

Notes on Medicine, Culture, and the History of Imported Monkeys in Puerto Rico

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In 2007, nearly seventy years after the first large-scale importations of “old world” monkeys to Puerto Rico, the Commonwealth’s Department of Agriculture proposed a regulation prohibiting the importation, trade, and possession of rhesus, patas, and squirrel monkeys—three species designated as “detrimental to agricultural interests and a threat or risk to the life and security of humans.”¹ If, as Roberto Esposito has argued, modernity’s politics of life is established through a paradigm of immunization, safeguarding against the proliferating risks of public, communal life, then the public discourse on monkeys in Puerto Rico has undergone a reversal since the 1930s, when monkeys were established as technologies for the pharmaceutical engineering of U.S. American immunity.² At that time, the U.S. biosecurity apparatus figured nonhuman primate spinal material as vital to polio-vaccine development and other areas of biomedical research, and the Puerto Rican archipelago was seen as a necessary breeding ground for monkey bodies. In 1939 the comparative psychologist Clarence Ray Carpenter, with the backing of the Columbia University School of Tropical Medicine at San Juan, personally transported over four hundred rhesus macaques from northern India to the islet of Cayo Santiago in the Puerto Rican archipelago. Although primate species such as the African vervet had arrived via slave ships on the nearby Caribbean islands of St. Kitts, Nevis, and Barbados as early as the 1560s, neither “new world” nor “old world” monkeys are indigenous to the Caribbean.³ The twentieth-century research

station founded by Carpenter, which inspired similar efforts across the United States and one in Brazil, was the first free-ranging colony of Asian-origin primates in the Americas. In U.S. American print media, officials justified Cayo Santiago and called for expanded U.S. imports of Indian rhesus macaques based on their value as pharmaceutical raw materials that could protect the nation against an increasingly wide array of diseases.

What are the terms on which monkeys, as “raw materials” for the production of scientific knowledges and pharmaceutical commodities, become rhetorically aligned with the imperial nation? And in a multiply colonized, globally interconnected space like twentieth-century Puerto Rico, how does the concomitant alignment of monkeys with biomedical progress collide with the ascendant nationalisms of imperially dominated populations? Or even with the life-practices and ecologies of the animals themselves? In this chapter, I sketch the history of imported rhesus and patas monkeys in Puerto Rico with a focus on their political significance and the divergent institutional sites, discourses, and landscapes in which they appear as imperial migrants. I document monkeys’ contradictory status as, on the one hand, figures of progress aligned with modern biomedical technology, and, on the other, as “invasive species” that symbolize the multiple violences of U.S. imperialism and neoliberal development policy. Drawing in part on scientists’ official histories of primate institutions, I trace the historical conjunctions of nonhuman primate bodies, medical research institutions, Puerto Rican nationalism, cultural fears of government secrecy, and the transnational and transcolonial politics of the global primate trade. Monkeys’ fate in Puerto Rico—as well as their relationships with humans and Puerto Rican ecosystems—has been intimately linked to the dynamics of U.S. imperial power on the archipelago, especially as it has been expressed economically and militarily. The history I outline is marked by four key transitions in primate biopolitics in Puerto Rico: the establishment of U.S. biomedical institutions in the 1920s and 1930s; the rise of Puerto Rican nationalism and the subsequent takeover of Cayo Santiago by the Puerto Rican government in the 1940s; the establishment of federally funded spin-off colonies in the 1960s and 1970s; and finally, new research and trapping agendas run by Puerto Rican scientists and conservation authorities.

I conclude by reflecting on how a history of imported monkeys in Puerto Rico might help scholars theorize knowledge production in the humanities, as well as in emerging interdisciplinary research sites including biopolitical theory, critical species studies, and science studies. I focus in particular on the politics of the archive, issues of representation and agency, and the

difficulties in writing history against imperial discourses that silence the histories of colonized subjects and yet produce extensive, if conceptually limited, archives of animal representation in the form of behavioral studies and official institutional histories. Such archives register the paradoxes of the segregation of humans and animals in scientific writing, which at times privileges animal objects over human ones. At the same time, these representations often allow us to think against the grain of historical knowledge to address what Martha Few and Zeb Tortorici in the introduction to this volume call “the types of looking and interaction that take place among and between different species.” Tracing histories of interspecies living and representational practices contributes to a critique of the discursive and material practices of imperialism in the Americas as well as to understanding the complex politics of difference produced by modern, imperial circuits of biopower.

Biomedical Imperialism and Primate Universality

Like the other new United States possessions annexed in the years 1893–1904, Puerto Rico became a target of a variety of biopolitical interventions that served both immediate public-health agendas and the interests of experimental researchers from the continental United States. Much of the scholarly attention on this point has focused on two particular forms of intervention: first, the initial public-health colonialism, in the decades immediately following the takeover of Puerto Rico in 1898, emblemized by the successful antihookworm campaign; and second, regulations of female sexuality and eugenic campaigns that culminated in the infamous sterilizations of the 1930s through the 1970s.⁴ As Laura Briggs suggests, such dramatic health and eugenic campaigns have been deeply imbricated in an imperial discourse that pathologizes Puerto Ricans, establishing both a racial ordering and a disavowal of the U.S. role on the archipelago.⁵ If, as Jorge Duany argues, post-1898 Puerto Rico was envisioned as a sort of laboratory for processes of modernization, it was also a site where the controlled reproduction of primates made it a key material link in the emerging apparatuses of experimental medical research at midcentury.⁶

Rhesus macaques of Indian origin had, following the path of polio research established in the 1920s, become central to national disease-research efforts. Key European and U.S. researchers insisted on using rhesus models for polio research. Although differences between rhesus and human development of polio stalled polio research for decades, the eventual realization of a successful vaccine in the 1950s was directly based on rhesus modeling.

