UNIVERSITY OF CALIFORNIA,
IRVINE

Feral Natures and Excremental Commodities: Purity, Scale, and the More-than-Human in Indonesia

DISSERTATION

submitted in partial satisfaction of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

in Anthropology

by

Colin William Cahill

Dissertation Committee:
Associate Professor Kristin Peterson, Chair
Professor Tom Boellstorff
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2017

DEDICATION

For my parents, Bill and Ros, and my sister, Kristen,
who have been more patient, generous, and loving than I imagined possible.

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ACKNOWLEDGMENTS

Attending graduate school and developing this project, I was more often than not riddled with self-doubt. None of this has been easy for me, and without the support of numerous amazing individuals and intersecting communities, I would never have finished. Many communities have supported and sustained me through this process, and the best pieces of this dissertation—in its current form and as a process—reflect their care and generosity. The shortcomings and flaws are my own.

I would first like to thank the communities of civet coffee producers, without whom this project wouldn't have been possible. While I have anonymized their names, locations, and stories, there are contributions from each of them in this dissertation for which I am deeply indebted. They were patient and open-minded when a queer redhead from around the world showed up, asking for their help in developing better understandings of their work and lives. It has been a joy learning with them over cup after cup of the fruits (or seeds, really) of their labor. I moved between many sites for this project, and received guidance and support from many anonymized sources. One non-anonymized source, Zuhri Joe, provided crucial research assistance in Aceh, and it was a pleasure breaking durian together.

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sources of guidance and inspiration. I feel privileged to study with them, to witness their brilliance, and to think alongside them, encouraged by the creativity, generosity, and rigor of their work. Kris, Tom, Mei, and Valerie have opened up seemingly inaccessible theoretical terrains for me, changing how I see, think, and experience the world. I thank each of them for their support and encouragement.

My conversations with my mentors have been invigorating, filling me with creative energy. The same has been true of my experience working with Kavita Philip, who graciously joined my advancement exams committee. There is a mischievous twinkle in her eye as she weaves together history and theory, reconfiguring how I have thought about [post]colonial science and nature-making. I hope to bring a similar creative effervescence and generativity to my own intellectual endeavors.

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I express my deepest appreciation to my friends and colleagues across Indonesia. Ika, Termana, Putra, Irine, Sani, Maryani and Izzy have helped me find and build home in Jogja and Bali. They have been the best allies and co-conspirators, and I feel so fortunate to share their friendship, love and support. My research would not have been possible without support from the lovely communities at the American Indonesian Exchange Foundation and the Department of Anthropology at the University of Indonesia (UI). Nellie Paliama, Astrid Lim, Ceacilia Sitanggang, and Rizqi Arifuddin are miracle workers when it comes to navigating the visa and

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I would like to thank many additional friends and allies who have supported and encouraged me during this process. Tiar was my partner when I conceived of this project, and his support during this project has been incalculable. Vinh, Manny, Lío, and Michele brought joy to my life in the sterile, corporate landscape of Irvine. Wine nights, heart-to-hearts, and a healthy dose of Britney Spears brought the perfect kind of messiness into my life. My coffee community has brought companionship and joy to me during the writing of this. Elise Becker, Matthew Marchand, Heather Morelli, and Kristen Olson have been partners in work and play. We started out as baristas together, and in each of them I found a lifelong friend who has taught me to be a stronger, better person in unique ways.

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I have been incredibly fortunate to find friendship and kinship through my work and research, but none of this would be possible without my most biological of kin. It has been a pleasure to build the kinds of families we choose, but I am also the luckiest of sons and brothers. My sister, who is the kinder, friendlier sibling, has been incredibly supportive. I have had so much fun growing together, and I can't imagine a better ally in life.

My parents are incredible models of kindness, love, and support. They have nurtured and supported my multispecies endeavors, including attending herpetology conventions and cleaning up the excrement of assorted snakes and lizards when their son was an errant care-giver. They supported me and my sister with our 4-H projects, showing dairy cows and wool-breed sheep competitively, and my dad was always ready with a shovel in hand to help clean up those larger, mammalian fecal messes as well. They brought me, as a child, on marsh walks with fiddler crabs along the swampy coast of North Carolina, and scrambled with me as an adult along crumbling mud paths to smell the pungent funk of a blooming *Rafflesia arnoldii* in the mountains of West Sumatra. I have continuously entangled them in messy, multispecies worlds, and they have joined, lovingly. I ask that anyone who appreciates something in my work or my character join me in thanking them.

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2015 Standardization and Indeterminacy in Indonesia's Civet Coffee Industry. Society for the Social Studies of Science Annual Meeting. Denver, CO. November 14.

2015 Excremental Agents: Civets in the History of Indonesian Coffee. Environmental Histories of Commodities. University College London. London, UK. September 11.

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ABSTRACT OF THE DISSERTATION

Feral Natures and Excremental Commodities:
Purity, Scale, and the More-than-Human in Indonesia

By

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Doctor of Philosophy in Anthropology

University of California, Irvine, 2017

Associate Professor Kristin Peterson, Chair

Civet coffee, or *kopi luwak* as it is called in Indonesian, consists of coffee beans retrieved from the feces of civets, or cat-like, omnivorous, arboreal, nocturnal mammals. These beans are washed, processed much like any other coffee, and marketed as a luxury good. This dissertation describes the development of the civet coffee industry within the context of the broader coffee industry in Indonesia, and examines the unique relationships that are being formed between humans, civets, and coffee trees. This dissertation is based on ethnographic fieldwork conducted over 15 months with civet coffee producers, coffee farmers, coffee agents, cafe owners, agricultural scientists, barista communities, and representatives from various government regulatory bodies across Indonesia.

Through an analysis of the production of an excremental commodity, this dissertation traces the articulation of forms of purity and cleanliness in a particular place and time. It describes how civets and coffee trees have been discussed as natural resources, and how the development and regulation of the industry reflects particular ideas about what nature is and

isn't, and what is and isn't part of nature. By tracking understandings of purity, cleanliness, and ideas about nature, this dissertation illustrates how cultural concepts that are frequently treated as having stable, consistent meaning actually mean different things for different communities.

This dissertation is about the production of meaning within dynamic, changing sets of relations. But it is also about the materiality of coffee, civets, and farming communities, as they are involved in worlding and world-making projects that influence not just what it means to be a civet, a coffee tree, or a farmer; they influence what it is to be these things. Through this study of how civets, coffee trees, and Indonesian farmers are entangled in processes of co-producing each other, I argue for the continued re-evaluation of boundaries and boundedness. This dissertation presents messy stories of decomposition, erosion, instability, and vulnerability to challenge all-too-orderly depictions of the world and all-too-precise theories that privilege modernist sensibilities for coherence, boundaries, and stability in a world that is otherwise.

Chapter 1

Introduction:

Purity, Scale, and the More-than-Human in Indonesia

July 2014

Pressed against the door of the SUV, I stare out at the dramatic, verdant landscape of the coffee highlands, on my way to one of my primary fieldsites to conduct research on Indonesia's civet coffee industry. We've just passed the spot where the informal transport drivers turn off the air-conditioning, opening the windows to the highland air, which is cool yet smoky from unregulated vehicle emissions and the trash fires dotting the main road that connects the farming communities to the lowland, coastal state capital. Opening the windows seems to help with the thick cigarette smoke that has filled the vehicle, as well as with the scent of vomit from fellow passengers who struggle with the sharp curves and quick rises and drops along the mountainous road. We chat briefly, discussing our destinations; they are heading home from visits to the city. They laugh, pointing out the dissonance of the foreign passenger seeming to be most comfortable with the route. I laugh, too, and look back out the window. I don't share with them that I am nervous.

It has been almost a year since I first visited the area to confirm the presence of civet coffee producers[1] and to arrange with them permission to carry out my research. Prior to my return, People for the Ethical Treatment of Animals (PETA) launched a campaign against the civet coffee industry, including a short film comprising undercover footage from a number of civet coffee businesses. Tony Wild, a British author and former coffee trader, collaborated with journalists from the BBC on a campaign against the industry. They visited farms to take secret footage for a short film for their campaign. They lied to civet coffee producers, claiming to be buyers. Following the campaigns from PETA and the BBC/Tony Wild, other international organizations have taken public stances against civet coffee, including the Specialty Coffee Association of America.

Upon seeing the campaigns, I contacted a few of the producers over Blackberry Messenger (BBM) to find out how they were handling these developments, and while a couple mentioned that the negative press seemed to have attracted more attention from potential buyers, they all mentioned feeling suspicious of visitors. One producer asked me directly if I was involved in either of the campaigns.

This is all that I can think about, as we ascend and descend along the winding road, moving deeper into the mountainous region. While I intend to follow my initial research questions addressing the cultivation of understandings of the health of civets within the rapidly growing civet coffee industry, I know that this project must reckon with questions related to the conditions and qualities of life and labor within the civet coffee industry.

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[1] These has been speculation that civet coffee is a hoax, or that most of the civet coffee on the market is fake. See, for example, Schoenhalt (1999); Teggia and Hanusz (2003); Tiojakin (2009); and Onishi (2010).

August 2017

This dissertation describes the development of the civet coffee industry in Indonesia, and examines the unique relationships that are being formed between humans, civets, and coffee trees. It is about how civet coffee is produced, and how it is understood by those producing and bringing it to market. By analyzing the production of a fecal commodity, this dissertation traces the articulation of forms of purity and cleanliness in a particular place and time. It is also about how civets and coffee trees have been discussed as natural resources, and how the development and regulation of the industry reflects particular ideas about what nature is and isn't, and what is and isn't part of nature. By tracking understandings of purity, cleanliness, and ideas about nature, this dissertation illustrates how cultural concepts that we might assume to have stable, consistent, shared meaning, can actually mean different things for different communities—including among communities connected through shared economic ventures.

Right now, across many of the coffee-producing regions of Indonesia, as well as in parts of the Philippines, Vietnam, Thailand, and India, people are tending to caged civets, a set of species of omnivorous, primarily nocturnal and arboreal mammals that are frequently described as catlike. While they frequently have fluffy coats, and many species are similar in size to common, domestic house cats, the heads and snouts of many are more similar to those of ferrets or small dogs (see Figure 1.1).

The people who are tending to these civets are waiting for the next batch of civet excrement, which is gathered for the seeds, or as they are most commonly referred to, coffee beans. Civets are omnivorous and frugivorous—or fruit-loving—and they have incorporated coffee cherries into their diets. The fruit of coffee trees are commonly referred to as berries or

Figure 1.1: The common palm civet (*Paradoxurus hermaphroditus*), the most common species used within the civet coffee industry. Source: Author.

cherries. While cherry is more commonly used, there are many who make arguments that coffee fruit should be called berries based on definitions used by botanists. Technically, coffee fruit are drupes, or stone fruit, because they have a soft outer flesh surrounding a pit containing a seed. While most coffee cherries contain two pits—which explains why the beans have a rounded side and a flatter side, although peaberry coffee refers to rounder coffee beans that come from coffee fruits with only one pit and that are found naturally occurring in at least small quantities on most coffee trees—cherries are a helpful analog for the small, fleshy coffee fruit surrounding a pit, so I have opted to refer to coffee fruits as cherries throughout this dissertation. The dense seeds of the

Figure 1.2: Coffee beans are visible throughout the civet excrement that is being dried before the fecal matter is washed away. This excrement is from larger animals during the peak of the coffee season, when coffee cherries can constitute a significant portion of the civets' diets. Source: Author.

coffee cherries are difficult to digest, and once the civets have defecated, the coffee beans that are retrieved often show little-to-no obvious, visible trace that they have traveled through the digestive system of an animal (see Figure 1.2). The coffee beans retrieved from the civet feces are cleaned and processed much like other kinds of coffee, and are sold as a high-end, luxury good on domestic and international markets. During peaks in the demand for civet coffee, a cup of brewed civet coffee could selling for up to US$100, and a pound of civet coffee beans can sell for well over that price. The cost to try a cup of civet coffee on plantations in Bali, as of August 2017, range from IDR50,000 to 200,000, or about US$4 to 15. In areas of Indonesia where cheaper, lower-grade robusta is farmed, a cup of civet coffee can cost as little as IDR10,000, or about US$0.75.

Civet coffee, or *kopi luwak* as it is commonly known in Indonesia, has a complex history that is entangled with the history of colonial agriculture[2]. Coffee was brought to Indonesia around the end of the 17th century, and civet coffee has circulated in small quantities along coffee farming and trading networks since at least the early 19th century. This early civet coffee came from the feces of civets that lived along coffee orchards, wandering through the orchards at night to eat coffee cherries, sometimes leaving behind small piles of coffee bean-laden feces. These feces were gathered by local farmers who often struggled to meet the coffee harvest quotas that were imposed by the Dutch, and often enforced by local leaders. Not only did the fecal coffee help bulk up the size of a farmer's harvest; the fecal coffee is easier to process, as the civet's digestive system helps break down the sweet, sticky pulp and tough endocarp, or parchment skin.

Through the 1990s and early 2000s, civet coffee continued to be traded in limited amounts, and could be found marketed as a highly novel experience for tourists along backpacker networks in Indonesia. It attracted the attention of journalists, and every year there were a handful of articles describing the expensive and controversially fecal coffee. In 2006, researchers from the Indonesian Coffee and Cocoa Research Institute collaborated with farmers at a national government plantation in East Java, hoping to establish methods to produce coffee with much greater value on domestic and international markets, and they began developing successful methods in 2008. From 2008 on, small-scale producers began to operate across many of the coffee-farming regions of Indonesia, and the nascent industry actively producing civet

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[2] In Vietnam, civet coffee is known as *cà phê chôn,* and in the Philippines, it is known as *kapé alamíd* among Tagalog speakers.

coffee grew rapidly. Some participants in the industry have tried to obscure the industry's size by perpetuating rumors about the limited availability of the coffee, claiming that only a couple hundred kilograms of the fecal beans were produced each year, even as some of the producers began to produce quantities in the tons. The footprint of the industry grants it a small degree of privacy. Most production occurs in rural highland communities off the trail of domestic and foreign tourists (who constitute a significant portion of the consumers of Indonesian civet coffee). And even in Bali, where coffee plantations cater to tourists curious to learn about the fecal coffee, the plantations often offer visitors a curated display in a visitor center. While trying the coffee for what might seem like a reasonable fee, visitors can observe a few civets resting in large cages that often have natural plant-life growing inside. The sites on plantations where the civet coffee is actually produced are tucked out of the view of visitors.

In this dissertation, I have chosen to focus solely on Indonesia's civet coffee industry because of both the larger size and longer history of the industry within Indonesia in comparison with those in other countries. Because of my personal stakes, having grown up among farming communities in rural Pennsylvania, I have chosen to focus on the lives of the agricultural communities of farmers, coffee trees, and animals involved in laboring civet coffee into being. As a member of the local 4-H club, a youth organization administered by the US Department of Agriculture, I worked with dairy cows and wool-breed sheep, raising and showing them competitively at the summer farm fairs. We would care for the animals, feeding them, vaccinating them, grooming their coats, and shoveling their excrement. In learning how to "handle" them, we learned how to walk together, and to try to read each others' gestures. During choreographed routines in the show ring, creating poses that emphasize the musculature and

health of the animal—a kind of play and performance of bringing them to market, with the audience in the role of the potential buyer—there was a push and pull. There were ways of calming each other through touch; I woven my fingers through the thick wool along the back edge of their jaw; they nudged my wrist, nuzzling in a gentle, diminutive way, reminiscent of other ways in which humans and their companions cuddle. These formative experiences challenged me to think from a young age about the complexities of living and working with nonhuman animals. My connections to agricultural communities showed me how the precarious balance of care, work, finance, life and death that mark multispecies cohabitation can be disrupted by policies supported by voting populations unfamiliar with the culture and practices of farming communities. While this dissertation doesn't directly advocate for the interests of civet coffee producers, it is my goal to provide a complex representation of the industry as a counterbalance to depictions in the media that frequently oversimplify the lives and work of those within the industry.

Civet coffee is marketed internationally as a luxury commodity, and has at times achieved shockingly high prices. Early in my research, following civet coffee between sites of production and trade, it became clear that even as Indonesian civet coffee producers focus on international markets and foreign consumers, the primary market for civet coffee is domestic. And while some of the domestic market includes foreign tourists, in many areas domestic tourists and local communities have become the consumers of civet coffee. Even at government-organized industrial conventions in urban centers, which civet coffee producers attend in hopes of finding international buyers, the attending producers frequently sell most of their civet coffee stock to Indonesian customers. The classical European colonial commodity chain where an equatorial

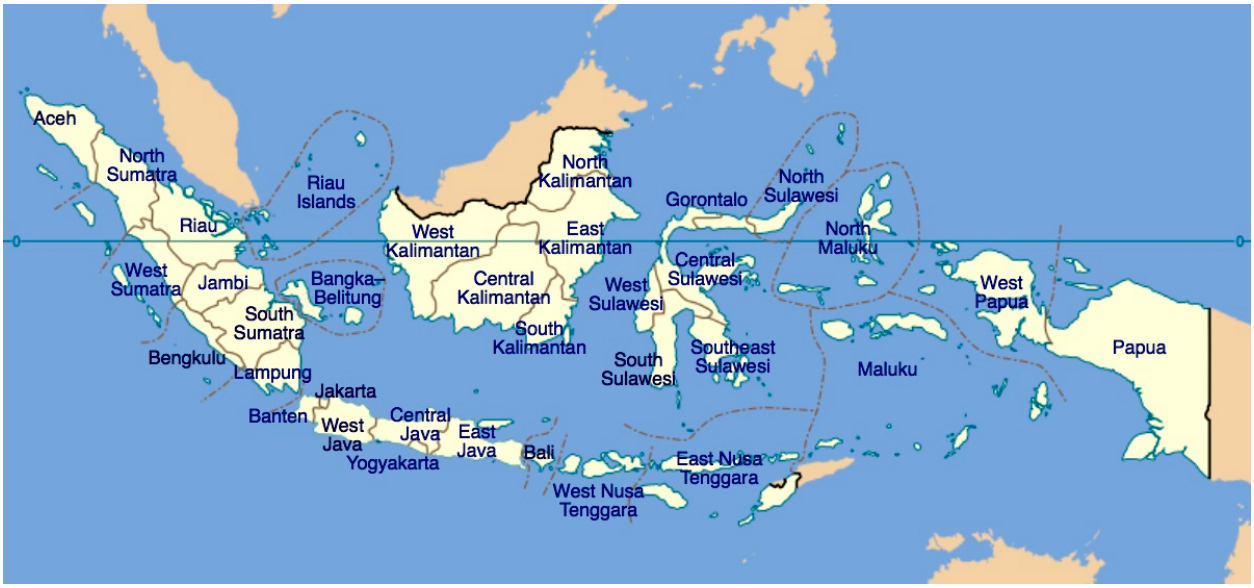

Figure 1.3: This map shows the provinces of Indonesia. Sumatra is the large island to the west, below which is Java. Bali is smaller, and located just to the east of Java, and Sulawesi, split by the Equator, is a large island located near the center of the map, just to the east of Kalimantan. Source: Wikimedia Commons.

commodity is produced for European or American markets has been changing as the Indonesian middle class and domestic consumerism has grown.

