

RESEARCH ARTICLE

# Making Malagasy Zebu: The Biopolitics of Cattle Commodification in Socialist Madagascar, 1960–1978

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## Abstract

At the dawn of Madagascar's independence in 1960, political entrepreneurs harnessed the enduring significance of Malagasy cattle, known as *zebu*, and declared them integral to the new national identity. From 1960–1972, President Philibert Tsiranana led the country through the period known as the First Republic, in which officials and technocrats launched development projects around breeding and constructing abattoirs and feedlots, in the hopes of creating a viable international meat export economy. For elites, *zebu* served as speculative vessels for remaking economic and political geographies and shifting away from dependence on French interests. Malagasy government officials and technical experts saw pastoralists as key to actualizing the economic potential of cattle and they sought to combat “peasant idleness” as a hindrance to Madagascar's flourishing. Pastoralists, though, challenged the bounds of top-down authority and debated the kinds of knowledge that could and should inform modernization projects in the new nation-state. Cattle ranchers' critiques of the logics and encroachment of prescriptive modernization schemes during the 1960s and 1970s can be understood as their insistence on sharing in the fruits of independence, and that they, with their deep knowledge of cattle behavior, had a role to play in forging meaningful, prosperous lives in broader ancestor-focused cosmologies. Investigating the twinned history of Madagascar's beef exportation and cattle modernization plans reveals how cattle were enlisted in the project of nation-making and a crucial moment of possibility, in which state-crafters ambitiously pursued a path toward self-determination while navigating oscillating geopolitics and asymmetrical global economic relations.

**Keywords:** Socialism; cattle; development; Madagascar; consumption; commodification; decolonization; pastoralism; technical expertise; biopolitics

If Malagasy readers saw newspaper headlines in Madagascar on 21 June 1972, they would have encountered a by-then-familiar narrative about cattle owners, Malagasy cattle (known as *zebu*), and economic growth in the newly independent nation. One

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columnist described how pastoralists were foiling the long-anticipated development plans for the socialist government's Ferme d'État Omby (state model ranch) near the island's largest cattle market in Tsiroanomandidy (see [Map 1](#)), designed to instruct local owners in intensive fattening, disease prevention, and breeding practices.<sup>1</sup> Over the previous several years, dozens of "young Brahmans" had been air shipped from Texas to the ranch, where they were surveilled, acclimatized, and nourished for crossbreeding experiments in the confines of fenced pastures—fences which cut right through pasture lands utilized by local pastoralists.<sup>2</sup> The state-run ranch was, in one newspaper's words, part of the "conquest of the west" to which cattle owners were vehemently opposed.<sup>3</sup>

Pastoralists were not just angry about the state's spatial incursion; there was also the issue of time and technical sensibilities. Echoing well-worn characterizations, journalists described the "fundamental difference between progress and tradition" which beset the project and prevented short-sighted, obstinate cattle herders from grasping how their *zebu* could grow more quickly through intensified feeding and pasturing practices based on confinement.<sup>4</sup> One columnist confidently proclaimed that "once the pastoralist saw his *zebu* getting thinner during the dry season and the one of the neighboring ranch keeping its meat" then he would cast off the mantle of traditionalism to enjoy the fruits of modern livestock farming.<sup>5</sup> Yet pastoralists' objections were not for want of understanding. They clearly grasped the intentions of the state's ranch modernization scheme and the growth-based economic development model that mirrored land-encroaching and intrusive livestock improvement projects during French colonial rule (1896–1960). Cattle owners' critiques rather fell on the state's foray into their "rhythm of life" that accompanied the arrival of "*vazaha*" (foreign) *zebus*.<sup>6</sup> Pastoralists were rightly concerned about losing control over their time, since agricultural modernization schemes, much like the factories and mills of eighteenth-century Europe, were indeed sites of rigorous "time-discipline" impositions.<sup>7</sup>

Embedded within pastoralists' critiques, moreover, was an insistence on the value of their time-honed knowledge of raising and slaughtering *zebu*, based on collective experiments with optimal temporalities and conditions of cattle life. Over generations, pastoralists around Tsiroanomandidy and beyond had developed strategies that maximized the merits of measured, patient fattening of young cattle and drew on cattle lifespans to sustain human social reproduction. Like the elite technocrats and foreign technical experts who promoted the state-run ranch, pastoralists similarly understood *zebu* as key to prosperity, as expressed in the proverb, "ox is for human above all, as the life of human life."<sup>8</sup> But the technical

<sup>1</sup>"Ferme d'État Omby, Levée d'Angady dans l'Ouest?" *Madagascar Matin*, 21 June 1972.

<sup>2</sup>Archives Diplomatiques, Nantes France (AD) 674PO/1/374-376, Report "Les Abattoirs Industriels a Madagascar," 12 Nov. 1970.

<sup>3</sup>"La <<conquest de l'Ouest>> de la Ferme d'État Omby se heurte au mécontentement des paysans de Tsiro," *Courrier de Madagascar*, 27 June 1972.

<sup>4</sup>Ibid.

<sup>5</sup>Ibid.

<sup>6</sup>*Vazaha* is a term denoting foreigners or strangers, especially white Europeans and North Americans.

<sup>7</sup>E. P. Thompson, "Time, Work-Discipline, and Industrial Capitalism," *Past & Present* 38 (1967): 56–97, 85.

<sup>8</sup>H. Dubois, "Monographie des Betsileo [Monograph of Betsileo]," *Travaux et Mémoires de l'Institut d'Ethnologie* XXXIV (Paris: Musée de l'Homme. 1938).

means through which cattle would make humans prosperous, and the question of *who* would so prosper, were core to their contention.

This article investigates overlapping livestock development projects in post-colonial Madagascar (1960s–1970s), where Malagasy elites, French technical experts, diplomats, investors, and cattle ranchers all probed the dynamically unfolding potential of the island. By following *zebu*—from pastures to experimental stations, ranches and feedlots, marketplaces and abattoirs, canning factories and dining tables—I explore several questions: How were cattle enrolled in contestations over authority, knowledge, and worldmaking in postcolonial Madagascar? What kinds of political and economic constellations emerged in and around the body of the *zebu*? If cattle were central to the technopolitical assemblages that aspiring nation-makers implemented in the 1960s and 1970s, then what were the limits to which modernization schemes could remake cattle and pastoralists within biopolitical projects to forge the new nation-state? As animate agents within material networks of an emergent beef export economy, cattle and their owners at times exceeded the plans of technocrats and pushed for new possibilities for life-making in the Malagasy nation state.

Although the details of this case are particular to Madagascar, the implications of taking seriously the more-than-human world stretch to broader contexts of modernization in the era of decolonization across Africa and beyond.<sup>9</sup> When African nations seized their independence in the 1960s and 1970s, postcolonial elites catalyzed modernization schemes in their efforts to build new independent political and economic futures. Rather than rotely accepting proffered development models, they selectively engaged the ideologies and technological know-how of wide-ranging socialist and capitalist regimes.<sup>10</sup> For technocrats and officials, large-scale infrastructure projects were at once the manifestation of modernity, the channel to deeper engagements with world markets, and the means through which ostensibly “backward” segments of the population—whether peasants, artisans or, in this case, pastoralists—could be transformed into modern citizens through intensified use of technology.<sup>11</sup> As scholars have shown elsewhere, displacements of power and shifting geographies of food production emerged from deeper histories of development that

<sup>9</sup>Here and throughout, my use of “decolonization” follows from recent scholarship which conceptualizes decolonization as an imaginative and transformative political project *and* an era, “a contingent moment of political independence and a long-standing process with deep roots.” Christopher Lee, “Introduction,” in Christopher J. Lee, ed., *Making a World after Empire: The Bandung Moment and Its Political Afterlives* (Athens: Ohio University Press, 2019), 1–42, 5; Leslie James and Elisabeth Leake, “Introduction,” in L. James and E. Leake, eds., *Decolonization and the Cold War: Negotiating Independence* (London: Bloomsbury, 2015), 1–18.

<sup>10</sup>Sarah Runcie, “From Malaria Eradication to Basic Health Services: Decolonization and Public Health Futures in 1960s Cameroon,” *International Journal of African Historical Studies* 53, 1 (2020): 27–45; Abena Dove Osseo-Asare, *Atomic Junction: Nuclear Power in Africa after Independence* (Cambridge: Cambridge University Press, 2019); Abou Bamba, *African Miracle, African Mirage: Transnational Politics and the Paradox of Modernization in Ivory Coast* (Athens: Ohio University Press, 2016); Naarborko Sackeyfio-Lenoch, “Decolonization, Development, and Nation Building in Ghana-Asia relations, 1957–1966,” *International Journal of African Historical Studies* 49, 2 (2016): 235–53.

<sup>11</sup>Gabrielle Hecht, “Rupture-Talk in the Nuclear Age: Conjugating Colonial Power in Africa,” *Social Studies of Science* 32, 5–6 (2002): 691–727; Frederick Cooper, “Modernizing Bureaucrats, Backward Africans, and the Development Concept,” in Frederick Cooper and Randall Packard, eds., *International Development and the Social Sciences: Essays on the History and Politics of Knowledge* (Berkeley: University of California Press, 1997), 64–92.

manifest the technopolitical legacies of colonial (dis)orders and Cold War contestations.<sup>12</sup>

Here I will build on existing scholarship around modernization schemes to work toward a more nuanced understanding of nation-building in post-colonial Africa as a set of material, socio-political, and technological practices elite officials harnessed to advance autonomous participation in the global order, even while constrained by colonial legacies, competing knowledge regimes, and the conditions of animate life.<sup>13</sup> Like laborers elsewhere on the continent, Malagasy *zebu* ranchers foiled officials' assumptions that they would readily adopt the mechanization of their work, and pushed back on the conditions around cattle breeding, intensified feeding, and slaughter imposed on them by state authorities, scientists, and technicians.<sup>14</sup> Cattle development projects were sites where cattle ranchers challenged the bounds of top-down authority and debated the *kinds of knowledge* that could and should inform modernization projects in the new Malagasy nation-state. Pastoralists' critiques of the logics and encroachment of prescriptive modernization schemes during the 1960s and 1970s can be understood as an insistence not only that "the benefits of global interaction should come to them" but also on the importance of their deep knowledge of cattle behavior and their role in forging meaningful, prosperous lives in broader ancestor-focused cosmologies.<sup>15</sup>

At the same time, the bodies of *zebu* served as speculative vessels for "refiguring global technopolitical geographies" involving national leaders, determined pastoralists, frustrated veterinarians, hungry consumers, and mournful former colonizers.<sup>16</sup> From colonial times through the 1960s, veterinary experts sought to re-engineer *zebu* bodies into more perfect commodities through intensive vaccination campaigns, improved feeding schemes, and crossbreeding with widely distributed fellow breeds, especially French Limousin, Texas Brahman, and South African Afrikaner cattle. Not only did re-engineered Malagasy *zebu* embody organic material and ideas from across the world, but they also generated unanticipated economic constellations as vital commodities. While conserved and frozen *zebu* beef had long been exported to France, from the 1960s Madagascar began supplying meat in pathways that defied earlier agricultural commodity flows from the colony to the metropole—instead circulating to far-reaching consumers including Israel, Kuwait, and Ghana. In the postwar era of expanding global beef consumption

<sup>12</sup>Gabrielle Hecht, "Introduction," in G. Hecht, ed., *Entangled Geographies: Empire and Technopolitics in the Global Cold War* (Cambridge: MIT Press, 2011), 1–12, 6.

<sup>13</sup>The literature on modernization is voluminous. See, for instance, Stephan Miescher, *A Dam for Africa: Akosombo Stories from Ghana* (Athens: Ohio University Press, 2022); Peter J. Bloom, Stephan F. Miescher, and Takyiwa Manuh, eds., *Modernization as Spectacle in Africa* (Bloomington: Indiana University Press, 2014); Allen Isaacman and Barbara Isaacman, *Dams, Displacement, and the Delusion of Development* (Athens: Ohio University Press, 2013); Timothy Mitchell, *Rule of Experts: Egypt, Techno-Politics, and Modernity* (Berkeley: University of California Press, 2002); James Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven: Yale University Press, 1999).

<sup>14</sup>Gabrielle Hecht, "Hopes for the Radiated Body: Uranium Miners and Transnational Technopolitics in Namibia," *Journal of African History* 51 (2010): 213–34.

<sup>15</sup>Frederick Cooper, "Development, Modernization and the Social Sciences in the Era of Decolonization," *Revue d'Histoire des Sciences Humaines* 10 (2004): 9–38, 33.