By this point, rhesus had become a favored subject for physiological research across a variety of ailments and medical specializations, yet the vast majority of rhesus—an estimated 120,000 of 150,000 imported annually by the mid-1950s—were actually killed for use in vaccine production.⁷ The process of polio vaccine testing as practiced in Europe and the United States worked as follows: researchers would inject a population of monkeys with poliomyelitis, wait for signs of illness, and then kill the animal, grinding its spinal matter to extract the fluid in which the virus had reproduced. Once this fluid had been processed as a serum, researchers would test the effectiveness of the experimental vaccine on another set of monkeys.⁸ When a workable vaccine was finally available for mass production in the 1950s, pharmaceutical corporations paid Indian harvesters and imported large populations of animals, at times in cramped cages holding up to a hundred animals each.

Such demands for animals in research and pharmaceutical production by midcentury—increasingly supported by strategies to establish national health entities like the National Institutes of Health (NIH)—moved public-health investments away from “premodern” strategies like quarantine and toward biomedical alternatives that penetrated the human body, making body systems rather than populations the privileged objects of health intervention. Yet there were a variety of limitations on importing key laboratory subjects like the Indian rhesus. Clarence Ray Carpenter’s idea in the 1920s of establishing a rhesus colony in Puerto Rico to shore up the number of research subjects inspired the development of a national policy on animal “research resources,” eventually leading to the establishment of today’s system of National Primate Centers run by the NIH. Puerto Rico’s role in the biomedical primate trade and in the production of breeding facilities thus helped make American medicine “modern.”

Carpenter’s colony at Cayo Santiago was only possible because of its close association to a broader initiative in tropical medicine controlled by Columbia University’s College of Surgeons and Physicians. In 1926 a joint effort by Columbia University and the University of Puerto Rico transformed the former U.S. Army Institute of Tropical Medicine into Columbia’s School of Tropical Medicine (fig. 6.1). The school’s history indicates an unequal exchange of scientific knowledge and labor between the mainland and the islands. As Annette B. Ramírez de Arellano notes, the partnership was initially hailed as a sign of progress for U.S.-occupied Puerto Rico. The *Herald Tribune* claimed it would produce “a very strong bond of fellowship and sympathy between the United States and one of the most interesting of



6.1 School of Tropical Medicine, San Juan. SOURCE: ILLUSTRATED LONDON NEWS, 13 AUGUST 1938. COURTESY OF THE UNIVERSITY OF PUERTO RICO, MEDICAL SCIENCES CAMPUS, CONRADO F. ASENJO LIBRARY, SPECIAL COLLECTIONS.

its territorial possessions” while addressing “the complaints made by Puerto Ricans that their interests are being neglected.”⁹ But as the school’s establishment of Cayo Santiago demonstrates, its priorities were often guided by the mercurial and self-interested agendas of mainland researchers.

At the time of the founding of Cayo Santiago, the Columbia comparative psychologist Clarence Ray Carpenter was navigating a number of divergent interests in Puerto Rico. Carpenter’s immediate interest was not in the sort of biomedical practices that depended on rhesus for physiological modeling and vaccine production. Instead, his work was in the behavioral sciences, specifically field studies of primate sexuality, social organization, and behavior, with a particular interest in the “way a population organizes itself.”¹⁰ The appeal of the rhesus colony, however, had to go beyond behavioral sciences to include pharmaceutical research and production that could be intimately tied to the security of the imperial nation. George Bachman, director of the School of Tropical Medicine, latched on to the idea because of an interest in securing experimental research subjects. Other interested parties, including Columbia experts in endocrinology and anatomy, found use in either free-ranging or captive populations of rhesus and gibbons. In public media Carpenter’s justifications for the colony raised the specter of vital “medical” research first, both drawing on fear of disease and aligning monkeys’ roles in “laboratory” work with ideals of security and progress.¹¹ Rhesus of Indian origin were in high demand, were inaccessible



6.2 Aerial photograph of Cayo Santiago, 1938. PENN STATE UNIVERSITY ARCHIVES, PENNSYLVANIA STATE UNIVERSITY LIBRARIES.

during wartime shipping disruptions, were subject to British-Indian export restrictions, and were ecologically threatened in Northern India. Carpenter was likely the first U.S. scientist to call for a national study of nonhuman primate research resource needs and coordination of imports from India, thus marshaling federal diplomatic authority.¹²

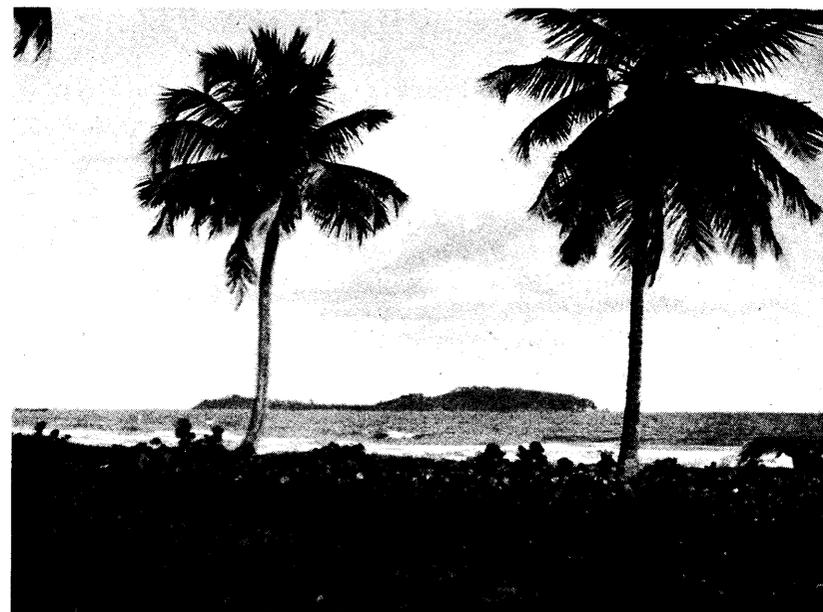
Carpenter’s colleagues at the school were able to secure the islet of Cayo Santiago from the sugar baron Antonio Roig just after the Great Depression brought an end to the U.S. capital-driven sugar boom in Puerto Rico. The Roig sugar empire—born during Spanish rule and spanning 12,500 acres of cane plantations at Humaçao in the 1930s—used Cayo Santiago for goat pasture near its coastal shipping station.¹³ Running 600 meters from north to south and 400 meters from east to west, Cayo Santiago lies a half mile southeast of Punta Santiago, Humaçao (fig. 6.2). When it was initially leased to the school, it was covered primarily with brush, grasses, and coconut groves.¹⁴