Within Indonesia, the industry is diverse and expansive, including small-scale, home industry producers and large-scale corporate- and government-owned plantations across at least four islands: Bali, Java, Sulawesi, and Sumatra (see figure 1.3). It is an industry the works within many of the networks formed by the coffee industry for producing harvests in rural, highland communities, with agents working as middlemen to move the coffee to urban communities and markets. Producers who have networks of consumers ship their fecal coffee in packaging with their own brand information. But when it passes hands to agents and re-sellers, the civet coffee is frequently rebranded and repackaged. Because there is little regulation of this practice, the producers have little control over how their civet coffee gets marketed to consumers, and some

have been shocked by the way their coffee is inaccurately described on its new packaging—sometimes with the site of production mislabeled, or the type of coffee (whether it is arabica or robusta) incorrectly noted. These inaccuracies occur frequently, but do not necessarily affect the majority of civet coffee that is currently being traded.

Scale, Precision, and Purity

Because the industry is expansive, involves production sites that are out-of-the-way for many Indonesians[3], and is relatively young (despite the long history of civet coffee within Indonesia), I spent much of my preliminary research periods in 2012 and 2013 trying to map out the footprint of the industry. By the completion of the project, having followed civet coffee in and out of cities across multiple islands, I had conducted research with civet coffee producers, coffee farmers, coffee agents and traders, cafe owners, agricultural scientists, baristas and barista trainers, and representatives from various Indonesian government regulatory bodies in the provinces of Aceh, West Sumatra, Lampung, Jakarta, West Java, Central Java, East Java, Bali, and South Sulawesi (also see figure 1.1). Because I wanted to develop an understanding of the industry and the movement of ideas and resources along networks, during my primary fieldwork period of about fifteen months, from June 2014 through September 2015, I spent about 6 months working closely with one community of civet coffee producers, and then I worked for varying amounts of time

[3] When asked about my fieldsites by Indonesian friends and colleagues in Jakarta and Yogyakarta, many had never heard of most of the towns and villages where I worked with civet coffee producers. I often found myself describing my fieldsites with the vague specificity with which I have grown accustomed to describing the rural village with a population of 400 where I was raised in southeastern Pennsylvania to my American friends and colleagues.

with producers and representatives from both the civet coffee industry and the broader coffee industry.

This dissertation presents a story about commodity production, commodity chains, and livelihoods; it is also a story about the entanglement of economic pressures and motivations, with cultural understandings of forests and order and waste and cleanliness. To follow the movement of a commodity, and the ideas that moved with that commodity along networks, this project required a multi-sited research design rather than the traditional single village study that provided the dominant model for earlier cultural anthropologists (Marcus 1995). Village studies have inaccurately portrayed small-scale communities as scaled-down, microcosms, representing the culture of a larger society in miniature, much as the cultural theme park Taman Mini Indonesia Indah sought to represent the nation in miniature[4]. Indonesianists have long challenged this notion. Clifford Geertz (1973b), in his seminal essay, "Thick Description: Toward an Interpretive Theory of Culture," argued, "If localized, microscopic studies were really dependent for their greater relevance upon such a premise—that they captured the great world in the little—they wouldn't have any relevance. [p] Anthropologists don't study villages (tribes, towns, neighborhoods …); they study *in* villages" (22). Village studies confuse the site of study with the object of study.

The shift to multi-sited research represents a re-evaluation of scale in the design of ethnographic research. Timothy Clark (2012), in his work on issues of scale in relation to climate change, describes scale as a conceptual tool that "…enables a calibrated and useful extrapolation between dimensions of space and time" (148). Scales frequently work with ratios, proportions,

[4] For an analysis of the cultural politics of Taman Mini, see Pemberton (1994).

and hierarchies. The scale on a map explains the distances on the map in a ratio with the distances on the ground of the terrain represented by the map. Within Marxist geography, there has been a move to deconstruct assumptions about the nature of geographic scales. Neil Brenner, Neil Smith, David Harvey, and Eric Swyngedouw have pioneered studies inspired by Henri Lefebvre's work on the social production of space, illustrating how scalar configurations of territorial organization are formed, such that they appear as pregiven, stable, precise, nested scales.

Like nesting tables, or a Russian nesting doll, the geographic scale of the state has the largest unit—the nation—containing smaller units, which contain smaller units, and so on. Navigating the bureaucratic permit process for conducting research in Indonesia often moves researchers between a hierarchy of offices along a nested scale, from the national offices in Jakarta, to the offices of the provincial government branches, to the offices of the regency government branches, to reporting one's presence to the neighborhood volunteer official, or k*etua rukun tetangga* ("neighborhood group head"), such that information and paperwork is moving along a nested scale from the smallest unit to the largest, and vice versa. But while political systems enforce a particular kind of spatial scale, the object of study of anthropologists often confound an obvious nested scale.

Multi-sited ethnography requires an attention to geographic scales, and the kinds of correlations that might be made between place and culture. In his multi-sited research in Indonesia, Tom Boellstorff draws our attention to a concept that he calls ethnolocality, which presents similar scalar issues to those of village studies. Boellstorff defines ethnolocality as "…a spatial scale where 'ethnicity' and 'locality' presume each other to the extent that they are, in

essence, a single concept" (2002:25). Ethnolocality identifies blurs geographic borders and the mapping of cultural practices, identifying cultural practices with a geography rather than with a community that might transgress the lines on a map. Boellstorff identifies the origins of ethnolocality in "…the colonial encounter, where it was shaped by fears that people living in the archipelago might identify with broader spatial scales like Islam or nationalism" (2005:43). The description of unifying cultural practices of members of an ethnic group as if the contours of the community—and the contours of the presence of the practices—map cleanly along a geographic terrain, such that Javanese culture is found in Java, for example, confuses the spatial scales of cultural practices with geographic spatial scales, or ethnonyms with toponyms, as Webb Keane (1999) points out. In his work on *gay* and *lesbi* Indonesians, Boellstorff (2005) describes an archipelagic scale, which describes a spatial arrangement that draws together clusters of subjects into a network connected not necessarily by geographic proximity, but by shared cultural practices, forming a kind of network of islands. David Murray, Kathryn Robinson, and Tom Boellstorff (2006) have expanded the discussion of an archipelagic spatial scale as one that does not require contiguity, suggesting new kinds of comparisons of cultural phenomena in archipelagic places.

In my project, by shifting the focus of study to the circulation of ideas along networks, I crossed traditional "ethnolocal" frames. While the decision to conduct multi-sited research meant forfeiting a certain kind of depth of cultural understanding among a narrowly defined community, it enabled me to develop a broad understanding of a small, but geographically dispersed industry, forming a kind of archipelago. By attending to the complexities and multiplicities of meaning circulating through the civet coffee industry, this dissertation explores

the ways in which those complexities and multiplicities reflect and impact the material world. It examines how civet coffee, coffee trees, civets, coffee processing technology, and civet coffee producers and their families are worlded within networks which are influencing contemporary forms of life and their regulation in Indonesia, and how developments within the industry can be understood as forms of world-making. When I write of "worlding," I draw on the work of Mei Zhan (2009), who shows how traditional Chinese medicine becomes what it is through "translocal movements, displacements, and refigurations" (7). It is through transnational encounters and engagements that what we call traditional Chinese medicine takes shape. For Zhan, "worlding" helps us to see how the objects of ethnographic analysis are always partial and sociohistorically contingent.

An examination of "world-making" shifts our attention from how a particular material object or set of practices is produced conceptually and materially within a cosmology to the production of a conceptual and material cosmology. Cosmologies are cultural models of the universe, reflecting the understandings of particular communities of their place within a universe, as well as their unique modes of engaging with diverse environments. A cosmology is both a representation of the material world and the actual material world as it is engaged with by a community. Competing cosmologies show the universe to be ordered in distinct ways, with different centers and peripheries, different boundaries, different forms of power, different forms of relationships between humans and nonhumans, and different organizations of matter[5]. These

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[5]Stanley Tambiah (1973) has drawn our attention to the competing cosmologies of Southeast Asia; Clifford Geertz (1960) and Benedict Anderson (1990) present analyses of Javanese cosmologies, and, in particular, the way that power functions within a Javanese cosmology; Karen Barad (2007) describes competing understandings of matter within quantum physics research, illustrating radically different understandings of the properties of matter in the universe.

different understandings of matter and order reflect competing cosmologies. Within Southeast Asian studies, cosmology as a concept is frequently rooted in particular religious traditions, and the concept has had particular purchase in work that examines Buddhist philosophy and traditions.

While studies of cosmologies are also often described in relation to a particular ethno-linguistic group, Zhan's work on traditional Chinese medicine shows how cultural knowledge and practices, or a system of medical knowledge and practices, come into existence through networks that cross ethnolocal boundaries. Zhan writes, "an ethnography of worlding does not privilege the ontology of dwelling over traveling. It is translocal in the sense that rather than taking 'cultural difference' in its various ethnographic and theoretical incarnations as the starting point of anthropological inquiries, it emphasizes the ways in which various terms of differences are invented, negotiated, and deployed in everydayness" (2009:201). This project attempts to follow Zhan's model, and focuses on how understandings of civet coffee emerge from quotidian interactions along translocal networks. In this way, I theorize worlding as a process (or set of processes) through which objects and practices come to be constituents of a particular cosmology. I consider worlding and world-making to be co-constitutive.

World-making, as Anna Tsing (2015) has used it, is the process through which quotidian practices are continually transforming our planet as we know it. World-making is a multispecies practice, and as each creature carves out its living arrangements, those living with it must adjust to the alterations. World-making is a dynamic, ongoing process, and as such, an analysis of world-making challenges seemingly pregiven spatial scales which often treat geographic terrain

as stable. Tsing's work on world-making among communities brought together by the search for matsutake mushrooms also forms a critique of scale, or as Tsing describes it, "scalability," or "…the ability to expand without rethinking basic elements" (2012:505). This twist on scale, as a central concern of capitalism, starts with scalability as a demand that business ventures, or research projects, can be scaled-up. In the case of business ventures, scalability requires that the scale of production can be increased, the scale of the market increased, and the volume of capital increased.

The scales that interest Tsing are scales that imagine and demand economic growth, and Tsing critiques these scales and the demand for scalability as working against diversity. The precision of scales, such as the dominant geographic nesting scales, present an unrealistically neat and ordered version of the world. Scalability provides a sense of understanding and control over a world that is always actually evading such forms of control. The way that Tsing writes about scales, scalability, and precision echoes the point of the story Benedict Anderson tells us of colonial map-making, or what he calls "the colonial-era bird's-eye atlas," and the creation of West Papua in his *Imagined Communities* (2006). Anderson explains, "A scattering of anthropologists, missionaries, and local officials might know and think about the Ndanis, the Asmats, and the Baudis. But the state itself, and through it the Indonesian population as a whole, saw only a phantom 'Irianese' (orang Irian) named after the map; because phantom, to be imagined in quasi-logo form: 'negroid' features, penis-sheaths, and so on" (178). In his explanation of the creation of an imagined community of "Irianese"—its members imagined together sharing a "quasi-logo form"—formed within "…the racist structures of the early-twentieth century Netherlands East Indies," he describes the re-scaling of West Papua as a

unified region in spite of famous cultural and linguistic diversity. The too-orderly, too-clean image of a unified territory doesn't hold as one scales down to examine local politics and social divisions.

The precision of particular geographic scales seem to misrepresent communities and terrains as consistent across space and time, both fixed and uniform. Wait out a hurricane on a barrier island, or observe an Independence referendum of a region of a country, and our sense of fixity, stability, consistency—that what is scaled is static—begins to erode. Tsing uses the example of the plantation as an early experiment in the scalability practices of capitalism to remind us that the precision of scalability is temporary, if not an illusion, "just as weeds take over plantations every time the poison lets up" (2012:519). It is telling that where many might see the order of a plantation and appreciate its organization, and its sterility, Tsing cuts against the grain and identifies poison. Tsing's critique of scalability is, in some ways, a critique of order, and a critique of the ordering of the world in such a way that humans and culture come to be understood as removed nature, or as Latour might call it, "modern."

In *We have never been modern* (1993), Bruno Latour interrogates the concept of modernity, arguing that it's common definition oriented by time — "…a new regime, an acceleration, a rupture, a revolution in time" (10)—obscures its central forces: translation and purification. While purification is a conceptual project in which humans (and culture) are assigned an ontological zone separate from that of the nonhuman (and nature), translation is a process through which new hybrids of nature and culture are produced. The development of research on the microbial life involved in the fermentation process in coffee production has been translating bacteria, fungi, and yeast into collaborators in the production of flavors and Taste. It

is through translation that they become microscopic laborers and artisans, influencing not only what human coffee consumers taste, but also how we understand qualities of taste. Simultaneously, our purification processes identify microbial life as something to be controlled. In nature, we might let bacteria, fungi, and yeast run wild, but as co-producers of culinary creations, the microbial becomes a necessary site for human control and order.

The colonial plantation is a particularly potent example because of the way it presented not just new modes of organizing labor, but also a new organization of space, remaking the landscape into a well-ordered, productive one. In Latour's analysis of modernity, the colonial plantation represents a new kind of hybrid that is commonly understood as mankind's separation from—and mastery of—nature. Latour presents a critical diagnosis of the "modern," as a kind of fantasy of a new level of human progress in which humans are separate from nature, and human culture represents that progress, even as that progress is increasingly reliant upon new forms of hybrids of nature and culture. Shifting Latour's analysis to a [post]colonial context means engaging his ontological analysis of the modern with a political analysis of modernization theory and development discourse, which transport the modern constitution of Western enlightenment thinkers to those who have not yet purified. This dissertation asks how postcolonial theory might re-imagine Latour's analysis of the modern, such that it attends to the forms of power circulating through colonial encounters in which the division of nature and culture privileges particular communities and marginalizes others. It asks how ontological questions about how modernity orders the world into discrete zones of nature and culture might inform our understanding of modernization as a desirable process for political economists. And it asks questions about the

possibility of an alternative to the aesthetics of our analytical tools as purified objects, all-too orderly and precise.

In examining the entanglement of matter and meaning, following in the tradition of feminist science scholars who have propose ontological alternatives such as naturecultures (Haraway 2003) and agential realism (Barad 2007), this dissertation plays with the multiple definitions of purity, purification, and cleanliness. These are aesthetic concepts, religious concepts, biomedical concepts, and political concepts. I draw on Mary Douglas's (1966) foundational analysis of pollution and taboo, in which she argues, "…ideas about separating, purifying, demarcating and punishing transgressions have as their main function to impose system on an inherently untidy experience" (4). And Douglas defines the untidy, or dirt, as "matter out of place," reflecting a particular kind of cultural understanding of that matter, rather than something inherent to the matter. Douglas challenged us to reconsider cleanliness as culturally contingent. Bringing her definition into conversation with Latour, we might see dirt matter that violates the perceived separation of nature and culture. Modern humans don't just clean away dirt. The removal of dirt is a performative, purifying process which orders the world, separating humans from nature materially and conceptually. This project examines the production of cleanliness and purity in an industry that extracts a commodity from excrement. It examines the regulation of the industry and the circulation of particular understandings of purity and cleanliness, while also asking how to theorize in a way that doesn't necessarily privilege precision, order, and analytical cleanliness.

As a project about the creation and worlding of a commodity that brings disparate communities together along a chain of sorts, it follows in the footsteps of commodity studies

projects that have traced how value is created and manipulated—and ways of knowing are influenced—along the networks that formed by bringing a commodity to market, including Sidney Mintz's (1985) work on the role of sugar in the industrialization of Western Europe, Theodore Bestor's (2001) study of the cultivation of the value of tuna along transnational networks leading to Tsukiji Market in Tokyo, Deborah Gewertz and Frederick Errington's (2007) research on the transformation of "waste" sheep meat from New Zealand and Australia into a valuable good in Papua New Guinea, and Michael Dove's (2011) examination of the experiences of tribal, swidden-cultivating communities in rural, central Borneo, as they participated in global markets. By following a commodity, a project can examine forms of difference and similitude among communities who are connected through trade relations. Following a commodity can help to make visible networks, systems, and infrastructures that exceed the scale of village studies and the ethnolocal.

In thinking about scale for describing a being or a phenomenon in parts and wholes, I draw on the theoretical insights of Gregory Bateson, who describes an ontology for subjects that decenters the individual (and the commodity). In his research on schizophrenia and the human mind, Bateson describes an ecological approach in which "what can be studied is always a relationship or an infinite regress of relationships. Never a 'thing'" (2000:246). For Bateson, what we know as a mind, or civet coffee, is constituted through series of relationships. This ontology, in which a thing is actually a distribution of material and ideas among relationships, has been further developed by Bruno Latour, Michel Callon, John Law, and others, in their work on Actor-Network Theory, which seeks to explain phenomena as the subject of relations and interactions. Bateson's ecological approach, and Actor-Network Theory, open ways to make

sense of the agency of nonhuman beings in the production of human knowledge and worlds. Jane Bennett (2007) has called this distributive agency, or an understanding of agency that recognizes the impact and influence of nonhuman actors, such as civets as cultivators of landscapes and agents in coffee ventures.

This is a project about relations, connections, networks, worldings, and co-becomings. It is about how coffee and civets are produced in messy ways in relation to each other, and in relation to humans. Chapter 2 attends to the role of civets within the history of the Indonesian coffee industry, presenting a story of the interventions of colonial agriculture programs on the Indonesian landscape alongside a story of civets as agents acting on landscapes. Through an analysis of Dutch travel narratives and early coffee industry literature, chapter 2 presents a history of civet coffee in Indonesia, and examines the significant and tenuous relationship of the civets of Indonesia with the coffee industry. By exploring changes in the image of the civet and the shifting relationship between humans and civets in Indonesia, this chapter contributes to the historical study of coffee a different story about the connection between coffee, the environment, and the more-than-human agents influencing coffee farming and production.