<sup>16</sup>G. Hecht, ed., *Entangled Geographies: Empire and Technopolitics in the Global Cold War* (Cambridge: MIT Press, 2011), 5.

and industrialized food production, Malagasy officials worked to minimize dependency on France by cultivating relations with a wider set of international allies, including Japanese investors interested in securing access to *zebu* products and Zambian importers seeking to satisfy rising consumer demand. Madagascar's early success as a global meat exporter, however, was stymied in the mid-1970s by a contingent series of disease, climatic, and economic events coupled with long-standing rancor among pastoralists about the continued impingement of the state and intrusive predations of foreign investors into cattle farming.

This story of postcolonial cattle development projects in Madagascar elicits two main insights: one into histories of environment and livestock-based economies, and a second into nation-making in the era of decolonization. First, scholarship has shown the centrality of animate life to the making of regional economic networks and alternative political imaginaries. Livestock animals, especially cattle, pigs, and chickens, have been remarkably frequent figures in colonial, capitalist, and developmentalist projects, circulating across wide-ranging geographical, ideological, and economic contexts.<sup>17</sup> Their integral place and sheer ubiquity across histories and societies signals their potential for meaning-making, for engendering new relationships to food and the body, and for conscription into visions of national futurity.<sup>18</sup> Recently historians have shown how global provisioning economies shifted markedly during the nineteenth and early twentieth centuries, driven by growing urbanization, insatiably carnivorous appetites, expanded transportation networks, and new technologies of meatpacking and cold storage.<sup>19</sup> Rather than regional circuits of production and

<sup>17</sup>Jessica Wang, *Mad Dogs and other New Yorkers: Rabies, Medicine, and Society in an American Metropolis, 1840–1920* (Baltimore: Johns Hopkins University Press, 2019); Joshua Specht, *Red Meat Republic: A Hoof-to-Table History of How Beef Changed America* (Princeton: Princeton University Press, 2019); Andrew Robichaud, *Animal City: The Domestication of America* (Cambridge: Harvard University Press, 2019); Alex Blanchette, *Porkopolis: American Animality, Standardized Life, and the Factory Farm* (Durham: Duke University Press, 2020); Thomas Fleischman, *Communist Pigs: An Animal History of East Germany's Rise and Fall* (Seattle: University of Washington Press, 2020); Rebecca Woods, *The Herds Shot Round the World: Native Breeds and the British Empire, 1800–1900* (Chapel Hill: University of North Carolina Press, 2017); Roger Horowitz, *Putting Meat on the American Table: Taste, Technology, Transformation* (Baltimore: Johns Hopkins University Press, 2006); Jimmy Skaggs, *Prime Cut: Livestock Raising and Meatpacking in the United States, 1607–1983* (College Station: Texas A&M University Press, 2000); William Cronon, *Nature's Metropolis: Chicago and the Great West* (New York: Norton, 1991).

<sup>18</sup>An emergent, vibrant cluster of animal histories in Africa, mostly focused on the colonial period, includes Saheed Aderinto, *Animality and Colonial Subjecthood in Africa: The Human and Nonhuman Creatures of Nigeria* (Athens: Ohio University Press, 2022); Christopher Konz, "Sheep, Scab Mites, and Society: The Process and Politics of Veterinary Knowledge in Lesotho, Southern Africa, c. 1900–1933," *Environment and History* 26, 3 (2020): 383–412; Jacob Dlamini, *Safari Nation: A Social History of the Kruger National Park* (Athens: Ohio University Press, 2020); Nancy Jacobs, *Birders of Africa* (New Haven: Yale University Press, 2016); Alan Mikhail, *The Animal in Ottoman Egypt* (Oxford: Oxford University Press, 2013); Thaddeus Sunseri, "A Political Ecology of Beef in Colonial Tanzania and the Global Periphery, 1864–1961," *Journal of Historical Geography* 39 (2013): 29–42; and Sandra Swart, *Riding High: Horses, Humans, and History in South Africa* (Johannesburg: Wits University Press, 2010).

<sup>19</sup>Maria-Aparecida Lopes, *Rio de Janeiro in the Global Meat Market, c. 1860 to c. 1930* (London: Routledge, 2021); Robert Wilcox, *Cattle in the Backlands: Mato Grosso and the Evolution of Ranching in the Brazilian Tropics* (Austin: University of Texas Press, 2017); Rebecca Woods, "From Colonial Animal to Imperial Edible: Building an Empire of Sheep in New Zealand, ca. 1880–1900," *Comparative Studies of South Asia, Africa and the Middle East* 35, 1 (2015): 119–22. Cold storage can also be understood as part of "thermal colonialization," in which the production of idealized environments is driven by settler colonial desire; see

consumption, European consumers increasingly ate meat slaughtered in faraway, overseas plants—whether Brazil, Argentina, North America, Australia, or New Zealand. With few exceptions, though, this work has generally focused on domestic, colonial, and imperial contexts centering consumers in North America and Europe and has rarely appraised alternative commercial trajectories of meat, let alone in times of decolonization.<sup>20</sup> Nor do we fully understand how and why some cattle-abundant countries, like Brazil and Argentina, became key suppliers in the global meat trade well into contemporary times, while others did not despite possessing comparable cattle wealth.

This article offers a different social and economic geography of meat circulation by centering Madagascar's role as a fluctuating site of beef production, even while provision was ever entangled in complex webs of local consumption.<sup>21</sup> Madagascar has historically held enormous bovine stock, hovering in the range of eight to ten million over the last half century.<sup>22</sup> In 1961, cattle outnumbered the country's population of 5.2 million by 1.6 cattle to every person, and continued to do so even while the island's population grew in the 1960s and 1970s to about 8.7 million people in 1980.<sup>23</sup> Madagascar had far more cattle per capita than some large cattle holding countries such as Brazil, but a proportion similar to other cattle-rich African nations such as Zambia, Botswana, and Kenya. Madagascar's prospects for increasing meat exports hinged on intensified development schemes with roots in the late colonial period, including genetic breeding and construction of abattoirs and material infrastructure. Tracing these geographies not only disrupts assumptions about economic relations between centers and peripheries; it also sheds light on the seizure of agential possibilities for collaboration and exchange among aspiring Malagasy nation-makers who strove to circumvent entrenched, colonial-era economic dependencies on France by fostering new economic and diplomatic relationships with unexpected allies. Investigating the twinned history of Madagascar's beef exportation and cattle modernization plans—though they were short-lived—reveals a crucial moment of possibility in the years after independence,

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Hi'ilei Hobart, *Cooling the Tropics: Ice, Indigeneity, and Hawaiian Refreshment* (Durham: Duke University Press, 2023).

<sup>20</sup>Some exceptions include Tatsuya Mitsuda, "From Colonial Hoof to Metropolitan Table: The Imperial Biopolitics of Beef Provisioning in Colonial Korea," *Global Food History* (2023), <https://www.tandfonline.com/doi/full/10.1080/20549547.2022.2159708?scroll=top&needAccess=true&role=tab&aria-labelledby=full-article>; DOI: 10.1080/20549547.2022.2159708; and Thaddeus Sunseri, "International Beef Packing in the Age of Empire: LEMCO in South West Africa, 1906–c. 1940," *South African Historical Journal* 73, 3 (2021): 573–600.

<sup>21</sup>The scope of this article is on fresh and frozen meat circulation and (briefly) on hides, but canned meat was also important to Madagascar's export meat industry in the colonial and early postcolonial periods. See Fanjarahivola Rakotomaharo, "Historique et Actualite de l'Exportation de Viande Bovine à Madagascar," Thesis, Université d'Antananarivo, Ecole Supérieure des Sciences Agronomiques, 1993; and Samuël Coghe's book in preparation, "Commodifying Cattle. Transforming Livestock Economies and Knowledge Regimes in Colonial Madagascar, 1890–1960."

<sup>22</sup>FAO statistics, 2022, <https://www.fao.org/faostat/en/#search/cattle%20%2B%20madagascar> (accessed 16 July 2022).

<sup>23</sup>See <https://data.worldbank.org/indicator/SP.POP.TOTL?locations=MG> (accessed 25 July 2022). These figures are aggregate statistics based on figures provided by the United Nations Population Division; country census reports; Eurostat; United Nations Statistical Division; and the U.S. Census Bureau: International Database.

when aspiring state-crafters pursued a path of self-determination while navigating oscillating geopolitics and asymmetrical global economic relations.

Running parallel to this, historians of nation-building in Africa and South Asia have shown how, during the 1960s and 1970s, the efforts of post-imperial political actors' to reimagine the terms of solidarity and sovereignty were constrained by a global political economy of ever-narrowing possibilities.<sup>24</sup> Developmentalism, beginning in late colonial times and continuing into the years following independence, was characterized by uneven networks in which technical experts gained prime positioning to exert increasing influence over the course of economic and technopolitical arrangements.<sup>25</sup> Scholars have shown how intensive agro-industrial projects have been central to the making of national identities and alternative modernities, just as enterprising postcolonial political thinkers across feudal, capitalist, socialist, or fascist regimes have enrolled the animate world in their quests to form new political formations.<sup>26</sup> Bringing animals into histories of modernization in the era of decolonization can illuminate how nation-building development schemes—whether socialist or capitalist in orientation—were not only economic, discursive, and technological projects; they were profoundly shaped by the creative capacities (and constraints) of the more-than-human world. The making of the Malagasy socialist nation through meat exportation relied on the crucial “metabolic labor” of Malagasy *zebu* who transformed energy-rich grasses into meat and hides, and their commensal compliance with human-driven projects that rendered large-scale extractive projects imaginable and possible.<sup>27</sup> Ultimately, cattle-centered development projects in the 1960s and 1970s were constituted by fundamental struggles over not only who could control the more-than-human

<sup>24</sup>Pedro Monaville, *Students of the World: Global 1968 and Decolonization in the Congo* (Durham: Duke University Press, 2022); Benjamin Siegel, “The Kibbutz and the Ashram: Sarvodaya Agriculture, Israeli Aid, and the Global Imaginaries of Indian Development,” *American Historical Review* 125, 4 (2020): 1175–204; Adom Getachew, *Worldmaking after Empire: The Rise and Fall of Self-Determination* (Princeton: Princeton University Press, 2019); Taylor Sherman, “‘A New Type of Revolution’: Socialist Thought in India, 1940s–1960s,” *Postcolonial Studies* 21, 4 (2018): 485–504; Jeffrey Ahlman, *Living with Nkrumahism: Nation, State and Pan-Africanism in Ghana* (Athens: Ohio University Press, 2017); Christopher J. Lee, ed., *Making a World after Empire: The Bandung Moment and Its Political Afterlives* (Athens: Ohio University Press, 2010).

<sup>25</sup>On the periodization of development, see Joseph Hodge, Gerald Hödl, and Martina Kopf, eds., *Developing Africa: Concepts and Practices in Twentieth-Century Colonialism* (Manchester: Manchester University Press 2014); Christophe Bonneuil, “Development as Experiment: Science and State Building in Late Colonial and Postcolonial Africa, 1930–1970,” *Osiris* 15 (2000): 258–81, 259; and Cooper and Packard, *International Development*. On the role of experts, see David Pretel and Lino Camprubi, eds., *Technology and Globalisation: Networks of Experts in World History* (London: Palgrave Macmillan, 2018); Helen Tilley, *Africa as a Living Laboratory: Empire, Development, and the Problem of Scientific Knowledge, 1870–1950* (Chicago: University of Chicago Press, 2011); Hecht, *Entangled Geographies*; Joseph Hodge, *Triumph of the Expert: Agrarian Doctrines of Development and the Legacies of British Colonialism* (Athens: Ohio University Press, 2007); Mitchell, *Rule of Experts*; and Bonneuil, “Development as Experiment.”

<sup>26</sup>Fleischman, *Communist Pigs*; Tiago Saraivo, *Fascist Pigs: Technoscientific Organisms and the History of Fascism* (Cambridge: MIT Press, 2018); Yuka Suzuki, *The Nature of Whiteness: Race, Animals and Nation in Zimbabwe* (Seattle: University of Washington Press, 2017).

<sup>27</sup>Maan Barua, “Animal Work: Metabolic, Ecological, Affective,” *Society for Cultural Anthropology, Editors' Forum: Theorizing the Contemporary: Fieldsights*, 26 July 2018, <https://culanth.org/fieldsights/animal-work-metabolic-ecological-affective>; Timothy LeCain, *The Matter of History: How Things Create the Past* (Cambridge: Cambridge University Press, 2017), 147.

world, but also competing knowledge frameworks and cosmologies through which cattle (in all their potentiality)—and the world—could be remade.