Yet the islet was reshaped for Carpenter’s project, revealing some of the subtly colonialist and racist assumptions that became clear when scientists designed new habitats for monkeys. Primate colonies, which proliferated globally in the 1920s and 1930s, advertised what Donna Haraway has called a “simian orientalism,” situating nonhuman bodies in difference

marked by geography and behavior.¹⁵ Haraway references Edward Said's critique of colonial knowledge production, which understands the production of Western self-images and institutional hegemony over colonized Asia as a matter of positioning the "Orient" as geographically, culturally, and temporally distant, and further as a scene of origins for language and civilization. As orientalism displays the Western imagination of the origins of civilization and city, primatology displays an imaginary of the origins of society itself as found within a "natural" animal order. Racial and sexual signifiers become key indicators of the natural order in this mirroring of human and animal.

In the history of Cayo Santiago, simian orientalism involved the attempt to design an imagined "natural" landscape for the rhesus, and thus for the colony to produce properly "natural" rhesus bodies and forms of social organization. In the main historical description of the colony construction offered by Richard Rawlins and Matt J. Kessler, the landscaping of the island in advance of the monkeys' settlement demonstrates how scientists tropicalized Cayo Santiago in advance of the monkeys' arrival. The islet was landscaped with forests of coconut and mahogany, as well as with tropical tubers; media such as the *Illustrated London News* could print postcard pictures of Cayo Santiago's beaches and palms (fig. 6.3).¹⁶ Presuming that tropical tubers and imported produce would nourish animals and that the sea would enclose them, the scientists were surprised when the monkeys destroyed most of the imported vegetation and, in small numbers, swam to the main island. In escaping and literally tearing down the imperialist fantasy of "tropical nature," the animals forced scientists to establish feeding stations.

At the same time that simian orientalism advertised the tropical "scene of origins" of human sociality via the bodies of nonhuman primates, an emerging public discourse embraced the universality of the primate and saw rhesus as appropriate models of humanity (not just representatives of a sort of primitive psychology underlying social relations). Hansel Mieth's early *Life* photographs from Cayo Santiago—captioned, against Mieth's wishes, to joke that a rhesus "misogynist" was escaping female "chatter" by swimming out to sea—figure the monkey as a symbol of wartime alienation, stranded after the dislocations brought by the violence and dislocations of modernity (fig. 6.4).¹⁷ When the Cayo Santiago station was unveiled to the media in the opening days of the Second World War, it was presented as a new line of defense in the nation's biosecurity arsenal. This line of reasoning followed a particular racialized geography of difference, with Indian mon-



6.3 View of Cayo Santiago from Puerto Rico. SOURCE: *ILLUSTRATED LONDON NEWS*, 13 AUGUST 1938. COURTESY OF THE UNIVERSITY OF PUERTO RICO, MEDICAL SCIENCES CAMPUS, CONRADO F. ASENJO LIBRARY, SPECIAL COLLECTIONS.

keys representing both the failures of British imperialism and the possibilities of a new U.S. American empire founded on scientific rationality. Carpenter repeatedly denounced both the supposed filth of "disease-carrying humans" in India and the British Indian animal-welfare regulations protecting monkeys in transport.¹⁸ In 1939 a *Life* article introducing the Cayo Santiago station initially focused on familiar colonial tropes exoticizing India: "Because he is considered sacred in India," claimed the unnamed writer, "the rhesus is domineering, undisciplined and bad tempered."¹⁹ Reinforcing British colonial discourse that saw the backwardness of Indian religions as justification for external rule, the article also naturalized Puerto Rico as a site for the demonstration of the technical-scientific rationality underpinning biomedical progress. Nearby residents in Punta Santiago were "alarmed" by the *Life* article's mention of plans to use the colony of free-ranging monkeys to research cures for polio, tuberculosis, and leprosy (now called Hansen's disease).²⁰ A community group met with colony scientists to voice their concerns about risk of disease transmission to humans in the area.²¹ Although this initial public resistance to the colony apparently died down after a forum attended by scientists, the history of Cayo Santiago's founding testifies to the imbrication of biomedicine within histories of unequal ex-



6.4 *A Misogynist Monkey Seeks Solitude in the Caribbean off Puerto Rico, 1939.* PHOTOGRAPH BY HANSEL MIETH. COLLECTION CENTER FOR CREATIVE PHOTOGRAPHY, UNIVERSITY OF ARIZONA. © 1988 THE UNIVERSITY OF ARIZONA FOUNDATION.

change between colonized spaces and the imperial mainland. Utilizing the institutional resources of tropical medicine, the labor of primate traders in British India, and the infrastructure of the sugar trade, Cayo Santiago represents an odd trajectory of transcolonial relations that enabled the transition to “modern” biomedicine.

Renationalizing the Puerto Rican Monkey

Cayo Santiago’s rise and fall were meteoric, and the early years of the colony were characterized both by disruptions to the rhesus population and by turnover in colony administration. By December 1938, after Carpenter had sold a number of his animals to pay for travel expenses, caretakers began

releasing the remaining 406 rhesus macaques, 14 gibbons, and 3 pigtail macaques onto the islet. By 1940, field research was under way and the monkeys were reproducing rapidly (194 infants were born by 1942). Well over 500 animals were also sold through the end of the Second World War for use in mainland U.S. research labs. During the major studies of the early 1940s, 350 rhesus remained on Cayo Santiago; by 1944, there were only an estimated 200. Social reorganization after resettlement in Puerto Rico was a major threat to young rhesus, as many were killed by other monkeys in the first year.