As the development of the civet coffee industry in Indonesia has drawn critical attention to how humans and civets live together in the shadow of the global coffee trade, it has become important to think about how coffee producers have been caging civets for coffee production, resulting in new ways of knowing and living with the arboreal, cat-like animals. I draw on Michel Callon's use of 'translation' to examine how civets have become a natural resource within a partial genealogy of how civets have been known in Indonesia, from transnational colonial science-making to local conflicts over the regulation of their harvesting from the forests

of Indonesia. By describing the nuances of the translation process, chapter 3 shows how becoming and unbecoming a resource is more than a process of classifying. I argue that what might seem like semantic conflicts over naming are actually conflicts over social relations and world-making.

Chapters 4 and 5 present two approaches for making sense of the production of value within the civet coffee industry. Chapter 4 examines how civet coffee moves from sites of production to market, highlighting the impact of infrastructure and weather on the ability of civet coffee producers to get their coffee to buyers and consumers. The chapter presents a play on scales, as it moves between stories of large-scale weather systems and infrastructures, stories of the microbial life that impact the quality of coffee beans, stories that move along archipelagic and translocal networks, and stories that decenter stability and the linear. By describing the rhythms of infrastructure breakdown, the inconsistencies of weather rhythms experienced by farmers, and the instability of the ground under the feet of farmers, chapter 4 twists the narrative of the animal rights campaigns against the industry to think about the instability, volatility, and precarity that characterize the rural production of civet coffee in Indonesia.

Shifting from a kind of environmental analysis of the forces affecting the process of moving civet coffee to market, chapter 5 looks at ways in which civet coffee beans are transformed from a fecal material—and a form of waste and pollution—into something clean and consumable, or into a valuable commodity. Chapter 5 presents a close description of the techniques and production methods of civet coffee producers to illustrate how the beans found in civet feces are materially altered. It also presents the history of the halal classification of civet coffee, to show how particular religious bureaucratic processes render civet coffee safe for

consumption, thereby creating markets for the coffee with consumers who follow Islamic regulations for their diets. Chapter 5 highlights the forms of boundary-work that make civet excrement into civet coffee, and the ethnographic vignettes emphasize that civet coffee is labored into existence in particular ways.

Each of the chapters approaches the historic and contemporary relationships between humans, civets, and coffee in Indonesia from a different angle. This presents a complex representation of an industry that has been subjected to superficial, critical representations by transnational animal rights groups. In addition to offering a more complex portrayal of the civet coffee industry, each chapter helps to show how civets, coffee, and civet coffee producers are involved in worlding and world-making practices.

Chapter 2

Animal, Commodity, Environment:

Civets in the History of Indonesian Coffee

"Naaaah, begini…"

"Like this…," the story begins, with that authoritative gesture — *Naaaah* — to make it clear to me how it really is. It is a history of civet coffee that has been passed down orally. Some of my informants told me that they heard it from grandmothers, and some from mentors in the coffee industry. A few of them had read the story in newspaper articles, all of which cited the story to another one of my informants. Tracing the source starts to feel like being caught in a loop. It's an apocryphal story, but that authoritative gesture — *Naaaah* — shakes off doubt, as it circulates increasingly towards historical truth.

This particular iteration transpired on a preliminary research visit in August 2013 to a small town in the coffee highlands of Sumatra, a seven hour drive in good weather from the state capital. It was my first time in the home of Agus, a civet coffee producer, and it was finding Agus through Indonesian coffee networks on Facebook that lead me to this particular province from Jakarta; I came to see his civets, housed in a row of cages against the back of his home.

We sat on ornate wooden couches with densely-stuffed cushions in a cool, dark drawing room at the front of the house, used primarily for hosting guests and customers. The walls were

painted matte black and were lined with krisses[6] he had collected in Java. Two large Yin-yangs with clusters of sperm along their bottom edges were painted close to the ceiling. The decorations reflect his interests in Javanese mysticism and heavy metal music, interests he cultivated as a college student in Central Java.

Mita, a young woman employed as a domestic worker in his home, served me a small glass mug of hot black civet coffee. Agus asked for a glass of water, explaining that he doesn't drink coffee, and he had never personally tried the coffee that he produces. He jokes that it is better for his business that way. He is just one of a handful of civet coffee producers who are not "coffee drinkers," and who drink tea to help with the chilly air in the highlands where coffee is grown.

Agus and Mita watched me sip the coffee—sweet with hints of caramel from the local palm sugar, with bitterness from a dark roast. I smiled, a gesture of approval, and Agus eased back into his seat and began to sketch out a history of civet coffee for me. His story begins with the Dutch—exploitative yet innovative—and with the question of why people would ever put coffee beans that they had found in animal feces into their mouths. He explains that when the Dutch introduced the forced cultivation of coffee to Indonesia, they forbid the locals from consuming any of the coffee that they produced—an act of forbiddance that reflects broader colonial politics of consumption, wherein the colonies were treated exclusively as sites for the extraction of labor and commodities. Agus's story continues with locals who were curious about this beverage with which the Dutch were so obsessed, and in their curiosity, when they happened

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[6] A kris is a traditional dagger, often with a wavy blade, believed by many Indonesians to contain a form of power (Anderson 1990:24).

upon feces in the coffee orchards that appeared to consist largely of coffee beans, they decided to rinse off the beans, dry them, hull them, roast them, crush them, and brew them, and have a taste of the beverage. What they found was a rich, smooth, enjoyable drink, and so they continued to gather the feces from the orchards. Eventually, the Dutch discovered the locals drinking the coffee, and they tried it themselves. They supposedly enjoyed it so much that it quickly became a secret drink of the elites and the Dutch royalty. According to Agus, it was undocumented and kept a secret because of multiple, intersecting factors: its desirable flavor and aroma, its limited availability, and its unsavory fecal origins. Royalty, Agus suggested, would not want it to become common knowledge that they drank coffee extracted from animal excrement.

This is a story I've heard and read dozens of times since I started researching the Indonesian civet coffee industry in 2012. By tracing the fecal beverage to a curiosity that resulted from the strict conditions of colonial commodity production, the story gestures to the importance of understanding civet coffee within the history of Indonesian coffee as a colonial agricultural commodity.

Coffee is among the seemingly mundane drug foods that have critical political and economic histories. Sidney Mintz's *Sweetness and Power* (1985) illuminated the role of drug foods—sugar, in particular—as the fuel of Western industrialization while exploring the role of power in the shifts of regimes of meaning through which such commodities came to be central to the subjects of Empire. Mintz's historical analysis traces the political economy of sugar as it "… transformed from a luxury of kings into the kingly luxury of commoners" (1985:96). Coffee, as a drug food central to the accumulation of European wealth, has been analyzed for its role in the making of the modern world. In an essay illustrating how coffee has been central to the

expansion of the world economy, Steven Topik explains how coffee connected Africa, the Middle East, Asia, Europe, and the Americas, primarily because "…hundreds of millions, if not billions, of people have been intimately involved in the growing, trading, transporting, processing, marketing, and consuming of coffee" (2015:17). This draws on an earlier collaboration of Topik's with William Clarence-Smith (2003) in which they illustrate the ways in which the coffee commodity chain has linked laborers in tropical regions to consumers in temperate regions. Their work contributes to broader field of colonial histories of commodities which provide critical evaluations of the role of power in the development of modern societies.

Following Sandip Hazareesingh and Jonathan Curry-Machado's call for the "renewed importance of commodities in the global political landscape of the early twenty-first century" (2009:1), I turn to a particular case in the Indonesian coffee industry to begin thinking about the intersection of political economy and commodity studies with animal studies and ecology theory. Historical studies of commodities have been human stories, but they have also always been about more than humans. The study of the history of coffee production has contributed to significant discussions of transnational forms of structural violence and inequality, and has primarily focused on labor exploitation with a secondary focus on environmental degradation (most often framed in terms of its effects on human inhabitants). Scholars from across the disciplines are proposing new frameworks for understanding the formative effects of human societies on ecosystems and the Earth, resulting in a vibrant discourse around the concept of the Anthropocene[7]. These discussions demand us to take seriously cultural understandings of

[7] For a survey of work examining the concept of the Anthropocene, see Ammarell (2014); Ghosh (2016); Gibson and Venkateswar (2015); Haraway et al. (2016); Olson and Messeri (2015).

nature and cultural practices through which natures are crafted, built up, and destroyed. Scholars are looking increasingly at alternate ways of describing the Anthropocene, with some opting to call it the Capitalocene (Moore 2016), to identify the central role capitalism has played in environmental destruction and the development of climate change, the Planthroposcene (Myers 2017), and the Chthulucene (Haraway 2016), among others. Talking about the Anthropocene has entailed talking about extinctions—about the link between climate change and the mass extinctions of species of plants, animals, and other forms of life, about the ways in which we make sense of life and death in relation to temporality, and about the possibility of humans going extinct. As the Anthropocene is discussed as a new geological era, marking a period of time, scholars debate how to identify and mark the start of such a time period, with many pointing to the advent of industrialization in Western Europe, and others pointing towards the development of colonial plantation agriculture.

The story of coffee in Indonesia is one of colonial economics, but it is also a story of botanical colonialism—the settler colonial "…planting and displanting of peoples, animals, and plants" (Mastnak et al. 2014:367). Civet coffee reminds us that colonial crops were introduced into new kinds of relationships within local ecologies, and within these local ecologies, plants and nonhuman animals also participate in settler colonial acts of planting and displanting. The apocryphal stories of civet coffee's origins remind us of the extent of exploitation under colonial systems of commodity production, which established the roots for contemporary commodity chains. It is in this broader history of coffee production that draws connections between the labor and racial politics of colonial commodity production and the multispecies dynamics of botanical colonialism that I contextualize the emergence of new kinds of civet coffee production. In this

chapter, I turn to the figure of the civet within the Indonesian coffee industry. Following a broad history of the Indonesian coffee industry and the cross-imperial engagements that rooted coffee trees into new ecologies across a growing number of islands, I describe the emergence of the civet coffee industry, and I explore the shifting relationship between humans and civets in Indonesia. The relationship between humans and civets is connected to particular political-economic histories, and I argue that when we talk about human-animal relations in the contemporary context of conservation, we need to take these histories into account. This chapter explores how humans, coffee, and civets are, to borrow from Donna Haraway, "queer messmates in mortal play" (2008: 19)—a kind of play that twists how we understand history and its agents by attending to messy, complex histories legible on the landscape, in our bodies, and in the bodies of nonhuman animals.

The Rooting of Coffee in the Indonesian Landscape

To understand the relationship between humans, civets, and coffee in Indonesia, it is important to grasp the history of coffee taking root in Indonesia. There wouldn't be civet coffee without the introduction of coffee trees into the Indonesian landscape. The footprint of coffee production has changed dramatically over time, as coffee expanded to new frontiers within particular political-economic contexts. Saplings arrived by boat, spreading from island to island, driven by the Dutch expansion of the international coffee trade and the accumulation of wealth in the Netherlands. The history of coffee in Indonesia is wrought with contradictions, and the writing of history requires an openness to multiple narratives and sources of varying degrees of credibility. Dutch records and travel narratives have provided the backbone for the history, but counter-

narratives such as Eduard Douwes Dekker's[8] critical novel *Max Havelaar, or the Coffee Auctions of the Dutch Trading Company* (1868) remind us that such records were at times falsified or composed inaccurately to preserve the image of a copacetic Dutch rule. Dekker's novel drew attention to abuses within the coffee industry, and contributed to the development of an independence movement critical of Dutch rule.

The Dutch first brought arabica coffee (*Coffea arabica*) saplings to their colonial outpost in Batavia—the site of modern day Jakarta—in 1696 from Malabar, in the Western Ghats of India[9]. The arabica species of coffee grew wild in the highlands of southwestern Ethiopia, and was first spread to the highlands of Yemen. The Dutch East India Company had previously established coffee production in Ceylon (Sri Lanka) in 1658, where Arab traders had previously introduced coffee prior to 1505. According to Topik and Clarence-Smith (2003) the coffee in the Western Ghats of India—the source of those first trees brought to Batavia—had been introduced by Muslim pilgrims in the seventeenth century. Topik and Clarence-Smith challenge the popular Dutch origin narrative wherein the Dutch carried out a clandestine extraction of coffee beans out of Yemen, where coffee was until that time being monopolized, and that it was the stolen coffee that was introduced to Batavia. Topik and Clarence-Smith explain that the seedlings in Batavia actually came from Muslim traders in India. The Dutch "rescue" narrative echoes qualities of the popular story of the introduction of coffee to India by a Sufi pilgrim named Baba Budan who

[8] Dekker wrote under the pen name Multatuli.

[9] Sejarah Kopi di Indonesia (N.D.)

snuck unroasted beans out of Yemen upon returning home from his pilgrimage—a reminder that before it was introduced to European consumers, coffee was popularized in Mecca[10].

Those initial arabica saplings were planted in the area of Batavia, in what is now a neighborhood of East Jakarta known as *Pondok Kopi* ("Coffee Hill"). Those saplings were upended in a major flood, their roots torn from the soil, and they were unable to survive. A second batch of saplings were brought from Malabar in 1699 and planted in the area that the Dutch called *Preanger* and locals call *Priangan* or *Parahyangan*, an area that by the 1680s was famous for its horse-breeding (Boomgaard 2004). This area covers the mountainous region of West Java inhabited by the Sundanese ethnic group, and in recent years, coffee from this area has been traded and marketed as *Kopi Sunda*, or Sundanese Coffee. Taking root, this second batch of trees survived in their new environment. While arabica trees can grow up to 40 feet tall (or about twelve meters), these trees were pruned to keep them short to facilitate coffee harvesting, limiting them to below ten feet in height (about three meters and under). They mature in five to seven years, and their leaves are dark green, with a glossy shine and pronounced veins that seem to ripple the edges. Clusters of white flowers, similar to thinner-petaled jasmine, grow along the branches, followed by the appearance of the coffee cherries (see figure 2.1).

Once they succeeded at cultivating coffee in the region, the Dutch collaborated with local royal families and elites to establish a system whereby locals were given trees to cultivate for the Dutch. The royals and elites participated because this became a profitable venture for them—they were given a percentage of the earnings from the Dutch. The coffee functioned as a form of

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[10] I discuss the ties between coffee and Islam further in my dissertation. For more on the history of early Middle Eastern coffeehouses, see Hattox (1996).

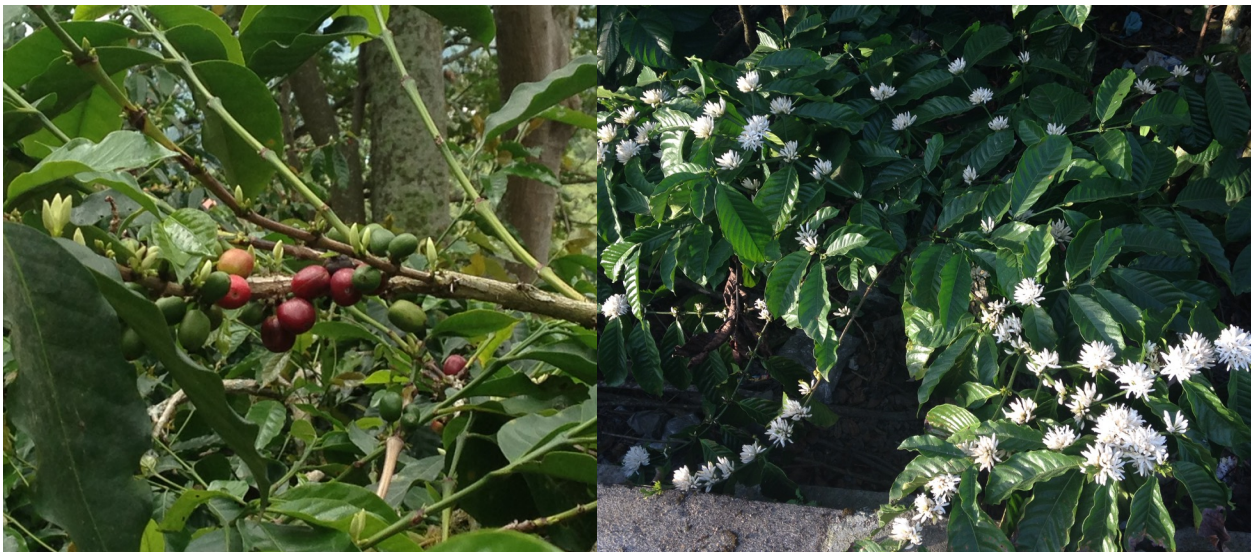

Figure 2.1: On the right is an image of the white flowers that blossom along the branches of coffee plants; the carpel of the flower eventually develops into the cherry, pictured on the left. Source: Author.

taxation on the locals, and as a form of tribute provided by the locals to their leaders, and then to the Dutch[11]. Throughout the 18th century, the Dutch spread coffee trees across Java through this forced cultivation arrangement. This coffee crop required 3-6 years of tending before becoming productive, and while some varieties of coffee have consistent, annual seasons, some alternate between highly-productive, high-yield seasons, and low-yield seasons. The temporality of coffee farming differs from many of the staple crops that offer a harvest within a year of being planted. For Europeans, the arabica coffee extracted by the Dutch came to be known by the name of the island on which it was being grown, despite the fact that the name, "Java," referred to the larger ethnic group that inhabited the middle and eastern portions of the island. The Sundanese of West Java have their own language, differ culturally from the Javanese, and do not live in "Java," but rather in "Sunda" (see figure 2.2).

[11] For more on the forced cultivation system in West Java, see Breman (2015).

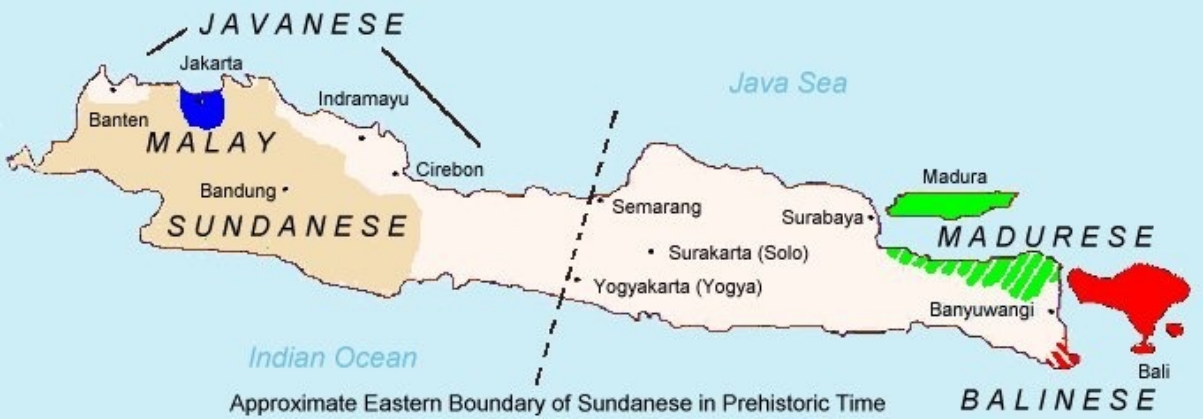

Figure 2.2: This map depicts the ethnolocal presence of Sundanese in West Java. Source: Wikimedia.