Tracing animals' complex roles in developmentalist projects requires ferreting out the moments when humans thought their presence worth recording. Animals tend to surface in archival records when their entanglements with human communities, experts, and officials crystallized, confirmed, or cast doubt on existing understandings of the rhythms and textures of human-animal life. While proverbs, archaeological evidence, and ethnological accounts provide important perspectives on human-*zebu* interactions over time, declassified diplomatic records, scientific studies, and technical assistance reports offer critical insights into the ever-shifting place of *zebu* in nationalist-oriented developmentalist projects. *Zebu* make uneven appearances in the copious records of technical assistance projects, sometimes as subject of laborious counts and meticulous quantitative calculations and at other times as objects of control, but such sources also reveal what Efrat Gilad calls “flickers of animal agency.”<sup>28</sup> Though diplomatic and technical records have their problems, they do reveal anxieties over the waning French presence in socialist Madagascar, the limits of “technical diplomacy,” and the politics of brokering knowledge in the age of decolonization, when Malagasy authorities were gradually supplanting French alliances.<sup>29</sup> When coupled with official speeches of Malagasy leaders and Malagasy newspapers, these records also reveal the extensive debates and heterogeneous ideas that circulated among Malagasy officials, and pastoralists on the ground, about what constituted “Malagasy socialism” and how best to harness *zebu* in the pursuit of self-reliance.

### Colonial Inheritances and the Promises of Meat Exportation, 1960–1968

As across much of the African continent, cattle in Madagascar have long been protagonists in histories of sociality, co-existing with and sustaining human communities as steadfast companions through ecological, economic, and political tumults. According to recent genetic research, the Malagasy *zebu* (*omby* or *jamoka* in Malagasy) derive from *Bos indicus* which spread from the Indus Valley thousands of years ago. They were likely transported to Madagascar by Indian Ocean traders, as early as the ninth century.<sup>30</sup> As human populations grew, cattle were critical to the thriving of early settlements, and by the twelfth century, in certain regions, their

<sup>28</sup>“Cattle Ecologies and Economies in British Mandate Palestine,” paper presented at “Livestock as Global and Imperial Commodities: Economies, Ecologies and Knowledge Regimes, c. 1500–present,” Free University, Berlin, Germany, 14 July 2022.

<sup>29</sup>“Technical diplomats” is offered by Pretel and Camprubi to describe technical experts as “agents of empire,” in “Technological Encounters: Locating Experts in the History of Globalisation,” in David Pretel and Lino Camprubi, eds., *Technology and Globalisation: Networks of Experts in World History* (London: Palgrave Macmillan, 2018), 7.

<sup>30</sup>Nicole Boivin, Alison Crowther, Richard Helm, and Dorian Fuller, “East Africa and Madagascar in the Indian Ocean World,” *Journal of World Prehistory* 26 (2013): 213–81, 230–36; Chantal Radimilahy, “Mahilaka: An Archaeological Investigation of an Early Town in Northwestern Madagascar,” PhD diss, Uppsala, 1998; Jessica Magnier, et al., “The Genetic History of Mayotte and Madagascar Cattle Breeds Mirrors the Complex Pattern of Human Exchanges in Western Indian Ocean,” *G3 Genes/Genomes/Genetics* 12, 4 (2022): 1, <https://pubmed.ncbi.nlm.nih.gov/35137043/>.



**Map 1.** Beef Cattle Development Project Sites, Madagascar, 1960s–1970s. See note 43 regarding place names. Map by Tim Stallmann.

numbers were double that of the human population.<sup>31</sup> Zebu’s voracious appetite for grasses prompted a decisive shift in human land use beginning around 1000 CE, especially in northwest Madagascar, when pastoralists used fire to convert semi-

<sup>31</sup>Jeffrey Kaufmann and Sylvestre Tsirahamba, “Forests and Thorns: Conditions of Change Affecting Mahafale Pastoralists in Southwestern Madagascar,” *Conservation Sociology* (2006): 231–61, cited in Sean Hixon et al., “Late Holocene Spread of Pastoralism Coincides with Endemic Megafaunal Extinction on Madagascar,” *Proceedings of the Royal Society B* 288, 1955 (2021): 1–10.

forested terrain to pasture.<sup>32</sup> Leading up to the nineteenth century, pastoralism sustained communities in the island's southern and western regions, where cattle served as markers of status and repositories of wealth.<sup>33</sup> Like in other parts of the world, Malagasy pastoralists distinguished cattle from other animate species for their "sacred character."<sup>34</sup> Not only were they critical to livelihoods and communal prosperity, but *zebu* were (and continue to be) slaughtered at life-cycle celebrations, incorporated into funerary art, and regarded as conduits to the ancestors.<sup>35</sup>

Cattle were pulled into vibrant commercial networks starting in the sixteenth century, when they were traded among Antalaotra (Swahili) and European merchants, Merina elites in highland Madagascar, and plantation owners in the Mascarenes.<sup>36</sup> In the early nineteenth century, under the highland Merina kingdom, Madagascar's live cattle exports to the Mascarenes grew exponentially.<sup>37</sup> While local markets consumed modest amounts of cattle products including tallow for caulk, horns for cooking utensils, and bones for buttons, European consumers increasingly demanded large volumes of salted beef, tallow, and hides, culminating in the late nineteenth century.<sup>38</sup> Following French colonial conquest in 1895–1896, cattle were central to visions of the island's economic prosperity. Colonial officials sought to wrest control over cattle's mobility, implement livestock tax schemes, and boost revenues from commodity chains of hide and beef production. Evading the rinderpest epizootics sweeping across Africa, they invested considerable resources in boosting export trade in cattle products, especially meat conserves and hides, by

<sup>32</sup>L. Bruce Railsback et al., "Relationship between Climate Change, Human Environmental Impact, and Megafaunal Extinction Inferred from a 4000-year Multi-proxy Record from a Stalagmite from Northwestern Madagascar," *Quaternary Science Review* 234 (2020): 1–14; Ny Riavo Voarintsoa et al., "Multiple Proxy Analyses of a U/Th-dated Stalagmite to Reconstruct Paleoenvironmental Changes in Northwestern Madagascar between 270 CE and 1300 CE," *Palaeogeography, Palaeoclimatology, Palaeoecology* 469, 1 (2017): 138–55.

<sup>33</sup>Louis Molet, "Le Boeuf dans la civilisation Malgache" (Paris: ORSTOM, 1963). See also Gwyn Campbell, "Commercialisation of Cattle in Imperial Madagascar, 1795–1905," in Martha Chaiklin, Philip Gooding, and Gwyn Campbell, eds., *Animal Trade Histories in the Indian Ocean World* (Palgrave: London, 2020), 181–215, 189.

<sup>34</sup>Louis Molet, "Le Boeuf dans l'Ankaizina: Son importance sociale et économique," *Mémoires de l'Institut Scientifique de Madagascar*, Série C: Sciences Humaines 2 (1953), 1–128, 1.

<sup>35</sup>The practice of slaughtering many cattle for burial rituals, part of the elaborate funerary tradition known as *manao afana* in the highlands, waned in the late nineteenth century owing to the increasingly authoritarian Merina kingdom. Voluminous slaughter was gradually incorporated into ritual exhumations (*famidihana*). Pier M. Larson, "Austronesian Mortuary Ritual in History: Transformations of Secondary Burial (*Famidihana*) in Highland Madagascar," *Ethnohistory* 48, 1–2 (2001): 123–55, 149.

<sup>36</sup>Gwyn Campbell, *An Economic History of Imperial Madagascar, 1750–1895: The Rise and Fall of an Island Empire* (Cambridge: Cambridge University Press, 2005).

<sup>37</sup>Campbell, "Commercialisation," 188–99. Debates, still ongoing, abound about the relative abundance of cattle in the eighteenth and nineteenth centuries, owing to drought and ecological change. See *ibid.*; and Jane Hooper, *Feeding Globalization: Madagascar and the Provisioning Trade, 1600–1800* (Athens: Ohio University Press, 2017).

<sup>38</sup>Campbell, "Commercialisation," 188–99. Beyond Madagascar, meat economies and infrastructures of provision linking North Africa to the Gulf of Aden were scaled up dramatically in the mid-to-late nineteenth century with European (especially British troops') demands for livestock and salted and fresh meat. See On Barak, *Powering Empire: How Coal Made the Middle East and Sparked Global Carbonization* (Oakland: University of California Press, 2020), 55–65.

allocating generous concessions to colons and building up beef-tinning factories beginning in the late 1920s.<sup>39</sup> Nonetheless, their efforts were often frustrated by clever pastoralists and unruly cattle thieves equipped with intimate knowledges of their herds and the ecological worlds in which they pastured.<sup>40</sup>

Beginning in the 1930s, French and Malagasy veterinary scientists for decades conducted genetic engineering experiments involving Malagasy cattle in which some twenty “exterior races” were introduced by plane and boat from Europe, the United States, and India in hopes of creating a “higher quality” breed.<sup>41</sup> Specifically, scientists aimed for a crossbreed with *zebu*’s strong immunity but with higher fertility, lower fat percentage, and better flavor, scent, and moisture level (“organoleptic qualities”).<sup>42</sup> Scientists working at the Laboratoire Veterinaire Joseph Carougeau in Tananarive [Antananarivo] asserted that Malagasy *zebu* was too grainy and bland for export-quality butchering, but that this did not have to be the case.<sup>43</sup> Genetic engineering interventions could produce a breed with strengthened hindquarters, a faster pace of growth, and a longer lifespan, on which an export economy could be built.<sup>44</sup> By alternately crossing Malagasy *zebu* with Brahman bulls from Texas, they hoped to develop a breed which could be raised intensively and slaughtered younger to meet the tastes of consumers abroad.<sup>45</sup> In this framework, pastoralists would continue to raise vast herds of free-range Malagasy *zebu*, whose meat was suitable for canning or conserving in colonial-era factories.<sup>46</sup>

Malagasy pastoralists themselves had long engaged in their own breeding experiments, which had resulted in a hardy breed—the Malagasy *zebu*—able to withstand long periods of drought and capable of formidable labor. Pastures across Madagascar were fluid laboratories, as Shadreck Chirikure and Chakanetsa Mavhunga

<sup>39</sup>Jean-Pierre Raison notes that Société Rochefortaise, which became one of the island’s most important cattle companies, established ranches in the pasture-rich region of the middle-west, which were maintained by migrant laborers on a sharecropping model to fatten and sell cattle (*dabok’andro*); “Immigration in the Sakay District, Madagascar,” *ORSTOM Fonds Documentaire* (1975), 200–3.

<sup>40</sup>Jeffrey Kaufmann, “La Question des Raketa: Colonial Struggles with Prickly Pear Cactus in Southern Madagascar, 1900–1923,” *Ethnohistory* 48 (2001): 87–121; and “The Non-modern Constitution of Famines in Madagascar’s Spiny Forests,” *Environmental Sciences* 5, 2 (2008): 73–89; Emmanuel Farroux, “Les échanges marchands dans les sociétés pastorale de l’ensemble meridional de Madagascar,” *Cahiers des sciences humaines* 30, 1–2 (1994): 197–210, 201–2; Jean Fremigacci, “Insécurité, banditisme, et criminalité dans le Nord de Madagascar au début du XXe siècle,” *Omalysy Anio* 25–26 (1987): 297–320.

<sup>41</sup>For instance, M. Guillermo, “Le Zébu de Madagascar,” *Revue d’élevage et de médecine vétérinaire des pays tropicaux* 3 (1949): 61–75, 62.

<sup>42</sup>H. Serres et al., “Le croisement Brahman à Madagascar,” *Revue d’élevage et de médecine vétérinaire des pays tropicaux* 21, 4 (1960): 519–61, 521.

<sup>43</sup>Colonial-era placenames were utilized until around 1975, when they were changed to reflect Malagasy language pronunciations more accurately. In many cases, however, colonial-era names are still utilized in common parlance. For these reasons, throughout this paper I retain the colonial-era names with contemporary names in brackets where applicable, thus Tananarive [Antananarivo], Majunga [Mahajanga], Tamatave [Toamasina], and so forth.

<sup>44</sup>Marcel Lacrouts et al., *Etudes des problèmes posés par l’élevage et la commercialisation du bétail et de la viande à Madagascar*, Ministère de la Coopération, Gouvernement de France, vols. 1–2 (1962), 28–32.