In the early 1940s a number of behavioral field studies were conducted on the sexual and social organization of the monkeys, and colony administrators had to both provision monkeys with commercial monkey chow and take serious steps to contain disease. For both scientific and health purposes, monkeys were tagged and trapped for census-taking and medical inspections, especially given outbreaks of diarrhea and shigella (fig. 6.5). (Scientists were successful at this point in eradicating tuberculosis among the population.) There is little accounting of the numbers of escaped monkeys during this period, but there were reports of monkeys swimming to the Puerto Rican mainland. One rhesus escapee was reported captured and returned by the scientist in charge.²²

The main historical work on Cayo Santiago notes that both the world war and the end of major funding for the colony in 1941 triggered a period of neglect. Yet it is important to also situate the abrupt decline of the colony in this period within the changing relationship between Puerto Rico and the United States. In the 1940s a variety of relationships between universities, industry, the island government, the federal government, and foreign governments were transformed. Operation Bootstrap, which brought tax breaks to encourage new factories in Puerto Rico, came along with the liberal policies of Rex Tugwell, including land reform and the eventual approval of Puerto Rico’s “Free Associated Status” as proposed by the Popular Democratic Party leader Luis Muñoz Marín. The federal acceptance of both the funding and political strategies associated with this nationalism was integrated within a larger program to use Puerto Rico in Cold War battles over decolonizing nations. The U.S. State Department established its Point Four Program, intended to showcase Puerto Rico as a capitalist development model to Third World elites, while disavowing Puerto Rico’s colonized status. More than 30,000 Third World officials stayed in Puerto Rico and were shown “the industrialization projects, the health system, and other construction work.”²³ During the era of what Laura Briggs calls “modern-



6.5 Michael Tomilin and assistants tagging a rhesus macaque at Cayo Santiago, n.d. PENN STATE UNIVERSITY ARCHIVES. PENNSYLVANIA STATE UNIVERSITY LIBRARIES.

ization nationalism,” “Puerto Rico was explicitly a ‘laboratory’ in which development—foreign aid, industrialization . . . , import substitution, and population control—was being tested as a global policy.”²⁴ The establishment of Cayo Santiago occurred just at the moment when, with both an ascendant nationalism in Puerto Rican politics and an infusion of New Deal funding and federal interest in Puerto Rican institutions, officials on the archipelago made a sustained push for an expansion of basic public health on the island. Aggressive demands for the basic training of doctors and nurses transformed the relationship between Puerto Rico and the Columbia officials. In 1938, with nationalist leaders stressing the development and independence of the school, Puerto Rico demanded an increased voice in decision making, leading to the replacement of George Bachman as the

school’s head. In 1942 the chancellor set up a committee to launch a new medical school devoted primarily to medical and nursing training. In 1946 Columbia shifted the focus of its tropical medicine research to immigrants in Washington Heights, New York, announcing that its funding for the Puerto Rico institution would end in two years.²⁵

The late 1940s were a turning point that eventually brought decentralization, reimportation, and a new player—the National Institutes of Health—to the management of Puerto Rican monkeys. After Carpenter’s initial studies at Cayo Santiago in the early 1940s, many of the caretakers left, and funding was scarce, directed toward more immediate health needs. The dean of the School of Medicine put Cayo Santiago’s monkeys up for sale. Yet the colony was saved by an NIH grant, largely engineered by José Guillermo Frontera, a Puerto Rican biologist studying in Michigan, who convinced the school to delay closure of the colony.²⁶ This grant, which funded the colony in 1949, was the springboard for a new era of federal involvement in primate institutions in Puerto Rico and for a much more diverse array of research activity.

The grant invigorated interest in the establishment of new, highly controlled colonies by the government in order to ensure a steady supply of monkeys for both behavioral research and biodefense. Although the NIH explored setting these colonies outside of U.S. continental borders, it eventually established a system of Regional Primate Research Centers (now the National Primate Research Centers) at major continental universities and research facilities. This institutional history has been discussed elsewhere by several scientists involved with Cayo Santiago and its spinoff institutions across Puerto Rico.²⁷ These spinoff institutions, which offered research monkeys for work on blindness, neurological disease, and heart disease, eventually included laboratories and colonies of monkeys in San Juan, Sabana Seca, and three small islets in the northwest and southwest of the archipelago: Cueva and Guayacán—which together formed the La Parguera colony, funded by the NIH and the FDA, in the southwest—and Desecheo Island, where ecological studies of free-ranging rhesus took place in the northwest. The La Parguera monkeys were eventually transferred to populate new colonies at Morgan Island, South Carolina, and the German Primate Center in Göttingen.

A cartoon that appeared in *El Mundo* in December 1949 represents a rhesus strutting confidently, head cocked back, after learning of the initial NIH grant; if federal funding ensured the continued ability of medical institutions to support imported monkeys, it also initiated a set of changes

that would remake the image of monkeys as an invasive presence, draining resources and land. Federal funding was thus a mixed blessing: while it sustained a type of research program not usually available to U.S. possessions, it made funding conditional on the increased access of mainland researchers to Puerto Rican monkeys and land. In particular, FDA grants that attempted to increase the number of monkeys used for polio vaccine production led to a new problem: the monkey as an “invasive species,” responsible for millions in damage to agriculture and threatening to indigenous species. In the postwar era the decentralization of monkey settlements in Puerto Rico resulted in the establishment of large free-ranging populations of introduced monkeys in Puerto Rico. On Desecheo Island, rhesus decimated the population of brown boobies that remained after decades of U.S. military bombing and training exercises. In the agricultural southwest escapees from Cueva and Guayacán caused sustained damage to crops and contributed to the tense politics surrounding the maintenance of agriculture in the region given expanded development, decades of import-substitution policies that favored industry over agriculture, and the proposed establishment of U.S. military installations. These developments are thus directly related to the lengthy history of U.S.-led development schemes on the archipelago, along with policies that brought new waves of foreign investment, expansion of heavy industry (including pharmaceuticals), and export-oriented tax policies.²⁸