With arabica trees established, the Dutch East India Company began exporting coffee to Europe in 1711 (Sejarah Kopi di Indonesia). This means that the trees were fruiting, and so it was in the early 18th century that civets on the island of Java were first exposed to coffee cherries. Coffee production was expanded rapidly, introducing coffee trees to wider and wider forest area, and as the exposure of civets to coffee grew, so did the Dutch coffee exports, which grew steadily through the 18th century. The system of forced cultivation was introduced with the Sundanese, and then spread slowly across Java during the 18th century. Coffee trees were introduced to the forest area on the hills and mountains of Java, and coffee from Java came to dominate the expanding international market in Europe. By the end of its first ten years of exporting coffee, the Dutch East India Company in Java was averaging 60 tons per year (Sejarah Kopi di Indonesia), and by the end of the 18th century it had expanded to such a degree that its average exports per year for the entire century rose to 4,000 tons (Fernando 2003: 159). The Dutch East India Company was the first competition faced by coffee traders in Ethiopia and Yemen, and the company was slow to share knowledge and cultivation practices with those from

other European countries. The company conducted research on coffee in greenhouses in Amsterdam beginning in 1706, and in 1714 it shared some findings—and saplings—with the French, who initiated coffee plantations in Martinique in the early 18th century, and coffee production spread through the Caribbean and into Brazil. The Dutch also looked to the west, and they introduced coffee to Suriname in 1718 (Arnold 1886).

The Dutch were establishing coffee production in the East Indies during a time when various European countries were competing to establish ports and colonies in the region. Governments and large companies aspired to control the trade in "tropical" commodities, and in the islands that would eventually come to be united as Indonesia, the primary competition was between the Dutch, the English, and the Portuguese. Due primarily to mismanagement and territorial shifts, the Dutch East India Company was bankrupt by the end of the 18th Century, and in 1800, it was formally dissolved and the Dutch government officially took over the territorial possessions of the company. As M.C. Ricklefs explained, this transition was relatively insignificant in Indonesia, as the vast majority of company employees stayed in their positions, and there was little change to the previous exploitative and corrupt practices (2001:144).

The Napoleonic wars came to affect Indonesia in the early 19th century. The Netherlands had been under the control of France since 1795, when William V, the head of the Dutch army fled to England. From England, William V issued the "Kew Letters"—a series of letters ordering the Dutch officials to give over control of the Dutch territories to the British as a way of keeping them out of the control of the French. Beginning in 1795, the British occupied a set of the ports in Indonesia, and they staged a blockade of Batavia, which they eventually overtook in 1811. Sir

Thomas Stamford Raffles[12] was installed to govern Java in 1811, and he initiated a series of reforms of the coffee industry outside of West Java, ending forced cultivation and relaxing the policy of monopsony such that coffee farmers might consider alternate buyers (Clarence-Smith 1994). Dutch rule was restored in 1816, and the coffee plantations were, in many areas, leased out to farmers who paid between one-third and half of their yield to the government (Fernando 2003). In some areas, there was a return to a system of coerced labor.

When instated as Governor-General of the Dutch East Indies in 1830, Johannes van den Bosch put in place the Cultivation System[13], or *Cultuurstelsel* as it was called by the Dutch. The system required the cultivation of crops to be sold to the Dutch government at fixed prices, and it expanded the forced cultivation to all of Java by 1840 (Clarence-Smith 1994). Like earlier forced cultivation, the system was a series of varying local arrangements in which a percentage of the crop was provided to local elites in exchange for managing it locally. Following the implementation of the Cultivation System, the cultivation of coffee was expanded rapidly, such that by 1834 there were over 187,000,000 coffee trees on Java—nearly triple the amount that had been planted prior to the Cultivation System (Fernando 2003:161). By 1840, about 56% of the households that were assigned forced cultivation were growing coffee, or about four times the amount that were forced to grow sugar; during the 1840s and 1850s, 82% of all of the profits from the Cultivation System were coming from coffee (Clarence-Smith 1994:241).

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[12] Raffles is best known for founding Singapore after his assignments in Batavia (now Jakarta) and Bencoolen (now Bengkulu). During his posts in Java and Sumatra, he orchestrated naturalist research on the fauna of Sumatra, the results of which he published in the *Transactions of the Linnean Society of London* in 1821. I discuss his descriptions of civets in the following chapter.

[13] For more on the history of the Cultivation System in Java, see Fasseur (1992); Clarence-Smith (1994); Elson (1994); Fernando (2003).

Outside of Java, coffee cultivation was being extended through the impetus of the Cultivation System. The Dutch orchestrated coffee production in Gowa, in the hills southeast of Makassar in South Sulawesi, beginning in 1830 (Bigalke 2005:19). Terance Bigalke, in his history of Tana Toraja (2005), describes how it is believed that coffee had actually been introduced to the area prior to when the Dutch brought it. Based on linguistics, the Torajan word *kaa* is considered to have come from the Bugis word *kawa,* which in turn is considered to come from the Arabic word for coffee, *qahwah*. This linguistic genealogy suggests that coffee was introduced into the region through Arabic-speaking networks rather than by the Dutch, whose word *koffie* is considered to be the root for the Malay word, *kopi*. Additionally, Bigalke includes the history of van Dijk, a Dutch planter who, upon clearing land in South Sulawesi in the 1920s, found coffee trees which were estimated to be 200-300 years old. If the trees were actually as old as the estimates, they are evidence that coffee had traveled earlier along Arab trade routes to Makassar's port, which had grown in importance during the 17th century (Bigalke 2005:19).

The Cultivation System was extended to West Sumatra in 1847, according to Joel Kahn (1980), and the Minangkabau highlands became a center of coffee production. The system was primarily relegated to West Sumatra, Java, and Sulawesi, though Lesley Potter (2008) notes that forced cultivation was also established in Bengkulu, on the west coast of southern Sumatra. The rampant abuses within the system by profiteering local officials and Dutch government officers gradually came to the attention of the Dutch public through works such as Dekker's *Max Havelaar* (1868), which led to a pushback against the system. The Cultivation System was abolished in 1870, but while the forced cultivation of sugar ended, and was privatized, the forced cultivation of coffee continued. One area where it was ended relatively early is Bengkulu, where

it ended in 1872 (Potter 2008). In parts of Java, during the 1870s, the Dutch offered to transfer their government coffee land to villagers after a commitment of five years of cultivation (Clarence-Smith 1994).

Coffee cultivation in Indonesia was further expanded by the Agrarian Law of 1870, which opened up tracts of land that the Dutch classified as "waste" (Neilson 2012). This "waste" land included large amounts of forest and land that the Dutch considered to be unused or improperly used. Using "waste" to describe unused or improperly used natural resources reflects a Dutch moral constellation that also framed the coffee beans found in civet feces as waste. The Dutch project of modernizing the colony through the development of transportation infrastructure and industrial agriculture treated forested areas as undeveloped, and therefore as waste. While many of these forested areas contained plant life that was planted and tended by locals, as well as fruit trees passed down through generations of a family, this land was seen as feral and in need of conversion into the kinds of agricultural land that the Dutch considered to be valuable (Peluso 1996).

Civet excrement is a different kind of waste from the land in question, as it is a form of polluting matter. Civet excrement in the hands of farmers, and gathered into stockpiles in those farmers' homes, represents pollution as defined by Mary Douglas, as "matter out of place" (1966). Our understandings of the proper order for the material world vary across cultural contexts, and while some communities might view all forms of animal excrement as being similarly polluting, many communities have utilized animal feces in ways that others have found abhorrent. For example, among Sasak communities on the island of Lombok, it has been a common practice to build the base for their *lumbung*, or rice barn, out of buffalo dung. This dung

platform is frequently a social area, and it isn't considered polluting (Dawson and Gillow 1994). As coffee producers recuperated waste beans out of civet excrement—a contentious form of purification—creating value out of waste, the Dutch sought to create a particular kind of value by appropriating "waste" land. The opening of "waste" land, along with the abolition of the Cultivation System meant that the expansion of the industry would take place through the growth of local smallholders and the development of private, Dutch planter-owned plantations. During the 1870s, smallholder cultivation grew in the Semendo area of South Sumatra and spread south into Lampung (Potter 2008), introducing coffee to increasing populations of civets and other frugivorous—or fruit-eating—animals. It is during this time that a crisis began to emerge with the arrival of an unexpected organism.

Plagues and devaluation within the Indonesian Coffee Industry

In 1876, lesions began to appear on the leaves of coffee trees in Indonesia. Coffee rust (*Hemileia vastatrix*) had arrived in Indonesia, killing off entire zones of trees, and rendering many others unproductive (Sejarah Kopi di Indonesia n.d.). The "rust" is a fungus that attacks the leaves of arabica coffee trees, creating lesions that reduce the photosynthetic capacity of the leaves, weakening the tree. Because the fungus is temperature sensitive, it primarily affects trees planted below 1,000 meters above sea level, which included a majority of the trees that had been planted up to that time.

Despite the emergence of coffee rust and the official abolition of the Cultivation System, in 1879 the forced coffee deliveries in Java reached an all-time high of about 80,000 metric tons (Clarence-Smith 1994:245). These figures collapsed in the 1880s due primarily to coffee rust,

and the Dutch scrambled to find an alternative species of coffee that was not susceptible to the fungus. They initially tried replacing the sensitive arabica crops with the *Coffea liberica* species from Central Africa. According to P. J. S. Cramer (1957), a Dutch horticulturist, liberica grew well in the "lower belt" (300-400 meters above sea level), and more slowly in the "middle belt" (400-1000 meters above sea level), while arabica, which could be found in "beach gardens" at sea level in the past, was relegated to the "upper belt" (800-2000 meters above sea level). Liberica, which is still grown in Jambi, Central Java, and Kalimantan, did not sell as well due to its more sour flavor, and the Dutch sought out another replacement (Sejarah Kopi di Indonesia). *Coffea canephora*, or robusta, a coffee from a similar part of Central Africa, was introduced to Java in 1900, and then into Sumatra in 1907 (Potter 2008:179). It is a hardy, high-output plant, and became a popular replacement for the withering, rust-afflicted arabica trees.

As robusta began to spread, forced cultivations were finally winding down. In 1917, the areas of Preanger and Pasuruan were finally released from the compulsory cultivation arrangement (Clarence-Smith 1994), and during the 1920s, smallholder production grew to the point that it exceeded estate production (McStocker 1987). The "native plantings," which constituted 1% of the total exports in 1914, grew rapidly and were 37% by 1928 (Cramer 1957:79). Despite the productivity, the Dutch forestry specialists generally considered the local smallholder swidden practices to be backward (Potter 2008). The emergence of smallholder production as the dominant method of coffee production in Indonesia was threatened by colonial politics.

During the 20th century, the coffee industry weakened significantly through neglect during the fight for independence, alongside World War II, and the anti-communist purges that

took place in 1965-1966[14]. Coffee orchards across the archipelago often went untended, trees growing unpruned and feral. As the trees continued to fruit, civets continued to visit in the night, in the dark, to eat ripe cherries.

By the end of the century, what is known as the Coffee Triangle, comprising Lampung, South Sumatra, and Bengkulu, emerged as the center for Indonesian coffee production. This area produces primarily low-grade robusta coffee for large-scale industrial roasters. By 1984, 90% of Indonesia's coffee was being grown by smallholders, with 75% of all coffee farms between 0.5 and 2 hectares, and 80% of Indonesia's coffee was being grown in Sumatra, marking a major shift away from Java as the center of coffee production (Godoy and Bennett 1988). By 1987, three years later, smallholders had grown to produce 94% of Indonesia's coffee, 52% of that smallholder coffee was being grown in the Coffee Triangle of southern Sumatra, and 90% of Indonesia's coffee was robusta (Bennett and Godoy 1992). Through the 1980s, Indonesia participated in the International Coffee Organization's (ICO) quota agreements, which imposed a system of what William Roseberry (1996) called "Fordist rigidities" intended to stabilize the international coffee market. The ICO's International Coffee Agreements protected robusta prices, even as robusta production rose well over Indonesia's ICO quota, requiring them to sell the excess at significantly lower prices to non-ICO members (Godoy and Bennett 1988). The relatively high rates of insects and mold in the Indonesian coffee exports resulted in shipments

[14] The mass killings, which targeted those affiliated with the Communist party, severely impacted agricultural communities—especially those with vibrant labor rights movements. For more on the relationship between the 1965-1966 mass killings and agricultural communities, see Kahn (1980) and Stoler (1985).

being rejected by foreign government food regulatory bodies; quality issues were noted when Indonesia was not granted larger quotas by the ICO (Bennett and Godoy 1992).

The economic clauses were dropped from the ICO agreements in t, which often resulted in national coffee boards being dismantled and a rapid destabilization in coffee prices. While the market for high-grade, or "specialty," arabica coffee grew rapidly in the 1990s, arabica made up only around 10% of Indonesia's coffee output, and international prices declined. The rapid weakening of Indonesia's currency, the rupiah, in 1998, combined with a temporary rise in the global coffee prices resulted in radically higher profits for the coffee industry while other sectors of the Indonesian economy fell into crisis (Potter 2008). There was rapid growth as farmers sought to benefit from the market conditions, with deforestation peaking in the period of 1998-2000. As farmers entered or returned to coffee cultivation, coffee prices declined steadily to the point that in southern Sumatra, they were lower than the cost of production (Potter 2008).

In 2001-2002 coffee prices continued to fall, and through 2004 they had failed to recover significantly. This is often blamed on the rapid growth of the Vietnamese robusta industry, which went from being the 17th largest producer of coffee in 1990 to the second largest producer by the end of the decade. Coffee farmers in Indonesia were struggling with debt, and it is in this context that actors from across the industry were searching for ways to add value to Indonesian coffee. Some hoped that civet coffee could boost the Indonesian coffee industry and improve the livelihoods of rural coffee farmers.

Tracing Civets in the History of Coffee

It is only in the last ten years that entrepreneurs across the coffee-growing regions of Indonesia have attempted to industrialize the production of civet coffee by caging civets, establishing a consistent source for the beans. Prior to this, civet coffee had taken on mythical qualities, with numerous figures from the coffee industry speculating that such a thing as real civet coffee didn't exist, or at least was not what was being sold as "civet coffee" (Schoenhalt 1999; Teggia and Hanusz 2003; Tiojakin 2009; Onishi 2010). Part of the mythical quality of civet coffee is the sense that it emerged out of nowhere, with producers quick to market it as a secret tradition of the Indonesian coffee industry. Storytelling is central to the civet coffee industry, and because of the spectacular, excremental qualities of the coffee, media outlets have circulated histories of the coffee based solely on the market narrative. In a recent critique of the industry, conservation biologists perpetuated the myth of the rarity of civet coffee, writing that less than 127 kilograms are produced each year, without citing a source for that information (D'Cruze 2014). This figure is far from accurate, and is an example of the kind of misinformation that is rampant within the industry.

The common origin story of civet coffee, as shared at the start of this chapter, generally ignores the role of the growing Islamic culture in Indonesia. It depicts local farmers as ignorant about coffee, but coffee had developed in the Middle East in the mid-15th century, and was central to the social culture of Mecca by the 16th century (Hattox 1996). While, as Eric Tagliacozzo (2013) explains, we can't know exactly when Indonesians first started going on Hajj, it is certain that Muslims in Sumatra were already going on Hajj in the early 16th century, almost 200 years before the Dutch introduced coffee to Indonesia. It is likely that those going on

Hajj were introduced to coffee in Mecca, and that they introduced coffee, at least in concept, to communities in Indonesia upon returning. While some farmers may have been curiously "mimicking" the Dutch, it is as likely that those farmers curious to try coffee were curious because of the growing role of coffee in Islamic culture. It is unlikely that we will ever know exactly who first tried civet coffee, and what drove their curiosity to the point of trying beans found in animal feces.

Civets have long been associated with coffee in Indonesia, becoming synonymous with coffee in recent years. One large-scale coffee manufacturer based in Semarang branded their coffee as "Luwak"[15] in 1999, prior to the widespread popularization of civet coffee in the early 2000s. The branding refers to the civet's supposed love of coffee cherries and the civet's tendency to only eat the ripest cherries. Civet coffee producers and traders claim that civet coffee is of a high quality, and most explain that the high quality is achieved because of the selectivity of the civet. One problem with this explanation is the tendency of civets to eat cherries that were already inhabited by tiny coffee borers beetles, the females of which bore their way into the seed to lay a few dozen eggs. They hatch and mature inside of the coffee bean, and after mating, the male remains as the female seeks out a new cherry to colonize. Early research carried out by Dutch botanists concerned with the spread of borer beetles found not only a significant number of coffee beans in civet feces contained larva or mature beetles that had already been in the cherry prior to being eaten by the civet, but that the beetles survived the process of passing

[15]In recent years, the branding has come to be more strongly associated with civet coffee, with locals and foreigners confused as to whether the Luwak coffee was in fact suprisingly inexpensive civet coffee. They have shifted their branding in 2011 to sell their [non-civet] coffee in Indonesia as Kopi Luwak.

through the civets' digestive tracts (Gandrup 1922; Vega et al. 2015). This suggests that while civets might eat the ripest, best cherries, "best" for a civet might not always mean "best" for the coffee industry.

As civets in Indonesia have come to be associated with coffee, many forget that when coffee was introduced to the Indonesian landscape at the end of the 17th century (and potentially earlier), it was also introduced to the civets of Indonesia. The cultivation of coffee did not only alter humans and the landscape in Indonesia; in perhaps only minor ways, it altered the diets and behaviors of local fauna. Human ventures have long been altering the way that civets live in Indonesia, and civets have also affected human ventures.

A review of early coffee industry literatures and travel narratives, primarily from Dutch sources[16], shows references to civet coffee which far precede the moment in 1991 when Tony Wild, former coffee director of Taylors of Harrogate, imported a kilogram of civet coffee that he claims was the first to have been brought to "the west" (Wild 2013). Wild also suggests that Ethel Starbird's 1981 article, "The Bonanza Bean — Coffee," published in National Geographic, introduced the West to civet coffee. In the article, Starbird quotes Doyo Soeyono Kertosastro, a coffee farmer in East Java:

> 'Another native we have also picks with care,' Doyo told [Starbird] over a superb cup of [civet] coffee. 'The luak, that's a small catlike animal, gorges after dark on the most ripe, the best of our crop. It digests the fruit and expels the beans, which our farm people collect, wash, and roast, a real delicacy. Something about the natural fermentation that occurs in the luak's stomach seems to make the difference. For Javanese, this is the best of all coffees--our Kopi luak.'