<sup>45</sup>Samuël Coghe, “Creating the Renitelo: Cattle Breeding and Veterinary Science in Late Colonial and Early Postcolonial Madagascar.” I am grateful to the author for sharing this unpublished manuscript.

<sup>46</sup>Serres et al., “Le croisement.” Note, however, that canning factories were also constructed during postcolonial times; see “Tsiranana inaugurate a conserverie,” *Le Courrier*, 18 Sept. 1965.

argue for elsewhere on the African continent, in which cattle breeders developed knowledge and produced new technological outcomes and ideas.<sup>47</sup> Malagasy cattle owners continued to shape veterinary expertise on cattle breeding at the Kianjasoa Center for Zootechnical Research in central-west Bongolava region, far from the bustling streets of Tananarive [Antananarivo] and the Carougeau lab. French and Malagasy veterinary scientists founded the center for breeding experiments in the 1930s and depended on the area's Malagasy breeders as collaborators.<sup>48</sup> Although never named in scientific reports and rarely recognized as knowledge producers, Malagasy pastoralists provided crucial labor and expertise including access to livestock, appraisals of the results of crossbreeding trials, and assessments of pastoralists' aesthetic preferences for certain bodily attributes. Multiple efforts to cross *zebu* with Limousin cattle from France, for instance, resulted in cattle which fared well in field stations, but cattle herders found they languished in ordinary pastoralist conditions.<sup>49</sup> Next, in the 1940s, scientists imported Afrikaner bulls from South Africa, but the resulting beef was "bland, with a coarse grain" and Malagasy breeders rejected their "long and lateral" horns.<sup>50</sup> By the 1950s, scientists ventured to cross all three breeds—*zebu*, Limousin, and Afrikaner—with promising results.<sup>51</sup> When compared with *zebu*, these tri-bred oxen had wider midsections and rounder, better developed muscles and "more tasty and tender" flesh, and were exceptionally strong and resilient transporters and draft animals.<sup>52</sup> But alas, cattle owners found their lack of a fatty, dorsal hump, the distinctive feature of *zebu*, aesthetically unappealing.<sup>53</sup> In short, cattle were sites of meaning, contestation, and knowledge-making in the lead-up to Madagascar's independence.

Madagascar seized its independence in 1960. From then until 1972, a period known as the First Republic, the country was led by President Philibert Tsiranana, a former schoolteacher. This era is marked in both popular imagination and scholarly accounts as "neo-colonial" owing to the retention of arrangements of French colonial rule: its highly centralized social democratic system, French as the language of educational

<sup>47</sup>Shadreck Chirikure, "The Metalworker, the Potter, and the Pre-European African 'Laboratory,'" in Clapperton Chakanetsa Mavhunga, ed., *What Do Science, Technology, and Innovation Mean from Africa?* (Cambridge: MIT Press, 2017), 63–77; Chakanetsa Mavhunga, "Introduction: What Do Science, Technology, and Innovation Mean from Africa?" in *What Do Science, Technology, and Innovation Mean from Africa?* (Cambridge: MIT Press, 2017), 1–27; Chakanetsa Mavhunga, *Transient Workspaces: Technologies of Everyday Innovation in Zimbabwe* (Cambridge: MIT Press, 2014.)

<sup>48</sup>J. Gilibert, "Une nouvelle race bovine: le Renitelo," *Revue d'élevage et de médecine vétérinaire des pays tropicaux* 27, 1 (1974): 5–37.

<sup>49</sup>A. Lalanne, Georges Metzger, and J. L. Hamon, "L'amélioration du zébu malgache: création d'une race à viande par métissage," *Revue d'élevage et de médecine vétérinaire des pays tropicaux* 11, 2 (1958): 191–213, 196–97; Gilibert, "Une nouvelle race."

<sup>50</sup>Gilibert, "Une nouvelle race," 7.

<sup>51</sup>Coghe, "Creating the Renitelo."

<sup>52</sup>Gilibert, "Une nouvelle race," 28.

<sup>53</sup>AD 673PO/1/261, secret letter from Henri Gauthier, Chargé d'Affaires de France to M. Couve de Murville, Ministère des Affaires Étrangères, "Commercialization of Meat," 7 Apr. 1965. In the 1970s, Malagasy cattle owners in the northwest reported to French researchers that Texas Brahms were unappealing because they lacked horns, were overly aggressive (often chasing people), and rarely bellowed. Pastoralists were "proud to hear this bellowing" and sought sonorous *zebu*. See Gilles Cori and Pierre Trama, *Types d'Élevage et de Vie Rurale à Madagascar* (Paris: Centre National de la Recherche Scientifique, 1979), 181.

instruction, and continuing close ties to French concessionaires, diplomats, and financiers. Tsiranana's regime was characterized by noisy debate, competing visions, and divergent ideas regarding the island nation's political future and economic viability. Early in his tenure, Tsiranana emphasized "Malagasy socialism" as the guiding ideology of development, a move meant to suture together radical activists pressing for a Marxist-Leninist stance and more conservative clusters that advocated retaining close relations with France.<sup>54</sup> High-ranking officials within Tsiranana's socialist democratic party (Partie Socialiste Democratique, herein PSD) debated socialism's ideological content and optimal trajectory, but all factions supported the expansion and modernization of the agricultural sector.<sup>55</sup> Tsiranana and his more conservative allies advocated maintaining tight economic and scientific alliances with the French government, industries, and research labs to enable agricultural developmentalist projects.

Like postcolonial leaders elsewhere, Malagasy elites mythologized decolonization as a clean break from the colonial past to advance their vision of a new and modern nation-state saturated with a distinctive "Malagasy" cultural bent.<sup>56</sup> Official pronouncements by Tsiranana and others steered clear of overt ideologically grounded alliances and emphasized instead the homegrown nature of Malagasy socialism as "our socialism, a practical and human socialism which lives and prospers without being preoccupied with grand theories..."<sup>57</sup> Anchoring Malagasy socialism in the very foundation of Malagasy cosmologies—the ancestors—officials sought to legitimize their approach by steeping it in an egalitarian, communitarian ethos, marked by work, solidarity, and "love of our country in the awakening of socialist traditions of our ancestors."<sup>58</sup>

Official discourses of ancestrally rooted Malagasy socialism were paired with the central role peasants and pastoralists would have in forging the new Malagasy nation.<sup>59</sup> In 1962, Malagasy government officials set out an ambitious plan to increase agricultural productivity by 57 percent between 1960–1963, striving for agricultural self-reliance—a keyword of African socialist regimes.<sup>60</sup> Here, self-reliance was officially defined as "preventing food imports" and building a thriving export economy, and it would continue to feature as a central dimension of

<sup>54</sup>In institutional terms, the PSD joined the Socialist International in 1961. On Malagasy socialism as a developmentalist ideology, see Françoise Raison-Jourde and Gérard Roy, *Paysans, intellectuels, et populisme à Madagascar* (Paris: Karthala, 2010), 88.

<sup>55</sup>Françoise Raison-Jourde, "Les mots du socialisme pour changer Madagascar: les impasses du ministre Resampa," in Françoise Blum et al., eds., *Socialismes en Afrique* (Paris: Éditions de la Maison des sciences de l'homme, 2021), 85–106.

<sup>56</sup>Priya Lal, *African Socialism in Postcolonial Tanzania: Between the Village and the World* (Cambridge: Cambridge University Press, 2015); Michael McGovern, *Unmasking the State: Making Guinea Modern* (Chicago: University of Chicago Press, 2012), 125; M. Anne Pitcher and Kelly Askew, "African Socialisms and Postsocialisms," *Africa* 76, 1 (2006): 1–14; Frederick Cooper, *Africa since 1940: The Past of the Present* (Cambridge: Cambridge University Press, 2002), 89.

<sup>57</sup>Archives Diplomatiques, Nantes (herein AD) 673PO/1/230, quoted by Alfred Ramangasoavina, Garde des Sceaux, Ministre de la Justice, in conference, "Malagasy Socialism and Development," 3 May 1962, Mahamasina stadium.

<sup>58</sup>*Ibid.*

<sup>59</sup>Blum et al., *Socialismes en Afrique*; Priya Lal, *African Socialism*.

<sup>60</sup>*Ibid.*

postcolonial citizenship well beyond the fledging days after independence.<sup>61</sup> The mechanisms for realizing this vision included the establishment of joint private-public large farming operations and, later, cooperative farms and agricultural unions, all of which rested on the labor of peasants.<sup>62</sup> Across African socialist regimes such as Nyerere's Tanzania, Sekou Touré's Guinea, and Frelimo's Mozambique, peasants were seen as the cornerstone of economic development plans, but simultaneously portrayed as backward communities hindering progress.<sup>63</sup> Likewise in Madagascar, peasants were ambivalently cast as either archaic obstacles or crucial agents.<sup>64</sup> Tsiranana and others complained that Malagasy were bound by both "ancient beliefs" in prohibitions (*fady*) on certain work days and a certain "indolence" that limited their productive labor to 100–125 days per year, with the rest of the time spent "contemplating cattle."<sup>65</sup> But then, peasants, including pastoralists, were portrayed as key "collaborators" who were crucial to bringing to fruition agricultural plans, a framing that masked the asymmetrical power relations between farmers and the state.<sup>66</sup>

One thing clear to political entrepreneurs forging the new nation-state was the enduring significance of cattle and pastoralists in any modernization plans. Malagasy officials declared that *zebu* had an integral place in the new national identity, evidenced in the prominence of the distinctive *zebu* horns in the country's official coat of arms. For early Malagasy planners—transforming the island into a modern, independent nation-state would depend on galvanizing peasants and pastoralists as full agents of progress. In Tsiranana's words, "...we don't want to make oxen, but breeders ... the peasant is not an apathetic instrument in the hands of the technicians, but a being capable of initiative...."<sup>67</sup> Like their counterparts in other socialist African nation-states, peasants and pastoralists would not only propel the nation forward, but become the very embodiment of hoped-for modernization.<sup>68</sup> If peasants needed to be disciplined to ensure Madagascar's prosperous future in the postcolonial era, then

<sup>61</sup>The Socialist Charter of the Malagasy Nation (known as the *boky mena*) described it this way: "The great powers in the year 2000 will be countries capable of feeding their inhabitants first, and exporting foodstuffs to other nations, secondly.... It is scandalous that we, one of the rice-producing countries, possessing an immense agricultural potential, was obliged to import for all these years an enormous quantity of rice, resulting in a hemorrhage of foreign currency that could have been used to buy the equipment needed for our development and industrialization" (p. 56).

<sup>62</sup>*Rapport sur le développement de Madagascar*, Malagasy Republic (Tananarive: Le Commissariat, 1962), 21.

<sup>63</sup>Scott, *Seeing Like a State*; Mike McGovern, *A Socialist Peace? Explaining the Absence of War in an African Country* (Chicago: University of Chicago Press, 2017), 45; Lal, *African Socialism*, 9; Jay Straker, *Youth, Nationalism, and the Guinean Revolution* (Bloomington: Indiana University Press, 1990); Bridget O'Laughlin, "Through a Divided Glass: Dualism, Class and the Agrarian Question in Mozambique," *Journal of Peasant Studies* 23, 4 (1996): 1–39. Discourses of the "backward peasant" had their roots in colonial developmentalist discourses; Cooper "Modernizing Bureaucrats," 69–72; and Lal, *African Socialism*, 137.

<sup>64</sup>AD 673PO/1/230, "Reflexions sur le programme économique et les journées malgache au développement," 1962 (exact date illegible).

<sup>65</sup>AD 673PO/1/230, quoted by Alfred Ramangasoavina, Garde des Sceaux, Ministre de la Justice, in the conference "Malagasy Socialism and Development," 3 May 1962, Mahamasina stadium; "Notes on the Synthesis of the Journée Malgaches du Développement," 5 May 1962.

<sup>66</sup>"President Tsiranana parle du socialisme Malgache," *Lumière*, 4 June 1967.

<sup>67</sup>Tsiranana quoted in Philippe Lefebvre, "Madagascar: Une grande île en dehors des orthodoxies de l'Afrique," *La Cité: Revue de la Cité de Paris*, 1 Jan. 1965: 22.

<sup>68</sup>Lal, *African Socialism*, 9; Scott, *Seeing Like a State*.

cattle were close behind as necessary subjects of biopolitical transformation in broader developmentalist schemes.

