only ones. The transactions between the two groups also include goats, earrings, local textiles, and other goods that are also divided into “male” and “female.”

10. Penelope Graham, “Vouchsafing Fecundity in Eastern Flores,” 237–39.

11. Ruth Barnes, “Indian Textiles for Island Taste: Gujarat Cloth in Eastern Indonesia,” *Ars Orientalis* 34 (2008): 134–49.

12. Robert H. Barnes and Ruth Barnes, “Barter and Money in an Indonesian Village Economy,” in *Man* 24, no. 3 (September 1989): 410.

13. According to a Dutch report from 1851, in former times tusks of thirty to fifty pounds could be purchased with three or four slaves; Barnes, and Barnes, “Barter and Money,” 411.

14. As in other cultures of the Lesser Sunda Islands, Lamaholot ritual language is also based on “strict forms of parallelism [. . .] at the semantic and syntactic levels” (James J. Fox, “Introduction,” in *To Speak in Pairs: Essays on the Ritual Languages of Eastern Indonesia*, ed. James J. Fox [Cambridge: Cambridge University Press, 1988], 1).

15. In South Asian mythology, it is not unusual for elephants to have more than two tusks. Airāvata, for example, the divine white elephant who carries the Hindu goddess Indra on his back, “is depicted [. . .] typically with four tusks in Indian and sometimes with five heads in Southeast Asia.”

Leonard Yuzon Andaya, "The Social Value of Elephant Tusks and Bronze Drums among Certain Societies in Eastern Indonesia," in *Bijdragen tot de Taal-, Land- en Volkenkunde* 172, no. 1 (2016): 71.

16. In fact, paleontological excavations show that there existed different kinds of dwarf elephant on the island, the *Stegodon sondaari* and *Stegodon florensis insularis*, not much larger than a buffalo, which died out in the late Pleistocene. Hanneke J. M. Meijer et al., "The Fellowship of the Hobbit: The Fauna Surrounding *Homo floresiensis*," in *Journal of Biogeography* 37, no. 6 (2010): 995–1006.

17. Andaya, "Social Value of Elephant Tusks," 71.

18. Karl-Heinz Kohl, *Der Tod der Reischungfrau: Mythen, Kulte und Allianzen in einer ostindonesischen Lokalkultur* (Stuttgart, Ger.: Kohlhammer, 1998), 174.

19. Claude Lévi-Strauss, *Totemism*, trans. Rodney Needham (London: Merlin Press, 1964).

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