[16] References in early Indonesian literatures to coffee are limited, and I have yet to find any references to civet coffee.

The quote introduces much of the folklore around civet coffee, and predates the industrialization of civet coffee production by a quarter of a century.

In 1999, Donald Schoenhalt, a founder of the Specialty Coffee Association of America, wrote an article on civet coffee in Tea & Coffee Trade Journal. In the article, Schoenhalt describes the "Passer Malay Bear," an annual meeting of Dutch-Indonesians in The Hague, where one participant had been regularly selling civet coffee. Schoenhalt explains that Daarnhouwer & Co. B. V., a Dutch coffee import company, had been handling civet coffee for many years. While Wild claims "I was the one who started it all," he was far from the only person dabbling in civet coffee.

Written records of excremental coffee go back as far as 1824, when Thomas Horsfield[17], an American physician and naturalist, published the results of his research on the flora and fauna of Java and Sumatra. In *Zoological Researches in Java, and the Neighbouring Islands* (1824), Horsfield, in proper naturalist style, provides a formal, zoological description of the most common civet, giving the Linnaean taxonomic name *Viverrid musang*, and clarifying that this civet is known as *luwak* to the Javanese and *musang-bulan* to the Malays. Following a thorough

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[17] As I traced references of civet coffee as far back as possible through archival research, I experienced a small surprise in finding that the earliest written record that I was able to find was produced by Thomas Horsfield, who was born and raised in Bethlehem, Pennsylvania (Moravian Historical Society 1905: 52-53). Horsfield came to the Dutch East Indies as a surgeon for the Dutch Colonial army in 1801. During the British interregnum in Java, beginning in 1811, Horsfield worked with Sir Thomas Stamford Raffles, collecting specimens of plants and animals for the British East India Company's zoological collections. The collections were stored and put on display at the East India House, the company's headquarters on Leadenhall Street in London, where Horsfield was appointed to manage the collections in 1820. I can't help but feel a strange sense of coincidence, having grown up a thirty minute drive from where Horsfield was born and raised, and having followed him in shared wanderlust to the same islands on the other side of the globe, where I similarly studied civets 200 years after he did.

anatomical description, Horsfield describes the omnivorous dietary practices, noting the general preference for "delicate and pulpy fruits" (1824). Horsfield describes an abundance of civets near villages bordered by large forests, where they easily move through orchards in search of fruit. He explains that because of this, and their particular taste for coffee cherries, civets had come to be known as "coffee-rats" in parts of Java, where they "ravaged" coffee plantations. According to Horsfield, "it devours the cherries in large quantities, and its visits are soon discovered by parcels of seeds which it discharges unchanged. It selects only the ripest and most perfect fruits, and the seeds are eagerly collected by the natives, as coffee is thus obtained without the tedious process of removing its membranaceous arillus." It is here that he describes a local preference for civet coffee rooted in the supposed quality-control of the civet's cherry selection and the ease of processing coffee that has already had its outer skin and mucilage removed—the civet does some of the difficult processing work. So by the 1820s, civets were known for their discerning taste that could yield coffee beans that were of high quality and easy to process, despite the findings of Gandrup that civets will still consume cherries containing borer beetles. Horsfield also explains:

> The injurious effects occasioned by the ravages of the Luwak in the coffee plantations are, however, fully counterbalanced by its propagating the plant in various parts of the forests, and particularly on the declivities of the fertile hills; these spontaneous groves of valuable fruit in various parts of the western districts of Java, afford to the natives no inconsiderable harvest, while the accidental discovery of them surprises and delights the traveler in the most sequestered parts of the island.

So, as Horsfield explains, the thievery of civets involves the planting of coffee into the landscape which can contribute to the coffee harvests of local farmers. Not only does Horsfield portray a kind of balanced exchange between civets and coffee farmers, but he also shows how civets play an active role in influencing the plant varieties constituting Indonesian forests. Horsfield's

description of civets as coffee fiends was circulated among English-speaking audiences in the mid-19th century as it was quoted directly, and almost in its entirety, in the definition for Viverridæ in *The Penny Cyclopædia* published by the Society for the Diffusion of Useful Knowledge (VIVERRIDÆ 1843).

In 1886, Edwin Lester Arnold, a specialist in the Indian and Sri Lankan coffee industries, provided a description of fecal coffee found in South Asia, writing of "monkey or jackal coffee." He describes it as, "…simply the undigested coffee seeds which have passed unaltered through the intestinal canal of the animal that has stolen them, and have been left about in the jungles" (14). He describes how it had been highly valuable, but that at the time of writing its value had decreased. He explains how coffee cherries are poached by pests — "A few birds wax fat on the sweet pulp at the planter's expense; Sambur deer are not above an occasional raid into the gardens, while jackals and monkies are fond of the ripe fruit" (1886:13-14).

In a travel narrative published in 1893, J. C. Costerus describes the discovery of civet feces in coffee orchards—what he calls "civet coffee," or *loewak-koffie* in Dutch. The narrative is based on his trips to Preanger, in the Sunda highlands, and he describes how the beans are gathered with care and stored and sold separately from the normal coffee. At the time, buyers relied on the color of the beans to differentiate real civet coffee from normal coffee, claiming that the civet coffee beans were paler in color. In a Dutch zoological text on the mammals of Java published in 1902, Jacob Christiaan Koningsberger describes the eating practices of six different species of civet—three of which he describes as eating coffee. He mentions two specifically — *musang bulan* and the *luwak* — which wreak havoc on coffee orchards, stealing heavily from the harvests (21).

Zano Kamerling, a Dutch agricultural scientist published in 1918 a description of civet coffee as included with the waste beans, or what in parts of Indonesia they call *lelesan*. *Lelesan* includes the cherries that have already fallen from the coffee trees, and are gathered from the ground and kept separate from the main harvest. To these cherries, the harvesters add any civet feces they find while working in the orchards. Kamerling estimates that the quantity of civet coffee easily amounts to multiple pikols (at about 62.5 kilograms per pikol). He specifies that it is only because of the color of the bean that it is separated from the main stock, because according to Karel Wessel van Gorkom, an agricultural worker in the Dutch East Indies, the taste of civet coffee "leaves nothing to be desired" (1918:324), and coffee connoisseurs at the time considered it to be superior.

In 1961, Frederick Lovejoy Wellman, an American plant pathologist described "loewak koffie" in his book *Coffee: Botany, Cultivation and Utilization* as "…a prize coffee and is sold at the best market prices, as it is of the highest quality, being from the very best fruits" (324). It is a quite general description, but it is also evidence that even in the 1960s, American coffee specialists were aware of civet coffee. The international trade in small quantities of civet coffee continued. Within Indonesia, civet coffee circulated around back-packer centers, where foreigners looking for novel experiences might splurge on an expensive cup of coffee. As civet coffee has been more-actively produced, it has emerged as a form of agrotourism, with farms regularly hosting tourists. Larger farms have developed visitor centers specifically to provide tourists with a view on how civet coffee is produced, but while keeping the tourists away from the actual production sites.

Prior to the industrialization of civet coffee in the early 2000s, the trade in civet coffee only existed in areas where there was an agent who already had connections for selling civet coffee, and therefore actively sought it out from farmers, for most of whom it was still *lelesan*, or waste beans. In many areas, there were not yet any agents who were actively seeking out civet coffee, so it generally was kept with the waste beans and consumed in the homes of the farmers, or during light harvests, some farmers would mix the *lelesan* beans (including civet coffee) into their stock to try to increase their income for the year. In many areas, the meaning and value of the excremental beans is shifting, as well as the meaning and value of civets.

In coffee farming areas without agents who gather civet coffee, the civet feces found around farms has little value, and civets are generally seen as pests. In most coffee farming areas, it is commonplace for farmers to set traps in attempt to catch civets and prevent them from stealing coffee cherries. Upon catching a civet, farmers would generally kill it, and in certain areas, they will still eat civet. With the establishment of civet coffee producers who cage civets and feed them coffee cherries, it has become more profitable for farmers to sell the civets that they catch to civet coffee producers. A domestic trade in civets has emerged, and in the last five years, there has been a growing trend of keeping civets as pets. The pet trade has driven civet prices higher, and in areas with large civet populations, there are already individuals who focus on civet trapping for their livelihood.

In one area that has become a center for the sourcing of civets for both the civet coffee industry and the pet trade, I met with locals who expressed surprise over the recent cultural shifts. For many of the locals, civets, with their long and sharp claws, and fierce teeth, were fear-inducing. So not only was it rare to directly encounter a civet, as they are most active at night,

but they were also actively avoided out of fear. For some, particularly on Java, the strong scent emanating from the civet can be ghostly, and it is the scent lingering in the darkness that results in fear among the locals.

In another region where civets are gathered, one civet coffee producer explained to me the local beliefs associated with civets of a particular pelage coloration. Palm civets occur in a wide variety of colors, and in this region, it was believed that the palest civets—almost a shade of white—were a kind of leader among the civets. The trappers with whom the producer works would never keep such a pale civet—they would release the civet out of fear. Their belief is that to take such an important civet, there must be an exchange of blood. Their fear is that in exchange for the civet, one of their own family members will fall ill, or even possibly die. These beliefs are changing, though, with the shift in the economic value of the civet, and the increased exposure to the animals as more and more are drawn out of the forests and into local markets, civet coffee facilities, and homes.

Conclusion

It is in the colonial history of coffee production in Indonesia that we see unique relationships forming between humans, coffee and civets. The case of civets and coffee in Indonesia illustrates the entanglement of nonhumans within colonial ecologies — and here I use colonial not to highlight the arrival of nonnative species, but rather a set of relations established as a part of the generation colonial capital. While the Dutch coffee production efforts targeted European consumers, coffee cherries (and, inside of those cherries, coffee beans) entered into the diets of unruly nonhuman consumers. As “thieves,” civets were pests, and as interlopers, they were also

potential transporters of much more insidious forms of pestilence — coffee rust and berry borer beetles. Civets have long troubled the Indonesia's coffee producers as pests, stealing coffee cherries, spreading the seeds of coffee into the forests of Indonesia—the fermentation undergone by the seeds in the digestive system of the civet can actually help the seed sprout. By dispersing coffee seeds, civets introduce colonial flora into unintended areas, playing a role in the shaping of the [post]colonial landscape.

The relationships between coffee farming communities and civets are complex and shifting. With the emergence of the active production of civet coffee, civets are not just producing a waste product with recuperable value; civets have become a commodity. As the civet shifts from being a pest to a means of production, it both has and produces value. Naaaaah, through their connection to the production of coffee in Indonesia, and, thus, to the production of capital, we can see how civets—along with humans, both colonizer and colonized, and coffee—are agents of history.

Chapter 3

[Un]becoming a Resource:

Determining the Nature of Civets in Indonesia

"[S]chooled by Thomas Aquinas and other Aristotelians, I remain alert to species as generic philosophical kind and category. Species is about defining difference, rooted in polyvocal fugues of doctrines of cause." Donna Haraway, 2003:15.

It lunged at me, bristling its long, wiry salt and pepper fur. I tensed my torso, leaning my body back, but my arm hung forward. My anxiety was momentarily abated by the twinge of nerves: long white whiskers grazed my wrist, setting off an electric tickle—*geli*. This soft shock was quickly dampened by the nudging, cool, wet nose, sniff-rubbing along the blade of my wrist, up underneath into my palm, seeking out the small *pisang susu* (milk banana) nested by my fingers.

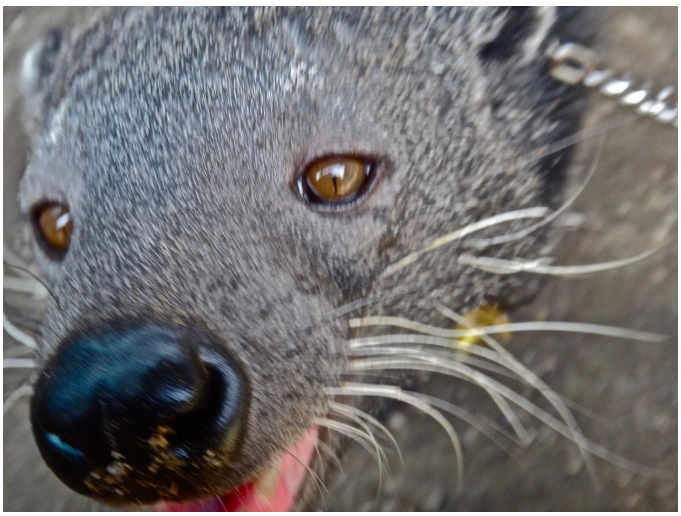

Figure 3.1: A binturong reaching for a snack. Source: Author.

The banana pulled from my hand, it scurried silently over to Putra, who had more of these small, sweet treats. To our sides, from rows of cages, paws reached and stretched, through the bars, short fingers straining in such a way that their nails reached full extension — dull little talons — greedy for bananas. Putra had invited me into the back of their home to

see their civet coffee production practices and to meet this particular civet — an individual that Putra's family has named, and with which they share regular physical contact.

While we were chatting about their care practices, Putra's son leaned over the back of the civet[18], wrapping his arms around the civet's body, just below the forearms, lifting it up into his lap, hugging it like a small child or a doll (See Figure 3.2). The intimacy between Putra's human kin and an animal that both conservationists and the government insist is wild is as sweet as it is troubling. That is, this interspecies intimacy troubles how we understand domestication, as a

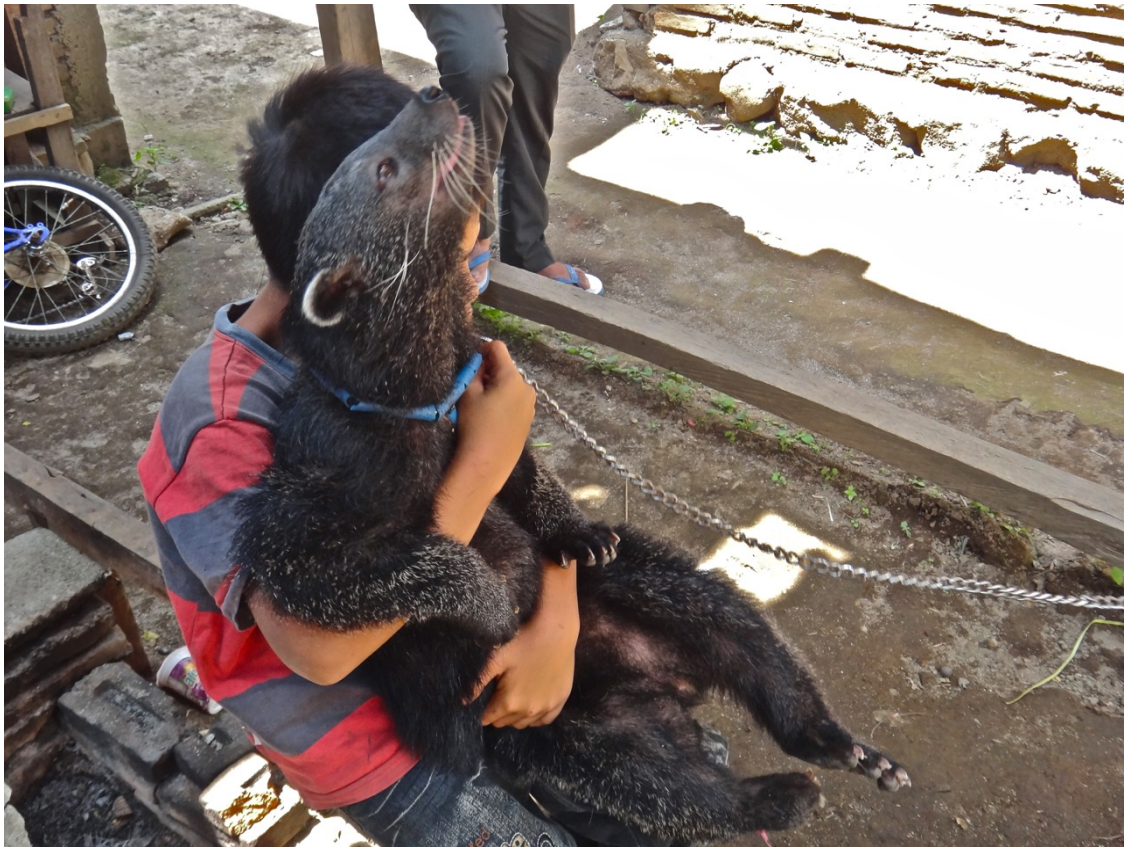

Figure 3.2: Putra's son embracing their family pet. Source: Author.

[18]This particular type of civet is somewhere between a small dog and a large cat in appearance, covered in wiry but soft charcoal fur that develops an oily quality similar lanolin in sheep's wool, and can weigh up to 20 kilograms (Jennings and Veron 2009).

particular process in which an animal loses its nature as it is increasingly assimilated within human communities and cultural practices.

Our classic definitions of domestication draw on the depictions of colonial naturalists of wilderness as wild, feral forms of nature that present foreign terrains for human explorers. Rebecca Cassidy, in her introduction to *Where the Wild Things Are Now* (2007), reminds us that popular understandings of domestication have fixated on the tracking of morphological changes by archaeologists, and the description and analysis of the ways in which "wild" things have become property. Domestication has come to represent the altering of the nature of animals, such that as certain forms of animal agencies are traded for the supposed symbiotic benefits of living with humans, they also loose certain natural elements of their form through human intervention. Popular understandings of domestication suggest that our multispecies practices, such as the farming, breeding, and pasturing of cattle, which are frequently unpleasant, are also unnatural, reinforcing an understanding of humans as separate from nature. Cassidy argues that domestication is actually "…an ongoing and unruly relationship, and that failing to appreciate it as such risks confusing what is contingent with what is fixed" (2007:20). Donna Haraway offers a similar critique and redefines domestication as "…an emergent process of co-habiting, involving agencies of many sorts and stories that do not lend themselves to yet one more version of the Fall or to an assured outcome for anybody" (2003:30). Haraway provides us with an image of domestication troubled by emergences and contingencies. This is echoed in the definition that Marianne Lien and John Law present in their work on salmon breeding projects. Lien and Law define domestication in relation to a material semiotics approach to studying multispecies relationships, suggesting that it is "…an effect of socio-material practices that arrange and

produce objects, subjects, people, institutions, and ideas" (2011:75). This definition decenters the home, or *domus*, that is at the root of the latin origins of "domestication," and focuses instead on practices through which "objects, subjects, people, institutions, and ideas" can be domesticated, rather than just plants and animals. These approaches to domestication challenge the notion that domestication is a one-way process through which human agency impacts nonhuman lifeforms, and instead offers an unruly, set of practices that brings our attention to the unique kinds of relationships that are formed by multispecies intimacies.