Such postcolonial projects followed from colonial studies and were driven, in part, to address a perceived paradox of Madagascar's cattle population, a perception that would drive cattle development projects well after 1960: The island boasted an exceedingly high cattle population—some nine million, amounting to 1.5 cattle/per capita in 1960—making it “one of the most affluent countries” in cattle holdings worldwide.<sup>69</sup> With such livestock wealth, French economists, officials, and livestock specialists surmised, the country ought to “occupy an important position in global trade in meat,” and yet exports were minimal and comprised only a tiny fraction of the global meat market.<sup>70</sup> Other scientists argued that despite the large number of cattle the overall count was diminishing and so it was critical to employ breeding to cultivate a larger oxen that could yield more meat.<sup>71</sup> Cattle had a remarkable physiological ability to elastically expand the size of their bodies through crossbreeding and feeding practices. This allowed technocrats to imagine an expansion of the island's meat economy, which would undergird future visions for the postcolonial era. At the cusp of the island's independence in 1960, with the recent results of the “three-race crossbreed” experiments bringing together Afrikaner, Limousin, and Malagasy cattle, veterinary scientists felt momentum building toward a cattle breed that would yield more viable export-quality beef, after the many dashed attempts of the colonial period. Lingering ties with France in the early years of independence, solidified through cooperative agreements, enabled a wide range of French technical experts (by some accounts numbering over seven hundred in 1962) to be centrally involved in providing specific recommendations for development plans, including for livestock breeding.<sup>72</sup>

Enterprising Malagasy political leaders took up these colonial-era plans to bolster and refine Madagascar's livestock population for exportation and wove them into their strategies to end dependence on the French metropole.<sup>73</sup> In 1962, scientists and Malagasy officials inaugurated the “three-race” *zebu* as “Renitelo” (three mothers), and declared that pastoralists found attributes of the new breed promising and appealing.<sup>74</sup> That same year, officials, through the French Ministry of Cooperation, invited a team of veterinary scientists to study existing cattle farming practices and propose interventions to enhance meat production. The team, headed by chief veterinarian Marcel Lacrouts, identified the biggest obstacle to a viable cattle export economy as the “astonishing rate of autoconsummation”

<sup>69</sup>AD 673PO/1/261, secret letter from Henri Gauthier, Chargé d'Affaires de France to M. Couve de Murville, Ministère des Affaires Étrangères, “Commercialization of Meat,” 7 Apr. 1965.

<sup>70</sup>Gilbert, “Une nouvelle race”; Lacrouts et al., *Études des problèmes*.

<sup>71</sup>Lalanne, Metzger, and Hamon, “L'amélioration,” 191.

<sup>72</sup>AD 674PO/1/488, Convention 24/C/60 relative à l'aide et la coopération; AD 674PO/1/488, letter from Chef de la Mission Permanente d'Aide et de Coopération to Minister de la Coopération, 15 Feb 1962. See also Raison-Jourde and Roy, *Paysans*.

<sup>73</sup>AD 674PO/1/470, “Dix Ans de Recherche Agronomique,” J. Manambelona, Comité de la Recherche Scientifique et Technique, Republic de Madagascar, 5 Aug. 1960.

<sup>74</sup>Gilbert, “Une nouvelle race.” Eventually it would become clear that the Renitelo held little appeal to the broader market of Malagasy cattle farmers and pastoralists, who preferred the *zebu*-American Brahman crossbreeds. Renitelo were mostly confined to state ranches and experimental agricultural centers. Coghe, “Creating the Renitelo.”

(self-consumption).<sup>75</sup> According to their estimates, 75 percent of slaughtered cattle were consumed by breeders themselves, namely, and even exclusively, for ritual practices around circumcision, marriage, propitious crops, and especially funerals.<sup>76</sup> Malagasy cattle owners responded to Lacrouts and his team by affirming the centrality of cattle as key, life-sustaining intermediaries between the living and the ancestors, as animate actors that served at once as vestibules of wealth, avatars of hope, and companions helping to bridge spirit and earthly realms. As one man explained to the team, he would rather buy a heifer than a radio, since a radio “does not give life.”<sup>77</sup> Malagasy privileging of feeding collective selfhood through these rituals over appetites in faraway locales frustrated French officials, who saw ritual consumption as “irrational.”<sup>78</sup>

In describing Malagasy cattle practices as “life-giving,” cattle owners were signaling a field of pluralistic expert knowledge in which they were key players. Pastoralists possessed a long-developed acumen in *reading* their herd, noting the distinctive features and behaviors of individual *zebu*, which they expressed with an extensive bovine lexicon, such as “bull with large eyes” (*ombalahy be maso*), “ox whose hump, head, and other areas are white” (*omby vatoambo*), or “young bull who pushes his horns against the earth” (*omby mitrongy tany*).<sup>79</sup> Not only were cattle observed for their physical traits, they were individually named and fiercely protected. In response to periods of political and economic instability, cattle owners honed selection and pasturage strategies, including keeping aged *zebu* with proven immunity as long as possible; burning choice areas of herbaceous grasses to rejuvenate pastures; and selectively rounding up and enclosing herds in the evenings to protect them against cattle raiders.<sup>80</sup> They were not the only experts in appraising *zebu*. Ritual practitioners (diviners known as *moasy* in the west and *mpanandro* in the highlands, but also spirit mediums) were historically tasked with carefully selecting cattle for sacrifice and assessing their suitability for ancestral rituals, based on their coat, complexion, and disposition.<sup>81</sup> Malagasy rituals also served as important technologies of inhibition and constraint that served (though not unfailingly) to keep cattle populations viable and human communities prosperous. Although French officials grouped these rituals as “self-consumption” practices, they contrasted starkly with cancerous models of economic growth “predicated on

<sup>75</sup>Lacrouts et al., *Etudes des problemes*, 112–14.

<sup>76</sup>*Ibid.*, 23.

<sup>77</sup>*Ibid.*, 42–44.

<sup>78</sup>Characterizations of feasting as wasteful and detrimental to economic development by officials and technocrats is not unique to Madagascar. For a comparative case from the British Solomon Islands Protectorate, see David Akin, *Colonialism, Maasina Rule, and the Origins of Malaitan Kastom* (Honolulu: University of Hawai'i Press, 2013), 121–24.

<sup>79</sup>Antoine Abinal and Victor Malzac, *Dictionnaire Malgache-Français* (Paris: Éditions Maritimes et d'Outre-Mer, 1963), 462–43.

<sup>80</sup>On naming and pasturage, see M. Lasnet, “Notes d'Ethnologue et de Médecine sur les Sakalaves du Nord-Ouest,” *Annales d'Hygiène et de médecine coloniales* 1 (1898–1899): 471–97, 475; and J. Ribot, “Les Comportements de l'éleveur et du *zebu* à Madagascar l'adaptation du rôle et des actions du service de l'élevage a ces comportements,” *Terre Malgache. Tany Malagasy* 21 (1982): 125–36, 127–29.

<sup>81</sup>Mary Danielli, “The ‘Mpanandro’ (Maker of Days) of Imerina, Madagascar,” *Folklore* 60, 4 (1949): 375–87. Ritual experts were also charged with knowing how and when to take decisive, collection ritual action based on complex divinatory systems, which differed across the island.

uninhibited consumption”—what Julie Livingston termed “self-devouring growth”—that marked and took dominance in the post-World War II era.<sup>82</sup>

For their part, Malagasy *zebu* were constitutive elements of both ancestrally oriented cosmologies and intensified state-driven efforts to commodify animal life. Again, cattle were valued for the authentication and marking of ritual performances and crucial to remaking social collectivities. As resilient draught animals, *zebu* provided critical agricultural labor for rice-farmers including tilling the soils, and also manure for reconstituting them.<sup>83</sup> With a slower metabolic rate and fewer nutritional needs than *Bos taurus* cattle, Malagasy *zebu* were highly efficient accumulators of energy, transforming grasses into flesh for human consumption. In the words of one French scientist, *zebu* were “destined to make muscle.”<sup>84</sup> Their remarkable immunological strength and hardiness in the face of drought and food shortages were key to their selection as accumulative vessels by pastoralists, and also to their targeting for commodification by technocrats and elite politicians.<sup>85</sup> However, their erratic reproductive cycles and sinewy muscular texture later constrained top-down efforts to standardize and transform their bodies into desirable export commodities.

Seizing on *zebu*'s corporeal affordances, Malagasy officials and French technocrats together developed visions of a comprehensive assemblage of ecological and infrastructural investments for beef commodification. Fattening Malagasy *zebu* to appeal to the palates of overseas consumers required cultivating appealing pasture grasses of varying degrees of fibrousness and reorganizing rural spaces to foster intensive rearing and feeding. Agronomists in Madagascar asserted the importance of *zebu*'s highly developed feeding instinct and strong preferences for fragrant, succulent, cellulose-rich pasture grasses. By enriching soil content for growing grasses, they strove to satisfy the *zebu*'s hearty appetite and sensorial desires, since cattle, in the words of one soil scientist, “look for pleasure in rumination and know to balance its intake of young, tender elements with harder ones.”<sup>86</sup> Most critical for the development of Madagascar's export meat economy, though, was the need to expand and integrate an assemblage of feedlots, experimentation stations, and transportation infrastructures. In particular, Lacrouts' report advised that a most serious hindrance was the colonial-era abattoirs, which were in “deplorable conditions.”<sup>87</sup> Like other nation builders in Africa and Asia, Malagasy officials found possibilities in infrastructure—in its promises, materials, and symbolic heft—for marking a new moment of

<sup>82</sup> *Self-Devouring Growth: A Planetary Parable as Told from Southern Africa* (Durham: Duke University Press, 2019), 5.

<sup>83</sup> Marx observed the multifaceted dimensions of cattle as both draught animals and “circulating capital” through their fattening, slaughter, and material rendition into meat, as pointed out by Maan Barua, in “Animating Capital: Work, Commodities, Circulation,” *Progress in Human Geography* 43, 4 (2019), 650–69, 661.

<sup>84</sup> Ribot, “Les Comportements,” 130.

<sup>85</sup> On *zebu* immunity and hardiness, see Daniel Bradley and David Magee, “Genetics and the Origins of Domestic Cattle,” in Melinda Zeder et al., eds., *Documenting Domestication: New Genetic and Archaeological Paradigms* (Berkeley: University of California Press, 2006), 317–28, 317.

<sup>86</sup> AD 673PO/1/247, J. Carre, “La Productivite de l'herbe,” Institut de Recherches Agronomiques à Madagascar (1961).

<sup>87</sup> Lacrouts et al., *Etudes des problemes*, 247–57.

nationhood and navigating economic and diplomatic exchanges within the constraints of the Cold War era.<sup>88</sup>

### Stewarding Meat: Madagascar's "National Treasure," 1965–1972

Malagasy officials immediately began to develop plans for the construction of six new slaughterhouses, fully equipped with cold storage and conveyer belts, and located near major cities across the island (Tananarive [Antananarivo], Majunga [Mahajanga], Tamatave [Toamasina], Diego-Suarez [Antsiranana], Fort Dauphin [Taolagnaro], and Morondava). Authorities found an array of possibilities for the alliances, technical assistance, and international investments needed to drive the projects forward. As historian Abou Bamba has recently argued for Cote d'Ivoire, French technical experts often enjoyed privileged access in Francophone Africa but increasingly encountered competition from American technocrats, aid agencies, and firms, each vying for influence.<sup>89</sup> Like their counterparts in West Africa, Malagasy postcolonial leaders evaluated wide-ranging development partners—American, Greek, German, Soviet, and Israeli—while still retaining connections to French technical assistants. French officials were particularly worried about losing ground in Madagascar, which had long served as a critical node for strategic economic and political interests in the otherwise Anglophone-dominated East African and Indian Ocean region.

In pushing the abattoir projects forward, Malagasy officials seized the affordances and leverage of development in the Cold War context and deftly side-stepped French diplomats and investors. Japanese technical diplomats, drawn by the island's enormous herds and low labor costs, were among those that presented themselves to Malagasy elites as prospective economic partners. Beginning in 1967 and building on their earlier fish cannery projects on the island, several Japanese meat packing companies undertook successive research missions to investigate the possibility of importing *zebu* to Japanese consumer markets.<sup>90</sup> These explorations were ultimately fruitful, with one delegation to an abattoir in Tulear pronouncing Malagasy *zebu* meat as "good at the factory and succulent at the table."<sup>91</sup> Between 1968 and 1970, officials in Madagascar's Ministry of Agriculture signed multiple agreements with Japanese investors to establish state farms to produce beef concentrate suitable for

<sup>88</sup>Hecht, "Rupture-Talk"; Stephan Miescher, "Building the City of the Future: Visions and Experiences of Modernity in Ghana's Akosombo Township," *Journal of African History* 53 (2012): 367–90; Daniel Mains, "Blackouts and Progress: Privatization, Infrastructure, and a Developmentalist State in Jimma, Ethiopia," *Cultural Anthropology* 27, 1 (2012): 3–27; Brenda Chalfin, *Neoliberal Frontiers: An Ethnography of Sovereignty in West Africa* (Chicago: University of Chicago Press, 2010); Brian Larkin, *Signal and Noise: Media, Infrastructure, and Urban Change in Nigeria* (Durham: Duke University Press, 2008); Scott, *Seeing Like a State*; Cooper and Packard, *International Development*. For infrastructure as a touchstone of socialist modernity, see Morten Pederson, *Not Quite Shamans: Spirit Worlds and Political Lives in Northern Mongolia* (Ithaca: Cornell University Press, 2011); and Dimitris Dalakoglou, "The Road: An Ethnography of the Albanian-Greek Cross-Border Motorway," *American Ethnologist* 37, 1 (2010): 132–49.