Millennial Monkeys: From Universal Primate to El Chupacabras

In 1962–63 the School of Medicine’s Laboratory of Perinatal Psychology, which operated as a captive colony of Cayo Santiago-derived rhesus in San Juan, established a free-ranging colony on the islets of Cueva and Guayacán, just off the coast from La Parguera. La Parguera is a fishing village in southwest Puerto Rico with a number of mangrove islets among the phosphorescent waters surrounding its bay. The objective of the colony was to test whether breeding cycles and other behaviors of rhesus were ecologically adapted. While some animals were transferred from Cayo Santiago, the ecologist Carl Koford also traveled to India to acquire new stocks of rhesus. By 1963, 278 monkeys had been released on the islets, whose combined area amounts to approximately 190 acres. Because of the extreme proximity of these islets to the mainland—shores were as close as fifty meters—monkey escapes occurred from the beginning of the program. The researcher John Vandenbergh claims that “local people did not object to the presence of these renegades” at the time, and that the facilities supervisor Carlos Nagel acted as an effective diplomat to the villagers.²⁹ His mention

that the colony paid off frustrated landowners, however, betrays the tension that occurred from the outset over escaped monkeys in the southwest.

Escapes of rhesus and African patas monkeys, which were introduced at La Parguera in 1971, steadily increased free-ranging populations in the Lajas Valley of southwestern Puerto Rico. When the Food and Drug Administration became interested in La Parguera to increase the supply of monkeys for polio vaccine production, things got worse. The FDA’s 1974 grant helped maintain Puerto Rican primate facilities facing continuing funding problems. Yet with a grant to expand La Parguera, the FDA attempted to increase the colony size to 2,000 animals, many times larger than either the original population or the population at Cayo Santiago. Escapes increased, with entire troops of animals swimming freely across the channels of the bay. Scientists at La Parguera did not keep estimates of the number of escapes, but by the end of the 1980s, they had trapped over 250 monkeys in the southwest of the main island and reported other monkeys living free in cattle-grazing areas on the Sierra Bermeja mountain range.³⁰ Two population studies have been carried out in the area. The first, completed in the early 1990s, claims that the number of monkeys in the southwest was in the low hundreds for both rhesus and patas species.³¹ An unpublished 2006 study finds a total of well over 500 patas alone in the large troops in this area.³² The total population of free-ranging monkeys is now likely over 1,000 and growing.

Multiple factors related to farm activism and public-health concerns converged in the late 1990s to bring more attention to the free-ranging monkey population in the southwest. First, sporadic human encounters with feral monkeys in increasingly urban areas brought evidence of possible zoonotic health risks, especially with the discovery of B-virus in a monkey that died in San Juan.³³ Second, an agricultural group in the southwest, El Frente Unido Pro-Defensa del Valle de Lajas (United Front for the Defense of the Lajas Valley), took up the issue of crop damage as part of its push to establish the Lajas Valley as a protected agricultural area. Finally, with mounting public pressure, dramatic events related to the Puerto Rican government’s capture and culling of monkeys gained international media attention.

Government officials attempted to address animal-welfare concerns, but as farmers’ protests grew louder and the threat to health and environment became more apparent, the government took increasingly strong measures to control and eliminate monkey populations. Farmers from Lajas had reported losses due to monkeys for years, but it was only in the late 1990s

that Puerto Rico took significant action. In 1999 a new wildlife plan established the authority to manage invasive species through a variety of non-lethal and lethal means, including proscribed hunting. While trapping and removal of animals was ongoing in Lajas, there was no coordinated study of it until 2006, when the government also first proposed significant funding (\$1.8 million) for monkey removal. In 2008 Puerto Rico gained international media attention when it initiated a trap-for-export program, beginning with the transfer of fifteen rhesus to a private safari park in Florida; after the animals escaped by swimming across a moat, they led county officials on a six-month chase. No other institutions were willing to take more trapped animals until early 2009, when Iraq's National Zoo in Baghdad agreed to take a shipment of monkeys for public display. People for the Ethical Treatment of Animals and other international animal-rights groups denounced the measure for placing rhesus in a war zone.

By December 2008, the government was openly shooting trapped monkeys to prevent their spread across Puerto Rico, attracting the attention of media and activist organizations worldwide. The move risked stoking stereotypes regarding animal cruelty in Puerto Rico, especially given the widely publicized slaughter of feral dogs earlier in the year.³⁴ The final solution is still being negotiated, with the Caribbean Primate Research Center pressuring the Puerto Rican government to take more steps to ensure that monkeys are captured and utilized for scientific purposes, and with several animal-welfare organizations calling for humane population-control measures.³⁵

The new monkey-control initiatives of the DRNA—Puerto Rico's Department of Natural Resources and Environment, whose animal-control efforts have been criticized in Puerto Rican newspapers—signal a reversal in the image of the monkey as an indicator of universal scientific progress. Patas and rhesus monkeys began to serve as figures of invasion as early as the 1990s. In 1998 news reports claimed that farmers faced 20 percent losses and were switching from profitable fruit and vegetable exports to less-profitable crops and, in some instances, leaving the business altogether.³⁶ The new media attention was not without its exaggerations. The numbers of monkeys were regularly reported to be significantly larger than the population surveys indicate. Yet the monkey problem was occurring within a larger context of economic decline, transformations in people's livelihoods, and a tense situation regarding the presence of the U.S. military. It was within this context that the most sensational stories of Puerto Rico in the 1990s were disseminated internationally. The legend of the cryptid *chupacabras*—first

reported in 1994 in Canóvanas, northeastern Puerto Rico—quickly spread to southwestern Puerto Rico, a region which in the 1990s became the epicenter for reports of paranormal activity on the archipelago: UFOs, alien landings, abductions, and the death of thousands of farmed animals associated with precision bloodletting. Monkeys were thus one of several signs of U.S. imperial presence that fomented anxiety in the figure of *el chupacabras*; while monkeys helped form the visual impression of this cryptid, they were also consistently presented as the “real” beings behind the scare, mobilized to dismiss the supposed superstition of rural Puerto Ricans. This was common practice even as drought and other economic-environmental factors threatened farmed animals. For example, in response to a report of two sheep deaths in Lajas in 1996, officials quickly claimed that the animals had been attacked by monkeys in the area.³⁷