So this civet, as a species considered undomesticated by conservation biologists, challenges us with the intimacies it shares with its human cohabitants. It sat patiently, cradled, tilting its head, moving slightly as it sniffed the air. As we watched it sniffing, we laughed — it was hard to imagine smelling anything over the strong scent of the civets. Putra tapped my arm and, gesturing at the civet, remarked, "*baunya wangi banget — pandan, kan?"* He commented on its scent — "It's scent is so fragrant — like pandan[19], right?" Putra was referring to a bushy palm plant commonly known as pandan, the leaves from which are used in cooking across South and Southeast Asia, often in combination with coconut. I nodded in agreement, reflecting on the various pandan-infused cakes I have encountered in Indonesia and Indonesian stores abroad. Because its scent is strongly reminiscent of pandan, locals in this regency have taken to calling this species of civet "*musang pandan,"* or "pandan civet." In other parts of the world, it goes by

[19]Pandan was given the Linnaean taxonomic name *Pandanus amaryllifolius* and described by the Scottish Botanist William Roxburgh from a specimen in the British East India Company's botanical garden in Calcutta that had been collected in and brought from Ambon, one of the 'Spice Islands' in Indonesia (Roxburgh 1814; Roxburgh 1832).

different names and its scent has been described through different references[20]. In describing the animal and its scent, the biologists and ecologists follow standard Western taxonomic nomenclature[21]; they describe this particular animal as *Arctictis binturong*, or a "binturong" or "bearcat" — not exactly a civet according to some classification systems.

In speaking about binturongs and civets, I heard stories of encountering their distinctive scent deep in the forest and drifting along the edges of the coffee orchards; of the scent wafting into homes late at night, alerting the inhabitants (human and nonhuman) to the fragrant animal passing by, across the roof or in nearby trees. Scent draws us to think about the variety of ways humans encounter and make sense of civets (and their kin, marked in varying degrees of closeness by different systems of classification). Olfaction has provided one of the primary modes of relation-making with civets. Scent is just one of the sensuous ways in which Indonesia's civets have been perceived and known; there are multiple, diverse ways in which Indonesians know and live with civets, and my research examines how shifts in the coffee economy and industry have created dramatic changes here.

It might be said that Indonesian civets are not what they used to be. The introduction of coffee to the Indonesian landscape and local environments introduced coffee cherries to the diets

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[20]A group of US-based biologists and ecologists interested in its scent marking and urinary signaling recently published an article linking it to the scent of freshly-popped popcorn (Greene et al. 2016). They theorized that this chemical that is found in popcorn functions for the civets as a species identifier—that when civets smell this particular scent in the urine markings left behind by fellow civets, they can identify the species of the civet that left the marks.

[21] According to Western science, it was originally described as *Viverra binturong* in 1821 by Sir Thomas Stamford Raffles (Cosson et al. 2007). Raffles is a symbol of Western Imperialism in Southeast Asia, and was the British colonial agent famous for founding Singapore, and for his period as Governor-General of the British colony Bencoolen, an area of Indonesia in southern Sumatra now known as Bengkulu.

of civets, altering their eating practices and introducing new elements to their digestive system. The coffee trees have altered civets' relationship with the landscape, or their ecology. With their enticing cherries—the seeds of which are dispersed by civets in their feces—coffee trees have developed a symbiotic relationship with civets. And civets have become active agents in the spreading of coffee trees into Indonesian forests against the plans of colonial agriculturalists. And according to civet hunters and trappers across Sumatra and Java, civets' nesting practices and pathways are often configured around desirable food sources, with colonial and postcolonial agriculture influencing nesting patterns and daily roaming. Stories about the expertise of civets at selecting the ripest coffee cherries, and the supposed high quality of the coffee beans found in civet feces, have resulted in civets becoming synonymous with coffee in Indonesia, marking a shift in how civets are known, reflecting changes in the ecology of civets.

The analysis of epistemology in human-animal relations has been at the center of cultural anthropology from its very beginning, apparent in the works of Lewis Henry Morgan (1868), Bronislaw Malinowski (1935), and E. E. Evans-Pritchard (1940). The discussion within anthropology of how humans know and live with nonhuman animals has become particularly vibrant in recent years (Archer 2016; Kirksey and Helmreich 2010; Mullin 1999), engaging with broader examinations of how natures and environments are known, constituted, and altered through human practices (Latour 1993; Descola and Pálsson 1996; Viveiros de Castro 1998; Ingold 2000; Kohn 2007; Haraway 2008). A driving force in these discussions are debates around the emergence of a new geological era—the "Anthropocene"—in which humanity is recognized as the dominant, formative force on environmental changes on a global-scale. Valerie Olson and Lisa Messeri suggest that the emergence of the anthropocene has opened up "…a new

physical and conceptual space within which to know and act on the future of human being, dwelling, and relating" (2015:28). Focusing on multi-species cohabitation, Deborah Bird Rose describes "writing in the anthropocene" as requiring particular attention to the "situated connectivities that bind us into multi-species communities" (2009:87). Writing with Deborah Bird Rose in the anthropocene, as a conceptual space for thinking about humans as a part of multi-species communities, I examine the case of Indonesia's civets: how humans know and live with civets in an era in which conservation, guided by concerns about ecological collapse, confronts the creation and exploitation of natural resources[22].

Within Indonesian studies, there has been extensive work on natural resource management, with a particular attention to the politics of land ownership and deforestation (Li 2003, Peluso 2003, Tsing 2003). This work has illustrated how nature and environments are produced through intersecting traditions, legal systems, markets, and social movements. Looking through the trees in the forests on a tiny cluster of Indonesian islands off the coast of Sulawesi, Celia Lowe (2006) has drawn attention to the form of postcolonial science in the production of nature with the case of the Togean Macaque—an animal whose conservation was linked to its contentious status as a unique species endemic to the Togean Islands. Lowe has shown how the politics of knowledge production in postcolonial Indonesia shape not just how nonhuman animals and nature are known, but how those ways of knowing have tangible, material consequences for what Donna Haraway calls "queer messmates in mortal play" (2008:19). Like

[22] Grove's (1995) historical research on the origins of environmentalism traces out the predecessors to contemporary conservation movements, showing that concerns about ecological collapse began among networks of colonial scientists.

the Togean Macaque, Indonesia's civets have been studied, known, and affected by shifting practices in the wake of colonial agriculture and the emergence of conservation movements.

In his study of scallop-harvesting in Brittany, along the northwestern coast of France, Callon describes the development of a particular network of researchers, fishermen, scallops, and coastline that formed in response to high demands on French markets for scallops. As a contribution to the development of Actor Network Theory, Callon's demonstrates a material-semiotics approach to studying the development of a network of actors (both human and nonhuman), connecting the materiality of the actors in their everyday experiences to particular ways of knowing and meaning-making[23]. Central to this material-semiotics approach is a particular form of translation that he defines as "the mechanism by which the social and natural worlds progressively take form" (1999:81). Callon explains that translation, as a "mechanism" for world-making, involves processes through which "…the identity of actors, the possibility of interaction, and the margins of maneuver are negotiated and delimited" (1999:68). It is a form of enrollment of actors into new kinds of relations that effect how the actors are known and lived with, limiting certain kinds of actions while enabling others. Translation, as a performative act of meaning-making within a specific set of relations, is also about the crafting of new ways of cohabiting.

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[23] Recent work drawing on Callon's scallop study (1999), as well as Bateson's study of the constitutive nature of relations as an ecology (2000), has sought new ways to describe networks that allow for increased flexibility, inconsistency and indeterminability. For example, in her study of H5N1 Celia Lowe (2010) riffs on Deleuze and Guattari's rhizomatic metaphor, proposing the "multispecies cloud," to describe assemblages that are not just unstable, but also proliferate contexts.

In his study, Callon gestures at the importance of the political, asking "…how a few obtain the right to express and to represent the many silent actors of the social and natural worlds they have mobilized" (1999:82). Signaling the issue of power in translation, Callon suggests that while actor network theory recognizes the agency of all actors, the translation process highlights how power is not symmetrical within the network. Fishermen, scallops, and researchers were translated into a network in which they all have agency, but their agency is not equivalent. In the case of the civet coffee industry, the incorporation of civets into a new kind of coffee production entailed material consequences for both the humans and civets involved, and the production of meaning through the established relations. Thinking about civets and their translations as natural resources requires the tracing of the connection between these collectivities and political movements and power (Escobar 1998).

In this chapter, I examine how civets have become a natural resource by constructing a partial genealogy of how civets have been known in Indonesia that is attuned to the political qualities in each of the cases[24]. A survey of the history of the development of civet coffee production and the biological study of civets provides examples of multiple ways in which civets —as a part of the Indonesian landscape and Indonesian natures—have been known and described through classification processes that attempt to render multiple worlds semantically commensurable under a singular, authoritative classification scheme. These examples also illustrate moments of translation in which how civets are known is linked to the kinds of social

[24] Karl H. Dannenfeldt (1985) wrote a thorough history of the encounters of Europeans with civets, describing the traces of civets in written records dating back to the 13th century, paying particular attention to the use of civet secretions by perfumers and as medicine in Europe.

relations they enter. In this chapter, I explore the relations—and the governance of those relations—through which civets become a particular kind of natural resource.

Drawing on Callon's study, I describe the bridging of semantic worlds in the translation of civets into particular sets of relations, within which civets become and unbecome natural resources. I describe the translation processes through which civets are trapped in the forest and incorporated into the industrial production of civet coffee, tracing general shifts in the ways that coffee-farming communities know and value civets. Particular attention is placed on a series of events that took place in early 2015 which brought civet coffee producers in one region into contact with the local, provincial, and national government, illuminating conflicting translations of civets as a resource. In this particular conflict, the incommensurable ways of knowing civets troubles the regulation of the use of civets in the coffee industry. By attending to the nuances of the translation process, I show how becoming and unbecoming a resource is more than a process of classifying. I argue that what might seem like semantic conflicts over naming are actually conflicts over relations and world-making.

Origins: Coffee and Colonial Science

The production of civet coffee with caged civets only emerged recently in the history of coffee in Indonesia—a history which stretches back to the end of the 17th century. In 2006, an Indonesian government coffee plantation (PTPN XII) in East Java, interested in strategies to add value to coffee, began to explore the possibility of actively producing civet coffee by caging civets and providing them with a diet high in coffee cherries (Nugroho 2009). This would involve working

with an animal that previously shared little direct contact with humans[25]. After an initial production with a few civets in 2006, they scaled up their production with hundreds of civets. Without a reference book for the care of civets, those responsible for the civets on the government plantation relied on trial and error, admitting that initially many of their civets were dying of stress-related conditions (Arief 2009). Around 2008, coffee scientists from the Indonesian Coffee and Cocoa Research Institute in Jember, East Java, began conducting research into methods of producing civet coffee with caged civets. While they haven't published any findings, they have informally shared. From 2008 onwards, small-scale producers have been popping up in many of Indonesia's main coffee-growing areas, often in seemingly out-of-the-way places (Tsing 1993) and remote from each other, forming a kind of archipelago dotting the highlands of Sumatra, Java, and Bali, connected through informal networks on Facebook and Blackberry Messenger.

Forming a kind of nascent industry, the producers of civet coffee with caged civets, often working at great distances from each other, are coming into contact with civets in ways that were previously uncommon. In Sumatra alone, stretching about 1900 kilometers from the Gayo Highlands of Aceh to the southernmost section of the Barisan Mountains along the west coast of Lampung, civet coffee producers are working in a variety of ecosystems in which they encounter different types of civets. For context, Sumatra is the sixth largest island in the world, with more

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[25] Shepherd (2012) notes the growing presence of civets in the small carnivore trade at Indonesia's urban wildlife markets, stimulated by the demand within the civet coffee industry and a growing interest in civets as a novelty pet. While most civets have been seen as pests passing by in the night, Horsfield (1824) describes how the Javanese collected the fragrant secretions from the perineal glands of the Small Indian Civet (*Viverricula indica*), or what Indonesians call *musang rase.* While this practice seems to have disappeared, it is similar to the civiculture of Ethiopia (Ishihara 2003).

land area than many individual, sovereign nations, including Germany, Japan, and neighbors Malaysia and the Philippines. Sumatra, Java, and Bali, as the three main islands where civet coffee is produced, are seen as ecologically unique from most of mainland Southeast Asia and nearby Sulawesi and the Indonesian islands to the east. They differ in flora and fauna from the islands to the east across the Wallace Line (Lowe 2006), and biologists link the flooding of the Isthmus of Kra[26] during the Pliocene to evolutionary variations that developed around the same time between the civets found in Indonesia and those in mainland Southeast Asia (Hunt 2001; Cosson et al. 2007; Patou et al. 2010).

The civets of Indonesia are considered to vary in minor genotypic and phenotypic ways from those of mainland Southeast Asia, while also containing additional variation. Based on these perceived variations, they have been described and classified into a Linnaean system of taxonomic nomenclature, translated into the Western scientific enterprise. The civets of the world have been unified as Viverrids within the Family *Viverridae*, under the *Feliformia* suborder (or feline-like) of *Carnivora* (which is split between the feline-like suborder and the canine-like suborder); they have been sorted into various genera, species, and subspecies. Their classification has developed over centuries through accumulated documentation, as a kind of archive; the scientific taxonomy reads like an inventory of early naturalist descriptions and the exhaustive cataloguing efforts of curators of wildlife collections. Some described live specimens, and many described taxidermied specimens that were gathered by colonial naturalists as a part of larger projects to map out the natural resources of the world. This was a project fueled by colonial capital speculation and accumulation, but while many of the scientists were employed by

[26] The narrowest point on the Malay peninsula, found in southern Myanmar and Thailand.

colonial trade companies, their research defies monolithic theories of ecological imperialism (Grove 1995). As a citational list, taxonomic classifications grant credit for "original descriptions," framing the predominantly English or Dutch scientists, explorers, naturalists, and colonizers as pioneers who were encountering "new" worlds, and describing these worlds in a most accurate manner for their peers and wider audiences for the first time (Grove 1995). Their descriptions brought worlds into existence for their readers.

As a way of describing and knowing civets, Linnaean taxonomic systems reveal worlds permeated by colonial politics. We encounter these colonial politics in the naturalist descriptions of Sir Thomas Stamford Raffles (1821), part of the broader taxonomic project that was intended to be an objective accounting of the world (Ritvo 1998). In an analysis of the taxonomic classification of viverrids in which he argues for revisions, John Edward Gray (1865), the keeper of the zoological collection at the British Museum, develops a thorough and pointed critique of the work of Coenraad Jacob Temminck, the director of the Dutch National Museum of Natural History. Gray finds fault with Temminck's descriptions of species, in particular those found outside of "the Asiatic possessions now or formerly under the Dutch rule," calling into question the quality of the Dutch collections and their acquisition process (1865:527). In his descriptions and analysis of the Viverrid species and sub-species, Gray takes care to point out each of Temminck's "mistakes," arguing that "…little reliance can be placed on M. Temminck's statements as to his observations on type specimens" (1865:534). Undermining Temminck's taxonomic descriptions and calling into question Temminck's methods, Gray suggests that Temminck is a "patron and amateur" rather than a true scientist (1865:505). And for Gray, one of

Temminck's greatest shortcomings is his "political anglophobia," which Gray claims prevented him from recognizing the collections and works of English zoologists (1865:505).

As heads of competing museum collections, their rivalry echoes broader nationalist sentiments. The previous century had been riddled with Anglo-Dutch wars, primarily the result of an intense rivalry for dominance in international trade and shipping. A few years prior to Temminck's appointment as director, the Dutch had only just regained control of their colonies in Java after almost five years under the control of the British East India Company. While Gray's rivalry with Temminck can't be reduced strictly to nationalism, this particular case illustrates one of the ways in which politics is inscribed in the classification process. The conflict between Gray and Temminck reminds us that the production of so-called objective, scientific knowledge always takes place within a particular socio-political context, and is influenced by individual personalities and cultural conflicts. The translation of civets into the production of scientific knowledge also drew them into political conflicts.

The taxonomic revision process is a form of peer review, intended to eliminate multiple descriptions and namings of what might arguably be a singular species or subspecies. This involves comparison and translation across the descriptions. The variations witnessed, measured, and described have been evaluated, debated, and revised. From the late 17th century until the present, justifications for the recognition of independent species and sub-species have focused on, among other things, tooth count and shape, jaw structure, skull measurements, pelage color and pattern, form and hairiness of the toes, tail shape, shape and location of the perineal gland and genitals, genetic and hormonal analysis, and relation to seemingly unique environments. The genitals and perineal scent glands have frequently received more attention than other aspects of

civets' anatomies. Dannenfeldt (1985) describes the long-held obsession with the pungent, waxy secretions of civets' perineal glands, and Samuel Purchas (1965), a sailor with the British East India Company, described the qualities of the civet secretions he encountered during visits to the trading post in Bantam (West Java) in the early 17th century. Because of the bulbous quality of the perineal glands found in both male and female civets, naturalists sometimes confused the glands with testes, describing those with female genitals as hermaphroditic. This is assumed to be the explanation for the Linnaean taxonomic naming of Asian palm civets as Paradoxurus hermaphroditus. Robert M. Hunt, Jr. (2001), described the importance of the perineal glands in the classification work of Reginald Innes Pocock, a British zoologist who played a central role in differentiating civet species in the late 19th century. H. Elizabeth Story, a zoologist with the division of anatomy at the Chicago Natural History Museum (now the Field Museum), wrote a description of the perineal gland and genitalia of binturongs to highlight the shortcomings of Pocock's descriptions. Story's (1945) descriptions were published in the Journal of Mammalogy along with diagrams and close-up "unretouched photographs" of male and female binturong genitals. The fixation with civet genitals has been explained as representing a concern with accuracy—the accuracy of species descriptions and species differentiations.

Cases continue to be made for the reclassification of civet groups (for example, Patou 2010), with one expert in small carnivores proclaiming, "the viverrids are one of the most problematic families of carnivores" (Wozencraft 2005: 548). They are considered problematic because of continued conflicts over their taxonomic order—that the taxonomic record is incomplete, and most studies of civets are based on observing individuals in zoo collections,

outside of their natural environments. At stake in discerning and identifying the specificity of civet types is more than individual claims to scientific authority.