<sup>89</sup>Bamba, *African Miracle*; see also Sarah Runcie, "Decolonizing 'La Brousse': Rural Medicine and Colonial Authority in Cameroon," *French Politics, Culture & Society* 38, 2 (2020): 126–47.

<sup>90</sup>AD 673PO/1/259, "Viandes: K. Kawakami revient a la tete d'une delegation," *Madagascar Press*, 3 Feb. 1970; "Viandes: Une Délégation privé Nipponne en visite," *Le Courrier de Madagascar*, 29 Oct. 1969.

<sup>91</sup>AD 673PO/1/259, "Les Experts Japonais Satisfaits de Leur Sejour Dans le Sud," 10 Apr. 1967.

bouillon and spices.<sup>92</sup> Generally, while Malagasy authorities retained a 51 percent share in the ventures, with Japanese investors keeping 49 percent, the revenues generated on Japan's consumer markets fell beyond Malagasy control and Japanese investors stood to gain considerably. For instance, in one agreement between Kawakami International, Fuji Seasoning Industry, and the Malagasy Ministry of Agriculture, Japanese signatories agreed to provide technical assistance to Malagasy elites and "guarantee" the consumer market, so long as they retained control over their copyrighted patent on the concentrate, which they called "polypeptide."<sup>93</sup> Such projects were propelled by a growing global food industry that drew increasingly on engineered, cheaply produced additives to preserve and enhance flavor for a range of processed food products. Such developmentalist projects constrained the ability of Malagasy officials to garner maximum revenues from export markets, but they also offered appealing prospects to upend neocolonial French dominance in economic and technical affairs.

Although Malagasy elites developed ties with other international partners, by the late 1960s they reinvigorated connections with French scientists to access technical expertise on how to harness the value of *zebu*. In the mid-1960s, concerns in Madagascar about converting cattle "waste" into valuable commodities converged with anxieties in Europe and North America about global meat shortages. It was predicted that between 1965 and 1975 Madagascar could increase its exportation of *zebu* beef to 155,000 tons per year (in addition to more modest exports of pork and chicken), and 100,000 tons of frozen or canned meat per year.<sup>94</sup> This urgency galvanized officials' plans for the construction of intensive feedlots and abattoirs, especially in the two key cattle-producing regions of Majunga [Mahajanga] and Tananarive [Antananarivo] in the northwest and central highlands, respectively. In the spirit of standardization, planners plotted out nearly identical cattle complexes in each city—consisting of four ranches (categorized as semi-extensive) of 20,000 hectares each and producing four thousand cattle per year, each weighing 400 kilograms (producing 200 kilograms of carcass flesh). An additional industrial, intensive feedlot of 850 hectares would, over two to six months, fatten thirty thousand cattle for slaughter annually.<sup>95</sup> Authorities undertook a flurry of studies to determine the technical specifications for these facilities, sought investors and bids for contractors for the construction of the abattoir, and planned new roads and terrain preparation.

Most of these projects only came to fruition years or even decades later, yet their plans broadcasted an image of Madagascar as a viable meat supplier to the global world. Working with its limited infrastructure of abattoirs, and capitalizing on the ravenous global consumer market, beef suppliers began increasing exports to Reunion and Mauritius, Japan, Ghana, Greece, Israel, and Kuwait.<sup>96</sup> In 1965

<sup>92</sup>AD 673/1/259, "Protocole d'Accord," signed between Nissho Company and Mini Agr, 21 Aug. 1968; "L'Usine Fabriquier du Jus de Viande," *Le Courrier de Madagascar*, 29 Jan. 1969; AD 673PO/1/261, "Synthese: Entreprises de Commercialisation et Industrialisation de la viande—MANIVACO," 29 Jan. 1972.

<sup>93</sup>AD 673PO/1/235, Note: "Activites Economiques Japonaises à Madagascar," 19 Nov. 1969; AD 673PO/1/259, "Note: Usine de viande à Vohimasina," Jan. 1969.

<sup>94</sup>Lefebvre, "Madagascar," 24.

<sup>95</sup>9 ranches aideront l'embouchure traditionnelle à fournir les bovins pour les abattoirs industriels de Tananarive et de Majunga," *Courrier de Madagascar*, 17 Jan. 1968.

<sup>96</sup>Although more research is needed to say for certain, evidence suggests that most of the cattle slaughtered were *zebu* rather than the aforementioned "three-breed race," Renitelo. Cattle traders sometimes purchased

meat exports increased by 30 percent, but still totaled only 4,641 tons per year.<sup>97</sup> In 1966, 12–13 tons of “first choice” tender *zebu* meat (fillets and ribs) were shipped monthly to France by Air France and Air Madagascar and distributed through the enormous public abattoir at La Villette to local restaurants and purveyors.<sup>98</sup> French consumers remarked that *zebu* flesh was “particularly tasty,” and newspapers in Madagascar proclaimed the arrival of “*zebu* on Parisian tables!”<sup>99</sup> However, these exchanges were largely symbolic gestures to revivify tenuous Franco-Malgache bonds through the circulation of *zebu* beef. The sheer shipping distance to the metropole proved too costly, and thus secondary French markets, especially in La Réunion and Djibouti (then French Somaliland), were proportionately larger markets for *zebu* beef, especially of offal and tougher cuts for braising. Zambia and Madagascar brokered a pilot program to import some 2,000 tons of *zebu* meat in 1968; beef already accounted for 15 percent of Zambia’s imports owing to the prevalence of epizootics that compromised herds across East Africa.<sup>100</sup>

### The Demise of Madagascar’s Meat Exportation, 1968–1975

While Malagasy exporters sought out new global markets for *zebu* beef, they faced stiff competition from better established exporters in Latin America and Australia. Even so, newspapers proclaimed the status of Madagascar as among “one of the five largest beef exporters in Africa” and celebrated the circulation of the island’s beloved *zebu* to far-reaching locales.<sup>101</sup> Madagascar’s chief veterinarian for the Ministry of Agriculture attributed the early success of Malagasy meat exports to the cattle’s exceptional “natural immunity,” which allowed large herds to thrive despite ecological changes and frequent drought in the south.<sup>102</sup> Years later, French diplomats observed that Madagascar was the only African country able to deliver fresh or frozen meat to European countries because it was less susceptible to cattle plagues.<sup>103</sup>

While it was true that Madagascar had been buffered from rinderpest outbreaks that plagued much of southern and eastern Africa in the nineteenth and twentieth centuries, other bacteria marched across the island and infected the *zebu*.<sup>104</sup> Anthrax

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Renitelo bulls, but most purchasers used them for traction in rice fields rather than as dairy cows, owing to their superior strength and stamina; AD 673PO/1/261, Secret letter from Henri Gauthier, Chargé d’Affaires de France to M. Couve de Murville, Ministère des Affaires Etrangères, “Commercialization of Meat,” 7 Apr. 1965.

<sup>97</sup>“Les exportations de viande et abats en nette progression,” *Madagascar Presse*, 15 Mar. 1966.

<sup>98</sup>“Suivez le *zebu!* ... il va maintenant sur les tables parisiennes,” *Courrier de Madagascar*, 5 Feb. 1966.

<sup>99</sup>“Gastronomie malgache,” *France-Aviation*, 15 Feb. 1970; “Suivez le *zebu!* ... il va maintenant sur les tables parisiennes,” *Courrier de Madagascar*, 5 Feb. 1966.

<sup>100</sup>“Les promesses zambiennes seront tenues: premières viandes exportées en mars,” *Le Courrier de Madagascar*, 30 Jan. 1968.

<sup>101</sup>“Madagascar Parmi les 5 Plus Gros Exportateurs Africains de Viande,” *Le Courrier de Madagascar*, 9 Mar. 1966. This figure is not substantiated by studies of international beef exportation.

<sup>102</sup>Quoted in *Le Courrier de Madagascar*, 22 Mar. 1968.

<sup>103</sup>AD 674PO/1/378, note on “Sur la réparation de quotas à l’exportation des viandes et conserves de viandes,” Apr. 1973.

<sup>104</sup>Gwyn Campbell signals disease occurrence in an earlier period. East Coast Fever among Malagasy cattle in the late 1800s and early 1900s caused a steep decline in their live exportation to Natal, although hides were

had long been present in Madagascar but was largely under control by the 1960s and 1970s thanks to sweeping vaccination campaigns.<sup>105</sup> Bovine pulmonary tuberculosis (TB) had plagued the island since at least the early 1900s (and likely earlier), and by the late 1950s and 1960s rates of infection were as high as 27–52 percent.<sup>106</sup> In fact, intensive breeding and cattle fattening schemes seem to have played a role in spreading TB among Malagasy herds. Veterinary scientists in the early 1970s conferred that the rates of infection were much higher in intensively farmed cattle, while the extensive farming techniques historically employed by most Malagasy pastoralists resulted in far lower rates.<sup>107</sup> In the absence of reliable TB tests, scientists in experimental cattle feeding schemes proposed “eliminating” infected *zebu* to mitigate economic losses, but by the mid-1970s those control measures dissipated.<sup>108</sup> In the decades that followed, bovine TB persisted as the most prevalent cattle disease causing further public health harm when it spread to human communities.

Perhaps the most worrisome and detrimental epizootic in the 1970s, however, was blackleg, caused by the *Clostridium chauvoei* bacterium. It was first identified on the island in August 1969, although earlier cases were suspected. Pastoralists in the southern region of Betroka, north of Fort Dauphin (see [Map 1](#)), first noticed rapidly-developing lesions and lameness among their herds in 1969, and within three months more than fifty thousand *zebu* died of the disease.<sup>109</sup> In a direct hit on exportation prospects, the mortality rates among calves was 40–50 percent.<sup>110</sup> By October, the epidemic had spread west to the Tulear region, where it reportedly devastated herds at a rate “of five to six fatalities per hour,” apparently leading some cattle owners to commit suicide in the face of their calamitous losses.<sup>111</sup> Adding insult to injury, the state continued exacting onerous cattle taxes inherited from colonial times, which fueled rancor among dispirited cattle rangers toward the national government.

If the blackleg epizootic revealed the life-seizing capacities of *zebu* for human communities, the microscopic *Clostridium chauvoei* exposed the fragility of national unity in the burgeoning republic. Political elites interpreted the epizootic event as not only a crisis for economic growth but also an attack on Madagascar’s growing economic autonomy. Newspaper accounts reported President Tsiranana’s hypothesis that the epizootic was “economic sabotage” at precisely the moment when the “rational valorizing of the Malagasy bovine herd” was leading to growing appreciation for its gastronomic virtues in Africa, Europe, and Asia.<sup>112</sup>

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still in demand; “Disease, Cattle, and Slaves: The Development of Trade between Natal and Madagascar, 1875–1904,” *African Economic History* 19 (1990–1991): 105–33, 120–23.

<sup>105</sup>G. Buck and J. Courdurier, “Les zoonoses à Madagascar,” *Revue d’Elevage et de Médecine Vétérinaire Pays Tropicaux* 15, 2 (1962): 181–91, 187.

<sup>106</sup>Buck and Courdurier, “Les zoonoses à Madagascar,” 186.

<sup>107</sup>J. Ribot, J. Blancou, and D. Razafindrakoto, “Les Tuberculoses des Animaux à Madagascar,” *Terres Malgaches* 13 (1972): 143–62, 150.

<sup>108</sup>H. Serres, E. Mesissonnier, and G. Godet, “Embouche de Zébus malgaches: Essais complémentaires,” *Revue d’Elevage Méd. Vet Pays Tropicales* 25, 4 (1972): 551–68.