Imagined as an extraterrestrial vampire that blends characteristics of reptiles, dogs, and monkeys, the *chupacabras* legend spread first to Mexico, then throughout the Spanish-speaking communities of the Americas; it became a staple of U.S. televisual representations of the paranormal during this time. According to Lauren Derby, the *chupacabras* legend must be understood as part of a broad “culture of suspicion” regarding the U.S. presence in Puerto Rico.³⁸ Derby mentions in particular the pervasive and secretive U.S. military installations as promoting a particular “state effect”: “The state in Puerto Rico is . . . pervasive yet remote; commanding yet invisible, since much of the actual muscle of U.S. imperial power resides on the island because the U.S. armed forces have enormous holdings on Puerto Rican soil.”³⁹ Economic and environmental concerns went hand in hand with suspicion over the military presence. *Chupacabras* sightings clustered in areas associated with U.S. government or industrial presence, including new pharmaceutical plants that sprang up in the 1990s after the North Atlantic Free Trade Agreement (NAFTA) went into effect. In the agricultural southwest, which was facing a prolonged drought, the phenomenon was linked to paranormal activity at the site of a new U.S. military radar project. The United Front for the Defense of the Lajas Valley formed in part to oppose the siting of a U.S. military radar project in Lajas. The navy proposed the project—consisting of a transmitter on Vieques Island, a receiver in Lajas, and a control center in Virginia—in the face of protests against the military installation on Vieques, a large island in the east of the archipelago. Ostensibly proposed to monitor Caribbean drug trafficking, the project was seen by antimilitary activists as an excuse to justify continuing presence of the military in Vieques, where bombing runs were de-

nounced as damaging the environment and for causing unusually high cancer rates. In 1994 the United Front linked with other groups, including El Comité Pro-Rescate y Desarrollo de Vieques (Committee for the Rescue and Development of Vieques), to promote a cultural nationalist discourse against the military that linked the presence of U.S. installations and technologies to environmental, health, and economic destruction.⁴⁰ Thus economic, environmental, and military forces combined to promote a discourse of skepticism whereby certain “open secrets” of the government formed a spectacle. Thus, chupacabras sightings in the southwest cannot simply be dismissed as “superstition.” As Robert Michael Jordan notes, key socioeconomic forces gave rise to the chupacabras legend, first in Puerto Rico, then elsewhere in the Americas: “perceptions of U.S. economic, cultural, and political imperialism,” “pollution,” and “fragmentation of rural society” wrought by the post-NAFTA spread of industry to rural areas.⁴¹ Although within a decade interest in the chupacabras in Puerto Rico had mainly become limited to paranormal and cryptozoological communities, the legend’s emergence demonstrates the ways in which nonhuman animals become incorporated into complex cultural negotiations over colonized space.

As the free-ranging monkeys of the southwest were being discussed as a “problem” for Puerto Rico, new changes were taking place at Cayo Santiago. Adaris Mas became Cayo Santiago’s first Puerto Rican director, and, along with other facilities now linked as the Caribbean Primate Research Center (CPRC), Cayo Santiago received funding ensured via an NIH grant aimed at supporting a program of AIDS research at the University of Puerto Rico (UPR). Scientists at UPR have been at the center of a pan-American AIDS-research agenda, grounded in studies on local disease transmission and possibilities for vaccines targeted at particular HIV strains. Monkeys remain part of this research agenda, both as experimental animals and as essential links in the history of the disease. (Populations of captive monkeys in Puerto Rico faced early outbreaks of AIDS, beginning in the 1960s, and were important in the isolation of simian retrovirus.)⁴² At the same time, monkey institutions often remain hidden from public view, linking them to the economies of secrecy associated with the U.S. state effect on the archipelago. Officials at UPR have become acutely aware of the possible distance between the scientific venture and the community. Edmundo Kaiselbard, the director of the Caribbean Primate Research Center, has argued for the need to “give back” to the local fishing communities and to establish a closer relationship between the scientific institution and the local community,

particularly highlighting the necessity of tourism and the potential damage that government trapping programs may cause to the tourist industry. Fishing boats and kayaks increasingly bring tourists to view Cayo Santiago from the sea, supplementing declining fishing revenues. Kaiselbard has also proposed an onshore museum and library to attract visitors.⁴³

As scientists in Puerto Rico navigate the complex Puerto Rican national politics regarding health, development, and scientific research, they continue to be confronted with international attention that pits science against race- and class-biased depictions of Puerto Ricans. A 2006 article in *Science*, which associates Puerto Ricans with poverty and drug use, portrays the NIH funding for the CPRC as offering unrecognized public-health benefits: “Good HIV/AIDS care and strong research in this U.S. commonwealth often mean little to the island’s many heroin addicts.”⁴⁴ Still, with the development of a robust indigenous research agenda, Puerto Rican scientists are attempting to straddle the at times conflicting interests of medical research, conservation, and economic development.