Biologists differentiate zoological facilities from natural environments not because they are separating humans (and culture) from nature. Rather, they understand civets to have developed in relation to particular ecosystems, and small carnivore specialists ask what role these animals play in the health and maintenance of such a life-sustaining ecosystem. While colonial administrators knew civets to be thieves (Koningsberger 1902; Kamerling 1918) and potential carriers of pests and disease[27], contemporary biologists know civets within a conservation framework as animals with a significant set of relations within an ecology. Civets have been described as parts of environments which seem to exist in a precarious balance, and the presence or absence of particular species is thought to potentially radically change an environment. Ecological understandings of civets translate them into entities constituted through relations, as dynamic elements of systems or assemblages that are constructed--and continually in construction--by organisms through the relations that constitute involvement in the world. This translation, which focuses on the role played in local environments, can come into conflict with alternate understandings of and interactions with civets. I now turn to a story from my fieldwork in which a conflict around the translation of civets drew into question the status of civets as a natural resource.

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[27] Coffee borer beetles (*Hypothenemus hampei*), which can cause significant damage to coffee crops, have spread around the world to all of the major areas for the cultivation of coffee. Jens Gandrup, a Danish botanist suspected civets were among the agents spreading the borer beetles across Indonesia. Gandrup's work (1922) confirmed that civets ate cherries that already contained borer beetles, their eggs, and larvae, which the digestive process left unharmed.

A Civet Conflict Unfolding

I knew that something significant had happened, but I wasn't sure what it would mean for me and my research, and, more importantly, for the livelihoods of the farmers with whom I was working. I had been out of town for meetings, and on my way back, I overheard the public van driver mention civets and the police. I quickly introduced myself and explained my research, and asked what had happened. He shared that he had heard that the facilities of Heri—one of the civet coffee producers—had been raided by the provincial police, who were searching for specimens of binturong (*Arctictis binturong*), a particular species that is protected by the Indonesian government (see Figures 3.1 and 3.2). It was a quick story, and I sat for most of the rest of the five hour drive from the province's capital in the lowlands up through the mountainous coffee highlands wondering what exactly had happened. Why the raid? Who was affected? Why now?

The next morning, as the sun started to cut through the brisk, misty morning air, I stopped by a small, yellow clapboard shop with simple wooden benches out front on the sidewalk where I could sit and have a hot cup of local coffee. They used the "waste" beans that, because of high levels of defects (such as mould or insects), weren't up to the standards of the *agents*—the middlemen between the farmers and the processing facilities where beans were roasted and ground to be sold on the domestic market. This lower class of beans is referred to as *kopi rakyat*, or the "people's coffee," in contrast to *kopi ekspor,* or "export coffee" that can be sold in markets in larger cities and abroad. The "people's coffee" is dark, fragrant, with a strong, bitter taste that quickly coats the inside of your mouth, and it is served sweetened with locally-produced palm sugar.

I shivered slightly, balanced precariously on a bench, working the coffee grounds away from the mouth of the glass, anticipating my first sip as a grey Toyota Kijang pulled to a stop in front of me. The driver, Andri, an effervescent man, strolled around the front of the car, and took a slow, step up onto the seemingly just-too-tall sidewalk. With a bright smile, he swooped his arm around for an exaggerated hand-shake, warmly inquiring about how I have been, and where I have been. We caught up quickly, and before he moved along, I asked him cautiously what exactly had happened with the police.

Looking away, Andri's eyes seeming to glaze over, he explained in a serious tone that his competitor and neighbor, Heri, had been busted by the police. In a quieter voice, Andri admitted that he, too, had been raided. A squad of provincial police officers, along with representatives from the provincial branch of the Indonesian Ministry of Environment and Forestry's Natural Resource Conservation Agency[28], arrived from the province capital and visited each of the civet coffee producers in the area. According to Andri, his friends with the local police force, as well as his connections at the regency-level branch of the Ministry of Environment and Forestry, were taken completely by surprise by the raids, and they were confused by the seeming lack of communication and collaboration with the province-level branches. He was thankful that he was able to emerge from the raid relatively unscathed. Despite the gap in communication between the province and regency-level branches of the government bodies, he explained, the producers had heard a rumor about an imminent raid. By the time the raids were being carried out, all of the producers except for Heri had either released the binturong from their cages, or moved them to a

[28] *Balai Konservasi Sumber Daya Alam*, popularly referred to as the BKSDA

remote location from which they could later be retrieved. It was an inconvenience, but they would be able to recover. It was not difficult to find more civets nearby.

But, Andri admitted in a quiet tone, he was feeling frustrated and suspicious. Prior to the raids, he and the other producers hadn't been aware of the different legal statuses attributed to different types of civet, or that binturong aren't always considered to be civets. Of the more than ten species of civet (including binturong) identified in Indonesia by biologists (Shepherd 2008), four[29] are protected by a 1999 appendix to Indonesian national law[30]. Of the four species protected by national law, only one—the binturong—has been used regularly by some of the civet coffee producers since the active production with caged civets began in 2006. While the Indonesian government recognizes transnational conservation concerns with the vulnerable status of a species, Andri explained that binturong were plentiful in the area. It made little sense to him that while the presence of binturong in their part of Indonesia hasn't seemed to change, the status of those local binturong shifted with the rest of their species along the International Union for Conservation of Nature's (IUCN) scale from "least concern" in 1996 to "vulnerable" in 2008. What civet coffee producers experienced as a plentiful natural resource was being regulated primarily because of habitat degradation across southeast Asia and over-hunting in parts of mainland Southeast Asia.

Because the production method utilizing caged civets is relatively new, with no instruction manuals, rural producers, like the workers on the Indonesian government plantation in East Java, have resorted to trial-and-error practices with whatever kind of civet they can

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[29] *Arctictis binturong* (binturong), *Cynogale bennetti* (otter civet), *Macrogalidia musschenbroekii* (Sulawesi palm civet), and *Prionodon Linsang* (banded linsang)

[30] Lampiran Peraturan Pemerintah Republik Indonesia Nomor 7 Tahuan 1999

acquire. Some of the producers set their own traps in coffee orchards or near groves of trees where civets are thought to nest—*aren* sugar palms (*Arenga pinnata*) are considered to be popular sources of food and nesting sites. Other producers acquire civets from local coffee and fruit farmers who have been setting traps to protect their harvest for as long as they can remember. Before the demand for civets arose, those civets caught by farmers were killed and sometimes eaten. Their sourcing of civets for civet coffee production is often defended as preventing the immediate death of the civet. This reprieve has sometimes been temporary for civets that weren't fit for coffee production; some civets don't adapt to the fruit-heavy diet provided by the producers.

Over time, the producers have figured out which types of civets are the most frugivorous and best suited for their coffee production, and they have determined how to keep those civets alive. Andri and the other producers found that binturong thrive on a high-fruit diet, and as the largest species of civet in Indonesia, binturong can eat the largest quantities of coffee cherries and produce prolific amounts of excrement. Unfortunately for Andri and the other producers, some of whom had started selling civets on the pet trade and to aspiring civet coffee producers on the side, police in the province's capital caught a porter with a binturong that was being shipped to a buyer in another province.

It was three days later, during a discussion at the home of producers Dimas and his wife, Ita, that I learned the story about how the provincial police discovered the illegal harvesting of binturong from the forests. Like Andri, they were defensive because they had previously worked with representatives from the local branch of the Indonesian Ministry of Environment and Forestry to acquire the formal permits granting them a quota for harvesting and caging Asian

palm civets (*Paradoxurus hermaphroditus*), or what is sometimes called *musang pandan* locally. Andri and Dimas both expressed confusion because they were unfamiliar with scientific nomenclature, and they also call binturong "*musang pandan*," referring to the fragrant pandan scent shared by binturong and Asian palm civets. I recalled earlier conversations with Andri, Dimas, and a few other producers in which they had referred to binturong as "*musang pandan"* when I had asked them to describe the various civets they had encountered. I was confused by the use of the name, though it was common for me to encounter inconsistencies in the names amongst producers.

Issues of nomenclature can be complicated in a country with over 700 languages. Despite the adoption of a national language, *Bahasa Indonesia*, by the nationalist movement in the early 20th century, civets are called by many different names. *Luwak* (or *luak*) is the Javanese word for all civets, while in West Java, the Sundanese word for civets is *careuh*. Outside Javanese communities, the most popular term for civets is *musang*, which is drawn from the Betawi language local to the area of Jakarta. To identify specific species of civet, modifiers are added to *musang,* like the Otter civet, which is sometimes called "*musang otter"* and sometimes called "*musang air,"* which translates as "water civet." Nomenclature varies by region and by trade, as those with scientific training are more familiar with international binomial nomenclature. The discussion of nature is at times highly localized, drawing on unique histories of relations with the local environment. Even as large-scale government transmigrant programs have introduced Javanese and Sundanese farmers from across Java into some of the most rural parts of Indonesia's other islands, most extensively in Sumatra, local translations of nature maintain traction.

In conversations with representatives from the local office of the Indonesian Ministry of Environment and Forestry, they explained that despite visiting the facilities of the civet coffee producers, they were unaware that the civets being used were a species protected by their very own ministry. While species protection falls broadly within their purview, the local staff were unfamiliar with identifying small carnivores. Like the staff of other local governmental offices and the local police, they were proud of the local civet coffee industry, and they were interested in supporting the development of the industry in hopes that it might benefit their local economy, which was suffering due to inconsistent coffee harvests and market prices. A few of the workers were vocal in blaming the local branches of the government for failing to initiate a process of *sosialisasi*, or "socializing"—a process through which government employees initiate social programming to educate locals about regulations, clarifying national and international policies for local practices. Working with the civet coffee producers, the staff of the local office initiated a series of meetings to translate government documents into local terms. In addition to working to explain the regulations relevant to natural resource extraction and industries utilizing wild animals, the representatives from the local office of the Ministry of Environment and Forestry initiated conversations between the civet coffee producers and the Minister of Environment and Forestry in an attempt to develop an agreement that might allow special permissions to civet coffee producers to continue to use local civets in limited quantities following alterations to their husbandry practices. As I prepared to leave Indonesia in September 2015, the unmaking of civets as a natural resource for the civet coffee producers seemed to be unraveling.

Conclusion: Translating Natures

Within Indonesia, civets have been known as, among other things, ghostly figures whose scent passes in the night, as pests and enemies of coffee agriculture, as crucial components within unique environments, and as a resource for the production of civet coffee. On a semantic level, we encounter translations and mistranslations across the various ways of knowing and naming civets, crossing scales from the local to the transnational. The various ways of knowing and naming, from transnational colonial science-making to the local regulation of civet-trapping, reflect various ways of living with civets. In their work on Norwegian salmon, Marianne Lien and John Law describe the process of scientific classification as more than simple creating a representation. Lien and Law explain, "social structures are being generated at the same time and in the same moment as scientific (or other) forms of classification or knowledge; that the social and the natural classifications are being enacted together in material practices" (2011:68). Lien and Law's discussion of enactment and material practices reminds us that the translation of civets into a natural resource is about more than representation.

Across the various taxonomic and regulatory negotiations that I have described, we also encounter a multiplicity of performative translations of civets into networks of relations whereby they become something different. The translation of civets into the Indonesian coffee industry reflects Michel Callon's conceptualization of "translation" as a material-semiotic process that, in the crafting of the identity of the actors, results in the negotiation and delimitation of the "possibilities of interaction" and the "margins of maneuver." The particular case of the provincial police raids on civet coffee producers highlights conflicting translations moving along different scales, from the local to the transnational. These translations reflect particular sets of social

relations, and multiple engagements with the Indonesian landscape and Indonesian natures. Translation can help us make sense of "nature" and "environments" as kinds of systems or assemblages that are constructed--and continually in construction--by organisms through the relations that constitute involvement in the world. Translation provides a way for addressing the differences in understandings and descriptions of civets as they are figured in relation to nature and unique environments. By attending to the nuances of translation processes, we can see that becoming and unbecoming a natural resource is not simply about naming; it is, rather, about relations and world-making, and part of a material-semiotic process through which environments and natures are enacted.

Chapter 4

The Market Rhythms of Commodity Production:

Weather, Infrastructures, and Qualities of Life in the Anthropocene

From a God's Eye view over Indonesia, we see verdant islands punctuating the seas from the Strait of Malacca along the west coast of the Malay Peninsula, down to the south of mainland Southeast Asia, and to the east into Melanesia. Looking more closely, across the largest islands and many of the smaller islands flatbed trucks, box trucks, pickup trucks, SUVs, and motorbikes crawl along dirt, macadam, concrete, and pavement arteries that carve through verdure, connecting rural farming communities to markets of various type and scale. As an archipelagic nation, these transport networks are amphibious, with terrestrial vehicles connected through aquatic arteries; boats of every type bob and churn across the straits and seas that have been central to the livelihoods of Indonesia's coastal and sea-based communities for millennia[31].

Along these networks, commodities of every type from across the country and around the world are transported. Green coffee beans in containers of varying size and material (from burlap sacks to shipping containers), civet coffee in packages (from small bags in mailing envelopes to sacks), and civets in various kinds of boxes and cages, are transported in vehicles along these arteries from highland agricultural communities down to coastal market hubs. In these hubs they frequently end up on ferries on routes tracing coastlines toward increasingly centralized markets

[31] This long predates the conceptualization of an Indonesian nation during the late 19th and early 20th century. For work that examines Indonesia's maritime culture and amphibious communities, see Lowe (2006); Cribb and Ford (2009); Pauwelussen (2017).

—much of Indonesia's arabica coffee moves through the markets and port of Medan in North Sumatra province, while Indonesia's robusta coffee moves through the markets and port of Bandar Lampung in the Lampung province in southern Sumatra.

These images of transport—of containers, of vehicles, and of roadways and sea routes traversing Indonesia's entangled landscapes and seascapes—begin to illustrate the domestic routes through which civet coffee moves as it is transformed into an increasingly valuable commodity. I open with these descriptions and images to think about how the value of civet coffee is contingent upon its ability to move across a dynamic landscape. Attending to the transport and movement of civet coffee to market, I draw attention to infrastructures, which Brian Larkin has defined as "…matter that enable the movement of other matter" (2013:329). Once in place, infrastructure can become invisible to those who take for granted its existence, but as it breaks down, it becomes visible again, as Susan Leigh Star (1999) explained in her work on the ethnography of infrastructure. In this chapter, I describe the how civet coffee is brought to market within the context of the broader Indonesian coffee trade to show the complexities of bringing beans from sites of purification[32] to consumers. This chapter is a play on scales, tracking the impact of large-scale weather systems on infrastructure of various scales, moving between coffeeshops, ferries, routes planned and carved along less-than-stable landscapes and seascapes, and weaving together the micro-scaled life that penetrates coffee beans and entangles with the senses of coffee graders and consumers. It is about scale, and infrastructure, and weather, and markets. But it is really about the precarity of agricultural communities whose

[32] The purification processes of the civet coffee industry are addressed further in the following chapter, "Translation, Classification, Purification: Making a [Fecal] Commodity."

livelihoods depend upon the maintenance of infrastructure, the regularity of weather patterns, calm seas, and stable ground under their feet—all of which are taken for granted by markets as they demand constantly available goods. By attending to the rhythms of infrastructure breakdown and the increasingly inconsistent syncopation of weather rhythms, this chapter highlights the instability, volatility, and precarity that plague the rural production of agricultural goods for so-called modern markets.

The study of food production and commodity chains has a vibrant history within anthropology. In the late 19th and early 20th century, food appeared in ethnographies describing agricultural traditions and forms of trade, frequently situated in the background of what was considered to be meaningful cultural practices. In the middle of the 20th century, as Marxism-influenced scholars sought to answer ecological questions about energy and carrying capacity, figuring food as a material limitation of environments on culture (Orlove 1980), structural-symbolic anthropologists argued that food can function as symbol, bearing meaning for those who produce, trade, and consume it. In his discussion of totems, Claude Lévi-Strauss argued that a materialist approach can miss how what humans eat—the types of plants, animals, fungi, and microbial life—is often not what is "good to eat," but, rather what is "good to think" (1962:89). This structural-symbolic approach explains food as a bearer of meaning beyond caloric content —that seemingly irrational food choices make sense within a local cultural context even as a biomedical analysis might warn against such choices. These seemingly contradictory approaches —one prioritizing matter and the other meaning—were in part reconciled around the end of the 20th century through shared concerns with the fates of producers and consumers unequally situated along transnational commodity chains.

In the 1990s, Globalization theory gave new life to the concerns of World Systems theory (Sahlins 1994), imagining a hegemonic force that could end cultural difference and diversity, and history. More recently, scholars have expressed concern that humanity has driven the entire planet into a new and potentially apocalyptic geological era called the Anthropocene[33]. Academic debates about climate change and the Anthropocene have inspired philosophical re-examinations of ontological conditions, bringing new life to the work of Heidegger (Barad 2007), Spinoza (Bennett 2007), and Daoist thinking (Zhan 2012). This work proposes ways of knowing what it means to be human, situated within lively worlds populated with forms of agency and mattering that have been ignored by anthropocentric, capitalist ideological frameworks. This work challenges understandings that privilege humans—and frequently only specific kinds of humans—as the sole bearers of agency in a world of dull, passive matter. This work opens up conversations about the liveliness of food as matter that influences us in material-semiotic ways, altering how we exist and how we know the world. For example, Heather Paxson's (2012) study of artisanal cheesemaking attends to ways we live with and know and—drawing Donna Haraway's (2008) multispecies work—become with microbes. Playing with scale, Paxson highlights the ways in which competing understandings of the microbiological differently constitute macrobiological lifeforms. How we produce food, how we eat, and how we make sense of these acts reflects more broadly how we make sense of what it means to be human and how humans come to know the world through material-semiotic processes in which the material forms we perceive are entangled with the ideas that influence how we perceive.

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[33] For a review of the scholarly discussions of the Anthropocene and the spatial frameworks intrinsic to the discussions, see Olson and Messeri (2015).