<sup>109</sup>J. M. Blancou, J. Rakotoarivelo, and H. Serres, “Note sur les premiers cas de charbon symptomatique à Madagascar,” *Revue d’Elevage et de Médecine Vétérinaire Pays Tropicaux*, 24, 1 (1971): 19–21, 20.

<sup>110</sup>AD 674PO/1/378, “Evolution de la Commercialisation du Bétail Dans la Province de Majunga,” n.d.

<sup>111</sup>“Une Epidémie Tue 5 Boeufs à l’Heure Dans le Sud,” *Le Courrier de Madagascar*, 2 Oct. 1969.

<sup>112</sup>*Ibid.*

Although Tsiranana did not specify any perpetrators by name, he cautioned pastoralists to be vigilant “against the maneuvers of those who, nostalgic for a bygone era, want to compromise the national economy by all means.”<sup>113</sup> His cryptic statement signaled the range of emergent adversaries that threatened to fray the tenuous ties of the budding nation-state—from longstanding French industrialists losing their former monopoly on the cattle industry, to radical Marxist-oriented factions within the PSD, to the rising nationalist party MONIMA (“Madagascar for the Malagasy”) in the south, the area hardest hit by blackleg.

No sooner did cattle farmers recover their herds from blackleg than they suffered a prolonged drought in 1970–1971.<sup>114</sup> It primarily devastated the deep south, historically an arid region with fewer pastoralists and lower cattle populations, and also impacted regions around the coastal cities of Tulear and Morondava.<sup>115</sup> It is difficult to gauge the lasting effects on cattle farmers of the drought, and the floods and back-to-back cyclones Eliane and Geneviève of 1970, since estimates of cattle population vary. Some evidence indicates steady populations of around two hundred thousand through the early 1970s, while other records produced after the drought suggest forty thousand were lost.<sup>116</sup> At any rate, rural communities aligned with MONIMA agitated forcefully against state elites and violently attacked officials in Morondava and Tulear, resulting in hundreds of deaths. PSD officials rapidly and brutally suppressed that revolt.<sup>117</sup>

His health failing, Tsiranana could no longer hold together the disparate ideological impulses within the PSD, nor could he fully appeal to the wide-ranging demands of fervent nationalists, undisciplined student and labor activists, and resentful peasants on the ground. Within the PSD, internal tensions mounted among Malagasy political thinkers concerning the ideal form of “Malagasy socialism,” the role of peasant communities in driving forward economic self-reliance, and the broader prospects for an independent Madagascar. While Tsiranana’s regime anchored power in centralized leadership, the party’s leftists increasingly advocated for a transfer of power to the

<sup>113</sup>Ibid., “...ceux qui contre les manoeuvres de tous ceux qui, nostalgiques d’un passé revu, veulent compromettre par tous les moyens l’économie nationale.”

<sup>114</sup>Under the exigencies of salvaging a now-imperiled beef exportation economy, and intensified political pressures, French and Malagasy scientists collaboratively developed a highly effective bivalent vaccination against both blackleg and anthrax, which was widely administered beginning in 1971. Jean Blancou, “Étude d’un vaccin mixte contre le charbon bactérien et le charbon symptomatique,” *Revue d’Élevage et de Médecine Vétérinaire des Pays Tropicaux* 27, 2 (1974): 183–87; Jean Blancou et al., “Note sur les premiers cas de charbon symptomatique à Madagascar,” *Revue d’Élevage et de Médecine Vétérinaire des Pays Tropicaux* 24, 1 (1971): 19–21.

<sup>115</sup>Luc Ferry, Yann l’Hôte, and Anna Wesselink, “Les précipitations dans le Sud-ouest de Madagascar,” *Water Resources Variability in Africa during the XXth Century*, Proceedings of the Abidjan ’98 Conference of the International Association of Hydrological Sciences held at Abidjan, Côte d’Ivoire, Nov. 1998, 252 (1998): 89–96, 94; Gerald Donque, “The Climatology of Madagascar,” in R. Battistini and G. Richard-Vindard, eds., *Biogeography and Ecology in Madagascar* (Dordrecht: Springer, 1972), 87–144, 136; Rémy Canavesio, “Les migrations dans le sud de Madagascar: Entre sécheresses occasionnelles et crise socio-économique structurelle,” *Autrepart* 2 (2015): 259–78.

<sup>116</sup>For figures suggesting steady populations, see Rakotomaharo, “Historique et Actualité,” 24, annexe 6. For figures that reflect losses, see AD 674PO/1/378, “Commercialisation par Catégories d’Animaux,” s.d. On cyclones and weather conditions, see Gerald Donque, “Les Cyclones Tropicaux des mers Malgaches,” *Madagascar Revue de Géographie* 27 (1975): 9–63.

<sup>117</sup>Gerard Althabe, “Les manifestations paysannes d’avril 1971,” *Revue française d’études politiques africaines* 71 (1972): 70–71, 71–74.

network of *fokon'olona* (communal institutions resembling village deliberative assemblies), which would serve as the primary units of socialist transformation.<sup>118</sup> Such debates increasingly undermined Tsiranana's attempts to unify the political elites and eventually gave rise to mistrust within his regime, frustration with lagging improvement in most Malagasies' daily lives, and suspicion among the broader publics. In retrospect, the MONIMA revolt tore asunder the country's political fabric and opened imaginative space for urban students to lead their revolutionary movement in 1972, which ended Tsiranana's rule and inaugurated a new socialist era.

Although Tsiranana's successors tried to push forward cattle modernization schemes in the mid-1970s, by 1975 the trade in *zebu* beef had fallen rapidly to 61,173 carcasses, less than half its export volume in 1972 (152,500).<sup>119</sup> French technocrats blamed the fall on the abolition of the cattle tax in 1972, which they surmised had previously motivated cattle owners to sell stock, and also the general decline in national commerce which meant there were fewer commodities for which owners might liquidate their cattle into cash.<sup>120</sup> Yet throughout the mid-1970s, the European Economic Community blocked or sharply curtailed Malagasy imports to the former metropole and Reunion in order to protect domestic beef producers and owing to rising concerns about sanitary conditions of meat imports. In the years that followed, increasingly rigid standards for meat imports further marginalized Madagascar's struggling producers from global chains of consumption.<sup>121</sup> Global demand for *zebu* beef began to decline, transportation costs surged, and the threat of interruptions to refrigeration across the island and overseas further strained the export economy.<sup>122</sup> Markets were oriented around local and regional geographies, in which cattle owners in the hinterlands walked their animals to the nearest cities for slaughter and sale to butchers on journeys stretching to several weeks. By the time the global oil crisis of 1973 struck, Malagasy *zebu* exports were already in steep decline.

At the heart of these stalled projects were cattle farmers who rejected the intensive fattening methods imported from Europe, preferring to instead allow their herds to "wander on all grassy plateaus."<sup>123</sup> Even more, they refused their expected role as "partners" in an uneven political field dominated by Malagasy elites and officials. Enterprising cattle industrialists in Madagascar found pastoralists uninterested in selling their *zebu*, which French technocrats blamed on "attachment of Malagasy to

<sup>118</sup> *Fokon'olona* were historically specific to highland Madagascar where they were transformed under Andrianampoinimerina (1787–1810) and "denoted the collective will of village elders, largely male, and served as a metaphor for local judicial and administrative autonomy." (Larson, *History and Memory*, 180). French colonial authorities sought to expand *fokon'olona* across the island as a vehicle for rural governance and coercive public works projects, see Georges Condominas, *Fokon'olona et Collectivités Rurales en Imerina* (Paris: Editions Berger-Levrault, 1962). During the early 1970s, and especially under Ratsimandrava's rule, debates roared about the role of *fokon'olona* as the mainstay in a highly decentralized government, much like Ujamaa villages in socialist Tanzania. See Raison-Jourde, "Les mots du socialisme," 94; Solofo Randrianja and Stephen Ellis, *Madagascar: A Short History* (Chicago: University of Chicago Press 2009), 192.

<sup>119</sup> Rakotomaharo, "Historique et Actualite," annex 3.

<sup>120</sup> AD 674PO/1/378, "Evolution de la Commercialisation du Betail Dans la Province de Majunga," n.d.

<sup>121</sup> AD 673PO/1/261, "Letter from Jamoka," 31 Oct. 1974; letter from French Consulat de Fianarantsoa Fernand Quesnot to Ministere des Affaires Etrangeres, 17 Jan. 1975.

<sup>122</sup> "La Deuxième Chance de la Viande Malgache pour le Marché Zambien," *Le Courrier de Madagascar*, 1 Aug. 1968.

<sup>123</sup> "Pour des zébus à l'exportation des 'cow-boys' améliorés," *Le Courrier de Madagascar*, 22 Mar. 1968.

the customs of the ancestors” and the “integration of cattle into ancestral patrimony.”<sup>124</sup> They disdainfully attributed pastoralists refusal to intensively raise their cattle to their “social function” in lifecycle rituals, the “prestige” cattle conferred on their owners, and the labor they provided for rice cultivation.<sup>125</sup> In this way, the story of cattle commodification appears to conform to abundant literatures on the problems that cattle and peoples’ ties to cattle posed to capitalist, beef production economies in Africa, what James Ferguson called the “bovine mystique.”<sup>126</sup> M. J. Herskovits first legitimated such dichotomous notions in the 1920s—of pastoralists as adhering to romanticized, premodern traditions in the face of modernity’s predations or to “stubborn conservatism” and obstructing the possibilities “cow power” offered rural advancement.<sup>127</sup> Such caricatures have persisted in scholarship and have also powerfully shaped development projects across the continent.

Indeed, French observers were quick to turn to “culture” as an explanatory framework for pastoralist disinterest in developmentalist projects, one that supplanted serious inquiry into the residual economic failures of French projects stemming from colonial times. It is striking how technical reports, authored by French technocrats involved in cattle development projects, so rarely mention the extensive, dogged but ultimately doomed colonial efforts to maximize Madagascar’s meat economy over the first half of the twentieth century.<sup>128</sup> Further, colonial authorities in Africa rarely referred to the histories of austere investments in infrastructures—what Josh Grace calls “minimal technopolitics.”<sup>129</sup> Perhaps acknowledgment of the scarce, colonial-era built infrastructures for cattle commodification would have forced French experts and diplomats to reckon uncomfortably with the economic and political failures that came before, and which they might be unwittingly reproducing. French explanations for pastoralist resistance that hinged on “cultural attachment” portrayed pastoralists as stubborn traditionalists possessing resolutely staid ideas. Such characterizations glossed over cattle owners’ complex economic calculations and dynamic sensibilities as they gauged market fluctuations, and also the ways cattle-centered practices had shifted over time.

While French accounts of pastoralist practices demand healthy skepticism, cattle have long been cultural touchstones and laboring companions in Malagasy

<sup>124</sup>AD 673PO/1/261, secret letter from Henri Gauthier, Chargé d’Affaires de France to M. Couve de Murville, Ministère des Affaires Etrangères, “Commercialization of Meat,” 7 Apr. 1965.

<sup>125</sup>AD 673PO/1/259, letter from Ambassador Alain Plantey to Ministère des Affaires Etrangères, 18 Dec. 1968.

<sup>126</sup>James Ferguson, *The Anti-Politics Machine: “Development,” Depoliticization, and Bureaucratic Power in Lesotho* (Minneapolis: University of Minnesota Press, 1994); E. E. Evans-Pritchard, *The Nuer: A Description of the Modes of Livelihood and Political Institutions of a Nilotic People* (Oxford: Oxford University Press, 1940); John Comaroff and Jean Comaroff, “Goodly Beasts, Bestly Goods: Cattle and Commodities in a South African Context,” *American Ethnologist* 17, 2 (1990): 195–216. See too Colin Hoag, “The Ovicaprine Mystique: Livestock Commodification in Postindustrial Lesotho,” *American Anthropologist* 120, 4 (2018): 725–37.

<sup>127</sup>David Anderson, “Cow Power: Livestock and the Pastoralist in Africa,” *African Affairs* 92, 366 (1993): 121–33, 123–24.

<sup>128</sup>Coghe, “Creating the Renitelo.”