The most recent development in the history of monkey importation in Puerto Rico was a failed attempt to bring Carpenter’s initial vision of Puerto Rican primate biodefense full circle, as it would have established private breeding operations in Puerto Rico that were to be integrated into a global network of biomedical primate distribution. In May 2009 international animal-rights NGOs including Physicians Committee for Responsible Medicine and the British Union for the Abolition of Vivisection launched a campaign against Bioculture, a Mauritius-based breeder of standard pathogen-free research monkeys, which intends to establish a new breeding facility in Guayama, Puerto Rico. In order to ensure the standardization of research subjects (including their certification as pathogen-free), the proposed facility would have held an estimated 4,000 newly imported rhesus and cynomolgus monkeys, bypassing the ongoing government trapping operations. Bioculture, which exports research monkeys through several international distributors, including the Charles River Laboratories in Massachusetts, is one of the world’s major suppliers of research monkeys. However, local officials in Guayama as well as Puerto Rican legislators took action to prohibit Bioculture’s facility, and its permit was denied, effectively stopping any new large-scale importations of monkeys to the archipelago.⁴⁵

Coda: Species Critique and the Archive

My overview of the cultural, political, and medical history of imported monkeys in Puerto Rico has benefited from traditional print sources includ-

ing newspapers, scientific research publications, and photographs and other visual cultural sources. What is more unusual in my discussion is the use of self-produced histories written by researchers working at scientific institutions. Although scholars in the humanities and social sciences have for decades been producing rich work on the cultural and social study of science, it is unusual for scientists themselves to undertake a sustained project of historical research of their own institutions, research practices, and research subjects as have the scientists associated with Cayo Santiago. The uniqueness of Cayo Santiago—its status as the first free-ranging colony of Asian-origin monkeys in the Americas, its location far afield from mainland research institutions, its immersion in Second World War and Cold War history, and its status as one of a few remaining sites of free-ranging monkeys used in research—perhaps accounts for this fascination.

Thus two archives have been produced by scientists following the importation of monkeys to Puerto Rico. The first comprises the field studies that began with the work of Carpenter in the early 1940s. Such studies relied on the migration and settler-colonialism of colonial tropical medicine, and they established observation protocols through which to interpret the semiotic and social activities of colony-dwellers as indicators of population characteristics. Donna Haraway's excellent description of Carpenter's original research project at Cayo Santiago demonstrates that an understanding that monkeys share human abilities to communicate, as well as particular social forms that produce a population, played an important role in the interpretation of social and sexual behavior.⁴⁶ There is therefore an investment in observing monkey life in order to extrapolate lessons regarding social organization understood to apply to humans. During the wartime era, this was seen as significant for defense priorities in engineering systems of command and control.

Of course, this history of primate sociality and sexuality was produced in the very act of divorcing the animal from the material contexts of imperial capitalist development and primate trading, as well as from the complex linkages that both monkeys and humans established across the lines of species difference. Because of this constraint, a second form of scientific writing—the institutional history—emerged to explain the significance of colonial primate institutions, situating monkeys in relation to the resolutely political dynamics of scientific “progress” and biosecurity. Key researchers and other officials from both the mainland and Puerto Rico—including C. R. Carpenter, William Windle, J. G. Frontera, J. G. Vandenberg, and Jaime Benítez—have been involved in self-consciously producing Cayo

Santiago histories, from institutional and scientific priorities to economic contestations and ecological impacts. They have showed an interest in, and even an occasional identification with, imported monkeys and their life experiences. In 1980 William Windle wrote an important article outlining the history of monkeys and scientists at Cayo Santiago, their difficulties, and the colony's role in spurring new research in Puerto Rico and elsewhere. In 1986 Richard Rawlins and Matt Kessler published a volume detailing the history, behavior, and biology of the Cayo Santiago rhesus; in a poetic tribute to the monkeys, at the end of the volume Kessler laments the long transoceanic journey, lack of provisions, and sporadic institutional attention that the monkeys received. In 1989 the *Puerto Rico Health Sciences Journal* published the proceedings of Cayo Santiago's fiftieth anniversary celebration, with the notable inclusion of the historical perspectives of Puerto Rican researchers and one university official. In a humorous account of his visit to the colony in these proceedings, the former UPR chancellor Jaime Benítez describes how rhesus became the springboard for discussing the history of mistrust in scientific exchanges between Puerto Rico and the mainland United States at the time of the Puerto Rican nationalists' shooting incident at the U.S. capitol in 1954.

In each of these examples, archival practices and official histories frame the subjects and objects of history via particular epistemological frameworks, conventions of documentation, and affective investments that determine which topics count and which don't. It is through the performative nature of historical narrative and archiving that historical knowledge aligns with the political.⁴⁷ The scientific institutions were of course tied to modernization and U.S. imperialism, but they were also invested in an affective politics that made the ideal, universal monkey a much more central object of historical narrative than the human social fields surrounding the island laboratories. In contradistinction, other Puerto Rican perspectives—whether in cryptozoological theories or in the writing on the political history of scientific institutions by Jaime Benítez—clearly view the monkey as tied to the U.S. imperial institutions that brought them to the archipelago. Given this imperial dynamic, it is perhaps no wonder that both Benítez's narrative and the chupacabras stories more often than not describe *humans being watched by monkeys* rather than describing the monkeys from the gaze of the human narrator, as in behavioral and institutional histories; the monkey here is aligned with the surveillance technologies and secretiveness of the imperial state, rather than emerging simply as a victim or subaltern migrant within imperial economic flows.