<sup>129</sup>Joshua Grace, “Excremental Mobilities and Minimal Technopolitics: Toilets, Race, and Shitty History,” *History and Anthropology* (forthcoming 2024).

communal, political, and economic life.<sup>130</sup> Their role has not been static, however. For instance, the value of cattle as walking historical repositories of family lineages and patrilineal property claims shifted considerably across the twentieth century. In the early 1920s and 1930s, French ethnologists recorded in great detail the symbolic ear markings owners made on cattle, which they described as owners' attempts to mark and protect their property in the face of ever-present threats from cattle thieves. Ear markings also served as semiotic records of lineages' variably "paternal ... or maternal succession" (depending on their relative status) and of the owner's kinship clan, and they employed a "very precise nomenclature ... terms unused in other cases."<sup>131</sup> By the 1930s, though, younger cattle owners were dispensing with marking traditions, for reasons that are unclear, though some Mahafaly and Antandroy communities in the south guarded the "marks of our ancestors."<sup>132</sup> Also changing across time, depending on the economic conditions at hand, were pastoralist strategies around cattle accumulation and cattle raiding, which signified a "long-term, unbalanced, and delayed exchange" through which *zebu* were constantly circulating.<sup>133</sup> Their calculations about when to slaughter, breed, fatten, and raid were informed by their knowledge of dynamically shifting temporality, seasonality, and risk factors. Thus, while cattle held durable meanings and plural values—as a movable form of wealth, an index of status and prestige, and animate threads between the living and their dead ancestors—the specific strategies of cattle owners shifted across time.

If we follow cattle and their owners across the multiple spaces of commodification—beyond the marketplace and into the pasture and the abattoir—it becomes clear that pastoralists' autonomy, coupled with their knowledge-based investments in particular breeding and slaughter practices, were important factors in their calculated involvement with cattle development projects. Well into the 1970s, cattle farmers privileged accompanying their *zebu* across the traversals to towns, to the abattoir, and up to the moment of their deaths. These practices collided with the segregation of people from their *zebu* that characterized the spatial arrangements of livestock infrastructures: refrigerated trucks, intensive and concentrated feedlots, and slaughterhouses. Especially in the newly built abattoirs, there was a clash between pastoralists' sensibilities and those of technical experts regarding how cattle ought to be slaughtered. Since their inception in the nineteenth century, modern abattoirs had served as infrastructures of invisibility, concealing the bloody reality of how livestock

<sup>130</sup> Genese Sodikoff, "How to Protect Yourself from the Dead with Cattle," in Natalie Porter and Ilana Gershon, eds., *Living with Animals: Bonds across Species* (Ithaca: Cornell University Press, 2018), 96–105; Jennifer Cole, *Forget Colonialism? Sacrifice and the Art of Memory in Madagascar* (Berkeley: University of California Press, 2001); Maurice Bloch, *From Blessing to Violence: History and Ideology in the Circumcision Ritual of the Merina of Madagascar* (Cambridge: Cambridge University Press, 1986).

<sup>131</sup> Cattle markings also denoted relationships of enslavement. As elder men in Mahafaly and Androy land explained to Decary in the 1930s, an enslaved cattle owner ought to use the mark of his "master" or slave owner, and if eventually freed he could appeal to the village leader for authorization to create his own mark. Archives of the Musée d'Histoire Naturelle, Decary Papers, MS 2992, "Note sur les marques des oreilles de boeufs," s.d.; and "Les marquages des boeufs chez les Mahafaly et Antandroy."

<sup>132</sup> Archives of the Musée d'Histoire Naturelle, Decary Papers, MS 2992, MS 2922, "Les marquages des boeufs..." n.d.

<sup>133</sup> Campbell, "Commercialisation of Cattle," 185.

were killed.<sup>134</sup> In French historical contexts, standardizing modern abattoirs and the fluctuations of animate life were tightly linked to ideas about commodification, civilization, and the “civilizing mission.”<sup>135</sup>

Modern refrigerated abattoirs in Madagascar displayed such orientations of exclusion and even secrecy, and pastoralists pushed back on these rigid boundaries and sought to shape conditions of animal slaughter. Abattage of cattle was historically a profoundly social undertaking involving large gatherings and elaborate, extended feasting that brought together generations. Even in transactional exchanges when pastoralists sold their *zebu*, and live animals moved to edible beef, cattle owners in northwest Madagascar preferred to remain alongside their livestock, witnessing their passage from life to death.<sup>136</sup> For some owners, such witnessing may have provided reassurance that they recuperated the cattle’s full value at slaughter, but ethical and affective considerations may have also played a role.<sup>137</sup> Cattle owners in the northwest, a region historically marked by the blending of Islamic and ancestral practices, seem to have also “demand[ed] to be present during the slaughter of their animals.”<sup>138</sup> To be clear, butchers in that region followed general Islamic norms associated with slaughter to appeal to sizeable Muslim consumer markets locally, rather than produce halal meat for exportation. Still, their presence shaped the temporalities of public slaughterhouses by interrupting the flow of blood on the assembly line to “wait for the owner,” and prolonging individual slaughters (to at least fifteen minutes) to comply with Islamic norms. Echoing earlier racist explanations of so-called irrational Malagasy cattle practices, French veterinary experts’ instrumentalized discourses of “anarchic” Malagasy slaughterhouses marked by “undisciplined” slaughtering practices as the grounds for their exclusion from the global meat market.<sup>139</sup>

## Conclusion

Madagascar’s rise as a beef exporter in global markets proved to be short-lived and the island never matched powerhouse exporters like Brazil and Argentina. By the early 1970s, the country’s prospects for exportation were eclipsed by intersecting contingencies including changing consumer demands, logistical challenges of

<sup>134</sup>Chris Otter, “Civilizing Slaughter: The Development of the British Public Abattoir, 1850–1910,” *Food and History* 3, 2 (2005): 29–51, 32.

<sup>135</sup>Alain Corbin, *Time, Desire, and Horror: Towards a History of the Senses*, Jean Birrell, trans. (Berlin: Polity Press, 1995); Noilie Vialles, *Animal to Edible*, J. A. Underwood, trans. (Cambridge: Cambridge University Press, 1994).

<sup>136</sup>Oral accounts from my research in Mahajanga [Majunga] between 2011–2014, and 2019, suggest that the significance for cattle owners of bearing witness till death was to ensure Islamic practices of slaughter were closely followed and to retain trusting relations with butchers and buyers along the way. Some elder residents noted that most in Mahajanga refused to frequent the modern abattoir in the 1970s because animals were unattended by the owners till slaughter.

<sup>137</sup>More research is needed to determine whether witnessing practices were particular to Mahajanga or found in public abattoirs more broadly. Archival records on beef canning factories in nearby Boanamary (which closed in 1955), for instance, make no reference to owners accompanying livestock, but this could perhaps be explained by the enclosed nature of privately owned abattoirs or the historically important Islamic influence in Mahajanga. I thank Samuël Coghe for this observation.

<sup>138</sup>AD 674PO/1/380, “Notes on the Activity of the Mahajanga [Majunga] Abattoir,” 23 Apr. 1979.

<sup>139</sup>Ibid.

transportation, cold storage and packaging, and pastoralist reluctance to follow the normative practices dictated by private-public cattle development projects. On top of all this were increasingly turbulent domestic politics. Eventually tensions around lingering ties to French commercial and political interests mounted and in 1972 popular unrest unseated Tsiranana's government, unhinging French trappings and driving the country into a tumultuous period before the rise of President Didier Ratsiraka (1975–1993). Ratsiraka pushed a more Marxist-Leninist inflected Malagasy socialism and allied with staunchly communist states (the USSR, China, and North Korea). Throughout the 1970s and 1980s, the island's population would experience widening inequalities and increased tensions under Ratsiraka's leadership, but peasants continued to be characterized as the primary agents of development. In Ratsiraka's words, they were "the motor force of revolution," tasked with pulling the country from the depths of dependence on foreign imports and aid, even amidst the convulsions of global economic decline and the island's increasing marginalization from global nodes of capital.<sup>140</sup> By the 1980s, Ratsiraka's regime broadened their ties with a range of international allies, scientists, and investors, and livestock developmentalist projects continued to be important to broader plans for modernizing the nation.

Madagascar's *zebu* story highlights the need to critically decenter narratives of cattle commodification anchored in North America and Europe and shows how cattle meat was forged and circulated in alternative geographies left in the shadows of scholarship on livestock economies. Far from inhabiting an isolated "world apart," the bodies of Malagasy *zebu* were sites of global intermingling through crossbreeding experiments that infused *zebu* with their far-flung kin breeds in France, Texas, and South Africa. This article has shown how, rather than being bound for the former French metropole, *zebu* beef traveled from Malagasy pastures and slaughterhouses to Reunionese palates, Japanese grocery stores, Zambian marketplaces, and Parisian tables, thus offering a fuller understanding of meat commodity flows in the twentieth century. For a moment, an emergent, vast network of animal and human life opened possibilities for Malagasy elites to defy old, colonial-era extractive patterns that funneled ecological abundance to the metropole and Europe. Still, nascent threads of economic cooperation with new partners were coupled with the persistent presence of French technocrats and investors, who sought to preserve their scope of influence in an increasingly crowded post-colonial geopolitical field. As became even clearer in the 1970s and 1980s, by cultivating an export-oriented agricultural economy Malagasy elites left the island more vulnerable to devastating economic and environmental shocks.

When compared with Brazil, the world's largest beef exporter, it is tempting to gloss Madagascar's cattle development experiment as a "failure," as French technocrats did. The story narrated here is very much a story of Madagascar's developmentalist path; characterizations of the big island as "a world apart" seem to suggest it cannot be generalized. Indeed, the island's sheer geography and topographical specificities presented unique logistical constraints on joining the transnational meat economy. However, casting Madagascar's case as exceptional overlooks how elite officials' utopian visions of economic emancipation through a

<sup>140</sup>Didier Ratsiraka, *Charte de la Revolution Socialiste Malagasy* [Boky Mena] (Tananarive: Imprimerie d'Ouvrages Educatifs, 1975).

booming cattle assemblage—bringing massive herds from pasture to abattoirs to plates of hungry consumers—collided with the constraints of intensified capitalism faced by postcolonial nation-states across Africa and Asia.<sup>141</sup> Madagascar shared with other African and Asian countries an inheritance of colonial legacies of economic domination, and like their counterparts, their emergent modernization schemes began to materialize just at the point when the new global capitalist order accelerated wealth accumulation in the United States and Europe.<sup>142</sup>

Recounting a story of Madagascar's decolonization through cattle allows us to glimpse how visionary projects of nation-building hinged on remaking humans, *zebu*, and human-*zebu* encounters. Centering animals in broader processes of development opens up insights into how animals have shaped the conditions of possibility for human life, through their physical attributes, varying degrees of bodily, genetic, and behavioral plasticity, and specific practices of consumption and waste production. Owing to their sheer weight, fecundity, slow mobility, and ability to be bred and expanded for more body mass for butchery, *zebu* were well-positioned to be taken up and enlisted in overlapping arenas—as crucial agents in ancestor-centered cosmologies and ambitious nation-making processes. Yet harnessing their capacity to be converted into commodities required transforming local ecologies, suppressing trans-generational husbandry knowledge, and making peasants and pastoralists into the forceful “motors of the revolution.” Some of the threads of *zebu*-human relationships persisted across time from colonial through socialist regimes, while others emerged anew. In post-colonial Madagascar, peasants and cattle were intensively brought together in new spatial reorganizations to support capitalist-driven, developmentalist change, and these entanglements were interwoven with discourses of ancestors, ancestral land, and distinctive, fresh expressions of “Malagasy socialism.”

Madagascar's emergent meat export economy pulled together various actors—pastoralists and butchers, Malagasy government officials, technical and scientific experts, and foreign diplomats and investors—in ever-shifting networks of knowledge production and economic exchange. In challenging cattle modernization schemes, *zebu* farmers critiqued the conditions of knowledge production and economic exchange set forth by elites in the era of fresh independence. Even if cattle owners' repugnance for developmental projects fell short of fully articulated decolonial visions, their refutations contained the imaginative seeds for a different kind of decoloniality rooted in demands for a share of the fruits of independence. Seizing encounters around modernization, pastoralists defined themselves as co-producers of bovine life, both outside of and within the crevices of the industrial capitalist infrastructures of abattoirs and feedlots. They contested not only the exchange value of beef and their involvement in international beef trade as a vehicle for integration into the Malagasy body politic, but the very conditions in which cattle, and ultimately humans, should thrive and perish.

<sup>141</sup>See, for instance, Thaddeus Sunseri, “Working in the Slaughterhouse: Tanganyika Packers Ltd., from Colonialism to Collapse, 1947–2014,” *Labor History* 59, 2 (2018): 215–37.

<sup>142</sup>Percy Hintzen, “After Modernization: Globalization and the African Dilemma,” in Peter Bloom, Stephan Miescher, and Takyiwaa Manuh, eds., *Modernization as Spectacle in Africa* (Bloomington: Indiana University Press, 2014), 19–40, 28.

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