Many aspects of monkeys' existence in Puerto Rico have escaped these historical accounts: monkeys' interactions with humans in the southwest, their transformation of the agricultural, ecological, and even visual cultural landscape of Puerto Rico, the new travel linkages they establish with the mainland and with other parts of Puerto Rico through tourist and biomedical traffic, their presence in responses to neoliberalism that travel across Latin America, and the violence enacted on their bodies in practices of vivisection. These examples indicate that, in large and small ways, the life-practices of monkeys can constitute forms of representation that fall out of the purview of biomedical institutions, the imperial modernization models, conservation discourse regarding invasive species, and nationalist discourses on development. A critical history of Cayo Santiago as a key space in the development of the biomedical primate trade therefore must, on the one hand, follow the prerogatives for telling particular "animal histories" that would work against what Few and Tortorici identify as the colonial archival "blurring" of specific microhistories into the categorical representation of delimited animal species, and, on the other hand, attempt to account for nonhuman animal representations as they appear in the margins of the histories emerging from largely human-derived archives.⁴⁸ Following works by Eduardo Kohn and Anna Tsing, we must recognize that nonhuman actors can engage in complex forms of representation that require us to read new presences in culture and relations between species in the landscape.⁴⁹ Imported rhesus and patas monkeys in Puerto Rico are co-travelers in the domains of culture and politics, and their performances speak to the alternative marks that they leave in memory, in the landscape, in the margins of the archive and the official history.

Scientific histories have at times ignored the question of the relationship between research institutions and local populations, save the cases of escaped monkeys and tourist revenues. In the extant histories, the roles of the many animal handlers and other facilities workers at Cayo Santiago—most of them Puerto Rican—are largely left out in order to focus on the monkeys and the prerogatives of federal funders and mainland researchers. These caretakers' long-term intimacy with monkeys and their habitats may make them at times more knowledgeable about rhesus behavior than are the official investigators from the mainland who visit for months-long research stints.

These exclusions allow for the telling of a certain type of history deeply impacted by the imperial dislocations that made Cayo Santiago and other monkey institutions possible. Monkeys are inextricably tied to the politics

of development, the cultural memory regarding U.S. imperial control of Puerto Rican land and institutions, and the rhetorical linkage between modernity and science that framed the wartime and early Cold War eras in Puerto Rico. At the same time, the fact that monkeys can escape the boundaries of the experimental research site, transform built environments and economic linkages, and become symbols of both national progress and imperial domination, reflects the difficulty in figuring the animal as a sort of subaltern written outside of dominant histories.

Erica Fudge has eloquently written that "animal history" is first and foremost a human history of animals.⁵⁰ The case of imported monkeys in Puerto Rico demonstrates that even the microhistories that would highlight monkeys' labor, movement, and representational practices cannot help but perform the anthropocentric function of secular historical narrative that, as Dipesh Chakrabarty argues, violently translates diverse life-worlds and temporalities into a unitary conception of space and time.⁵¹ There has been a persistent will to write the monkey as a historical figure in Puerto Rico, either to document its immersion in the modern systems of biodefense or to situate it as the alien invader to the nation. Given the deep socioeconomic divisions that this investment—forged out of histories of imperialism and neoliberal development—indexes, it is impossible to extricate monkeys from the contexts of social difference that produce a will to tell "monkey history." A critical monkey history must pay attention to the divisions of humanity through which monkeys emerge into humanist historical discourse (for the will to tell a monkey history is itself implicated in the circulations of biopower); recognizing the human differences through which monkey history emerges also forces us to think through the radical conjunctions and segmentations of human and monkey bodies in biological and social assemblages. This understanding is somewhat different than Fudge's solution to the dilemma of transspecies representation in her concept of a "holistic" history that understands how the concept of the human is formed through the animal, its other. While Fudge's work is attentive to the complex ways in which telling animal history is, in a sense, always telling a history of the human, this form of historical writing remains within a binaristic model that situates animal species in categorical difference as demeaned objects of modernity. Reifying "nonhumanness" risks postponing, first, a primary critique of human social subjection through which animals become historical objects, and second, the deep constitutive difference that conjoins life across bodies and species. Working in the binary mode threatens to universalize a Eurocentric understanding of animality as

located within the realms of the secular and the phenomenal.⁵² In the case of Puerto Rico, a multiply colonized space where monkeys are both visible signs of progress and the objects of suspicion, where the taxonomy of the monkey is caught up in narratives of the paranormal, and where the bodies of monkeys have been literally implanted into some humans to ensure their survival, such an understanding fails to account for the complexities of interspecies living—the ways in which animals perform historical relations with the many species, places, and institutions they encounter and with whom they share space, affect, communication, resources, and even bodies.⁵³ Such relations are central to the definition of imperial biopower, which materializes in geographically and historically delimited circulations of affect, investment, body parts, and knowledge.

Notes

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 11. C. R. Carpenter, “Rhesus Monkeys (*Macaca mulatta*) for American Laboratories,” *Science* 92 (27 September 1940): 285–86.
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 50. Erica Fudge, "A Left-Handed Blow: Writing the History of Animals," in *Representing Animals*, ed. Nigel Rothfels (Bloomington: Indiana University Press, 2002), 3–18, 9.
 51. Dipesh Chakrabarty, "Translating Life-Worlds into Labor and History," *Provincializing Europe* (Princeton: Princeton University Press, 2000), chap. 3.
 52. I see this tendency in a number of field-defining texts that follow in the lineage of Peter Singer, who in the 1970s identified the relationship of human to animal as one defined by *speciesism*, analogous to sexism and racism. This analogy of social subjection works rather crudely in the case of animals because it reifies the singularity of the human and universalizes European taxonomic knowledge as the basis for turning the animal into an object of analysis. See, as examples, Cary Wolfe, *Animal Rites: American Culture, the Discourse of Species, and Posthumanist Theory* (Chicago: University of Chicago Press, 2003); and the Animal Studies Group, ed., *Killing Animals* (Champaign: University of Illinois Press, 2006). Jacques Derrida has been the most insistent on problematizing this object "animal," situating it as a sacred figure of otherness in European philosophical traditions. See Derrida, *The Animal That Therefore I Am*, trans. David Willis (New York: Fordham University Press, 2008).
 53. Donna Haraway has been the most visible proponent of a critical species scholarship (rather than the alternative of "animal studies"). See especially her analysis of "companion species" that cannot be disassembled into the categories of "human" and "nonhuman" or even "human" and "animal" (*When Species Meet* [Minneapolis: University of Minnesota Press, 2008]).