Scholarship in the wake of globalization and World Systems theory was influenced less by environmentalist concerns than by political economy concerns with power and social justice. As political theorists worried about universality and uniformity, anthropologists examined forms of difference that exist even among communities connected by commodity chains. Much of this anthropological work—especially concerning food, food systems, and food commodity chains—was influenced by Sidney Mintz and his long engagement with sugar, sugar cane farmers, and sweetness. Drawing on decades of engagement with sugar production[34], Mintz argued that "the social history of the use of new foods in a western nation can contribute to an anthropology of modern life" (1985:xxviii). For Mintz the best understanding of the present day culture in western nations is informed by social histories. Mintz taught us to examine forms of power in the production and maintenance of commodity chains and food systems, as historically particular constructions. Commodity chain studies examine the [often unequal] connections formed through economic activities that connect multiple groups along transnational networks, highlighting how economic risk and financial precarity are unevenly distributed along a network of humans who are all working to bring a particular commodity to market. For example, in Mintz's work on sugar, William Roseberry's (1996) and Paige West's (2012) work on coffee, Theodore Bestor's (2001) work on tuna, and Deborah Gewertz and Frederick Errington's (2007) work on lamb and mutton, we find precise, particular accounts of the accrued labor over long periods of time, the shifts in political policies, and the establishment of trade networks that have

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[34] Mintz began his formal research on sugar when he worked with sugar cane farmers as part of a 1948 collaborative group study, "The People of Puerto Rico Project," led by Julian Steward. His findings are described in his dissertation, "Cañamelar: The Contemporary Culture of a Rural Puerto Rican Proletariat" (1951).

cultivated particular regimes of taste and have brought commodities to markets in ways that transform the markets into seemingly stable, modern grocery stores.

In many parts of the world, a variety of coffees are consistently present on the shelves of grocery stores. As the availability of foods has become seemingly guaranteed, it becomes easy to take that availability for granted. This aspect of "modern life," or what Amitav Ghosh calls in *The Great Derangement: Climate Change and the Unthinkable*—his analysis of cultural understandings, and denialism, of the current global climate crisis—"the regularity of bourgeois life" (2016), is a sense of stability, consistency, material comfort, and safety afforded to particular communities in the face of increasing instability for others. This regularity for privileged populations is contingent upon numerous variables which must be maintained in proper orders, and it is frequently accompanied by a sense that these privileges could be extended through successful development programming to all humans, whether or not it reflects a kind of life that is desired by others. For individuals at any point along a commodity chain there are variables that are invisible, and it is difficult for most to comprehend all of the moving parts that constitute and regulate production, supply chains, and markets. It takes a significant amount of human labor, public and private forms of infrastructure, and luck to keep civet coffee moving from its site of production to consumers in other parts of the country and abroad.

The End is the Beginning: Tracing a Commodity Chain

On a cool, dry night in July 2013, I sat with three friends at Omah Kopi Omah S'dulur, a small coffeeshop near the yellow bridge crossing the Code River in the Cokrodiningratan neighborhood of Yogyakarta, a rapidly growing small city in Central Java. I was in the process of

developing my dissertation research questions, and I had coffee on my mind. Galih, a student of economics at the Gadjah Mada University, had recently been to this coffeeshop and was confident I would be impressed.

Located in an old, cement shophouse, the coffeeshop is simple, and while it doesn't offer any dramatic selfie-backdrops, the small tables fill quickly with clusters of university students from across the city almost as soon as Pak Sasongko, the elder gentleman who runs the shop, folds open the metal front gate around sunset[35]. While he maintains a small menu of tea and warm milk drinks, he specializes in coffees from across the archipelago. In the rear of the shop, along the counter, there is a rack with approximately 30 jars with roasted beans coming from most of Indonesia's growing areas. He features beans from the various microclimates found in the highlands in the state, and his stock regularly includes beans from the slopes of Mount Merapi, the highly-active volcano at the northern edge of Yogyakarta, as well as from Temanggung, Wonosobo, Banjarnegara, and Ambarawa. His collection includes arabicas and robustas, and he also features some coffees that he processes to create unique flavors.

Having discussed the options, we settled on four different coffees to try and compare—an arabica from nearby Wamena (West Papua), an arabica from the Gayo highlands (Central Aceh), a robusta from outside Bandung (West Java), and Pak Sasongko's signature durian coffee, made with beans that he processes with the sweet, creamy, pungent durian flesh. While I can be a bit arrogant about flavored coffees, I can make a lot of compromises for durian, and I was curious to

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[35] Coffeeshops in Yogyakarta, like in many other parts of Indonesia, only opened after dark, as social spaces for gossip and political discussions in the cooler night hours, but as the city in recent years has attracted wealthier students with laptops and grown a gig economy with freelancers seeking informal work spaces with coffee and wifi, a wave of coffeeshops have opened to accommodate the daytime market.

see how the flavor would come across. While Pak Sasongko prepared our coffees—a very reasonable IDR 8,000 each, or about US$0.80 per cup—we chatted about his personal history working with coffee, and I noticed that he offered what seemed like an unrealistically cheap cup of civet coffee. At the time, stories were circulating throughout the Indonesian coffee industry about cups of brewed civet coffee selling for US$50-100 each, and of a pound of civet coffee beans selling for as much as US$1,000. Pak Sasongko had a small stock that he was selling for IDR 25,000 per cup, or about US$2.50. I had previously tried the civet coffee at the Excelso Cafe on Jalan Malioboro in Yogyakarta in 2010 when a friend and I decided to splurge and share a cup that cost us IDR 100,000, or about $10.

I was shocked by the seemingly modest price of his civet coffee, so I asked him about it—where he acquired it, what he thought about the price and the taste. He explained that he purchased it directly from a producer in West Lampung, in Southern Sumatra, where they grow massive amounts of low grade robusta coffee. While he expressed an appreciation for the low levels of bitterness in the flavor of the civet coffee, and he explained that he enjoys featuring unique coffees that illustrate the diversity of the Indonesian coffee industry, that he also works hard to keep his drinks at an affordable price, and even with such a comparably modest price, he worries that civet coffee is excessive.

I thanked him for sharing his thoughts, and I returned to my friends with the four small glass mugs of *tubruk*-style coffee (see figure 4.1). While we sat, chatting about campus politics, I began making mental notes about finding contacts for future fieldwork. Three years later, I had traced this civet coffee back to its producers in West Lampung, where I conducted part of the fieldwork for this project. I also traced the civet coffee from my earlier experience at Excelso

Figure 4.1: *Kopi tubruk* is a simple and convenient style of brewing coffee by placing finely-ground coffee directly into a cup, filling the cup with hot water, and stirring slowly to distribute the coffee evenly in the water, and then letting it settle so the grinds sink to the bottom. Coarser coffee particles will float, bumping into the teeth of the drinker, until they are completely

back to its producers in the North Toraja regency of South Sulawesi. Tracking these coffees back to their farms was not easy. When I started my research, there was little public information about where civet coffee was being produced; the producers seemed elusive. I met with coffeeshop owners, coffee traders, and coffee roasters in Yogyakarta, Jakarta, Bandung, and Denpasar, and they pointed me towards West Lampung and Toraja, as well as Aceh, Bangli (Bali), East Java, West Java, and West Sumatra. Some contacts could provide the name of a town where they had heard of a producer, and some of the towns were not yet on any online maps. Some of these

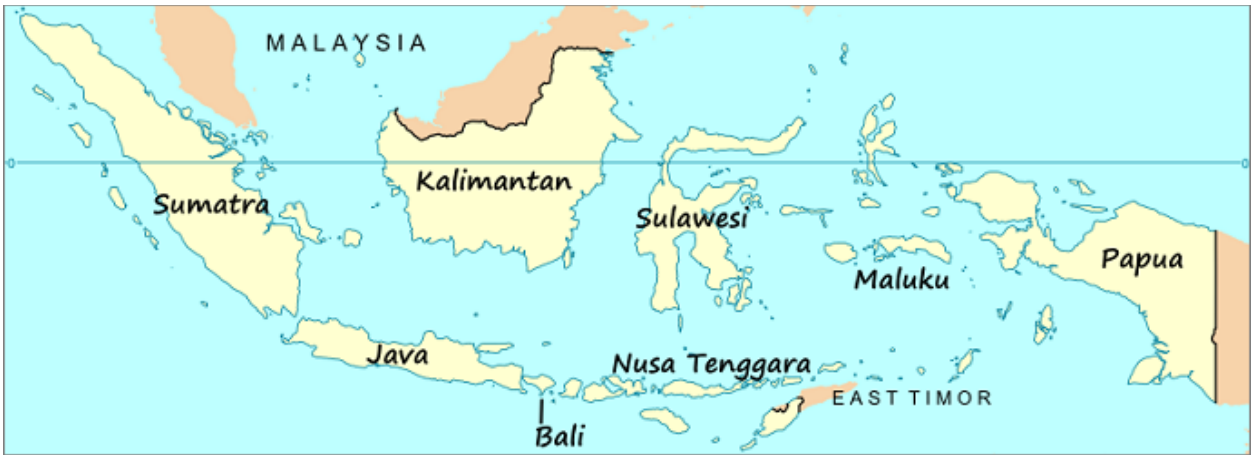

Figure 4.2: This simplistic map of Indonesia shows us Java and Bali at the "center" of the country, while the rest of the islands—including Sumatra, Kalimantan (Indonesian Borneo), Sulawesi, the Malukus, and Papua—have been referred to as the "outer islands."

places also felt elusive. Following a commodity from a cafe in urban Java to rural coffee-farming communities enables a different kind of engagement with Indonesian landscapes and a particular set of academic discussions.

Geographic Orientations and the Margins of Indonesia's Landscapes

The sense of elusiveness that I mention echoes a longstanding interest amongst anthropologists in Indonesian geographies and cosmologies populated by a multiplicity of kinds of centers and peripheries (Tambiah 2013; Geertz 1973). Despite the early appeal of the Spice Islands to international markets, and the European conflicts to control this set of islands that have come to be known as the Malukus, the establishment of new ports and large-scale plantation projects shifted the focus of the Dutch to the island of Java. The courts of central Java, situated at the center of Javanese cosmologies, have long drawn the attention of international researchers, and

were the focus of a group of Indonesianists who were training at Cornell in the 1980s[36]. The study of state power in Indonesia has focused on the concentration of Javanese cultural practices in Jakarta (Anderson 1990), a peripheral center of Javanese cosmologies that has become a center of Indonesian capital and infrastructure development. This work has shown how Java, as the metaphysical center of Javanese cosmologies, became a center of transnational markets and political power during and following the Dutch colonial period. Reflecting the political and economic formations that have reinforced Java as a center, the rest of the islands of Indonesia (not including Bali) have come to be referred to as the "Outer Islands" (see Figure 4.2), situating them as outside the Javanese center. The Malukus, Sumatra, Kalimantan, and West Papua, to give just a few examples, have been centers of various markets and political movements throughout history; yet they have come to be seen as marginal places as they have come to be peripheral to Jakarta and Javanese concentrations of capital and power.

Concerned by the cultural hegemony reinforced by academic discussions of inner and outer islands, centers and peripheries, highlands and lowlands, and the margins and the mainstream, a number of scholars have studied the histories and dynamics of these cultural formations. In his work with Tengger highland communities in East Java, Robert Hefner (1990) examined the role of geography in the history of the development of the state capitalism of Indonesia's New Order government. Hefner contributes a complex depiction of highland communities that have been actively connected to international markets for centuries, contradictory to lowland depictions of highland isolation and backwardness. Lorraine Aragon does similar work outside of Java and among Christian communities in her ethnography, *Fields*

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[36] For example, see Pemberton (1994) and Florida (1995).

of the Lord: Animism, Christian Minorities, and State Development in Indonesia (2000). Aragon examines the distinction between highland and lowland communities in central Sulawesi, showing how Dutch colonial rule and the work of missionaries sharpened the distinction made between highland and lowland communities. Aragon argues that this distinction is not to be taken for granted, but is the result of historically-particular cultural constructions. Both Aragon and Hefner challenge oversimplified, monolithic understandings of the relationship between the highlands and the supposed lowland centers of power, reflecting broader debates within Southeast Asian studies over the active historical and cultural roles of upland communities within nation-states (Scott 2009).

Anna Tsing examined the experiences of Meratus communities—rural "rainforest people"—under Indonesia's New Order regime in her ethnography *In the realm of the diamond queen: marginality in an out-of-the-way place* (1993). Her work contributes to our understanding that communities that have been portrayed as living in out-of-the-way places, at the margins of civilization, are communities that are actually dynamic, complex, and often cosmopolitan in ways that trouble how they are seen by urban communities and governed by the state. Tsing argues that, "as untamed hill people, Meratus are formed in the imagination of the Indonesian state, the 'civilized' regional majority, and the visiting anthropologists and travelers who learn to 'know' them" (1993:7-8). Her ethnography shows both how marginality is constructed through discursive fields, and the material stakes of such constructions that influence how communities are fit into an ordered state. Tsing contributes to a broader discussion of centers and peripheries in Indonesia a reminder that generalizations about communities in out-of-the-way places can assist states in reducing both the autonomy of those communities and their access to state

resources as states access natural resources.

There is significant overlap between rural, highland, and outer island communities, as intersecting kinds of out-of-the-way, politically-marginalized communities. Tania Murray Li has contributed significantly to the troubling of center-periphery models in Indonesia by offering complex portrayals of dynamic rural communities. In *Lands End* (2014), Li expands the discussion of rural livelihoods, drawing on her extensive fieldwork with highland communities in Sulawesi. Her work examines the politics of land ownership amidst changes to the regulation of land ownership and use, describing "…the attempt made by indigenous highlanders to join the march of progress promised in modernization narratives, only to encounter the polarizing effect of the capitalist relations that soon emerged among them" (2014:2). She attends to the experiences of precarity that result directly from the enclosures, guided by modernization theories, and the accompanying forms of dispossession. Li, like Tsing, is concerned with the experiences of indigenous communities as they are stereotyped as backward, *orang bukit* ("hill people," referring to isolation and suggesting an uncivilized state), *orang desa* ("villagers," referring to a lack of sophistication), both out of place and time, and set on pathways to "development." More often than not, these pathways of development have increased the access of international markets to the natural resources found in highland areas without improving the lives of those who inhabit those highland areas.

Anthropologists working in Indonesia have shown how power, wealth, and infrastructure have been unevenly distributed across communities differently marked by their cultural and geographic positions. I want to focus on infrastructure as a material structure that reflects multiple forms of power and elitism in colonial and postcolonial Indonesia. Scholars have shown

how Java and the outer islands were unevenly developed in ways that continued during the "modernization" of Indonesia under Suharto. While the current Indonesian President, Joko Widodo—himself a Javanese man who grew up in a Javanese court city—ran on a platform of developing the infrastructure of the "Outer Islands," the supposed redistribution of resources beyond Jakarta and Java has fueled debates over who will benefit from this infrastructure development. During the 20th century—especially during Suharto's rule—much of Indonesia's development programming was channeled through its transmigration program. The transmigration program developed agricultural projects in Sumatra, Kalimantan, Sulawesi, pre-independence East Timor, and West Papua. These settlements were designed to help the government resettle residents from densely populated areas of urban Java to the "outer islands," sometimes for the purpose of clearing an area they intended to use for infrastructure development in Java, and sometimes to help regain control over dissident communities outside of Java.

In parts of Sumatra and Sulawesi, I met farmers from Java who moved to the area as part of the transmigration program, as well as farmers who moved on their own from Java after hearing about the availability of land and opportunities from those who participated in the program. One civet coffee producer had been a civil servant working to set up transmigration settlements. He helped to plan and engineer the settlements, designing the layout for the homes and coffee orchards, and the road systems. After finishing his work on the settlement in this particular area, he had grown attached to the area. But also, he explained, "it was an attractive opportunity, because we received a home and land that had already been prepared for farming—by me and my co-workers—as well as subsidized food and gas. It really made [the locals] jealous, though." For local communities, they saw Javanese, Sundanese, and Madurese

communities receiving opportunities that were not being offered to the locals, who had to buy their own land and clear it themselves if they wanted to farm. This disparity frequently led to tensions between locals and transmigrants, and the tensions have been exacerbated as transmigrant communities from Java have become the ethnic majority in the transmigration settlement areas, leading to accusations that the program constitutes a form of colonialism.

While transmigration has helped cities in Java clear space to improve urban infrastructure, it has also brought in a much smaller way infrastructure to politically marginalized areas, albeit primarily for Javanese transmigrant communities. Regional infrastructure often leaves something to be desired for communities from Java that are accustomed to extensive highway and rail transport systems and relatively consistent electricity. In one of my field sites, power frequently cut off during daylight hours, and those who could afford it purchased generators for their homes. Some transmigrants complain about the difficulty of life outside Java, and many return to Java when their subsidies run out.

Having previously spent years in urban Java, this project involved significant changes for me. I had become accustomed to the regularity of a particular kind of bourgeois life made possible in cosmopolitan cities. But there is a danger in discussing the cultural differences of life in the cities of lowland Java and life in villages in the highlands of the outer islands. These binaries—urban and rural, inner and outer, high and low, center and periphery—reify stereotypes that have been deployed in justifications for paternalistic programs designed in Jakarta for marginalized communities. The margins are not only misunderstood, as Hefner (1990), Tsing (1993), Aragon (2000), and Li (2014) have shown through their ethnographic research; they are frequently treated as displaceable inhabitants of sites for natural resource extraction, and when

infrastructure is developed, it is for that resource extraction and not for local communities.

While some of my field sites seemed to exist beyond the interest of digital cartographers, they were more often marginalized by government bureaucrats in Jakarta. Despite inconsistent electricity and the geographic and cultural distance from urban Java, smart phones have become common in many of the most seemingly remote parts of Indonesia, and I most often was able to make contact with civet coffee producers through social media—primarily through Facebook and on Blackberry Messenger. Through our online chats, they would direct me in finding transportation to their production sites. These routes frequently involved multiple transits, shifting between transport provided by formal bus companies with luxury first class motor coaches, public transit systems with barebones buses, minibuses, and vans, and informal carpool arrangements that fill in for a lack of public options while also providing opportunities for car owners to make extra money portering people and parcels.

As I moved along these routes, I could feel the difference in transportation infrastructure in the vibrations and shaking of vehicles against road surfaces of different quality as we drove further from cities and off the major truck routes connecting large markets. On these trips, I was introduced to the routes along which civet coffee moves to market, and on trips from the sites of production to state capitals, I often shared my transportation with parcels of civet coffee, other kinds of coffee, and sometimes even civets that had been sold through social media to customers in other parts of the country—most often to customers in the rapidly growing civet pet trade, but sometimes they were being shipped to coffee-growing regions in parts of the country without

local populations of the right kinds of civets[37]. Once in the capital, the packets of civet coffee were either dropped off with at a coffeeshop or with a intermediary agent for resale, or along with many of the civets, would be transferred to other forms of transport—sometimes cargo planes, sometimes ferries going to another island. The civet coffee coming from Toraja frequently moves by boat from the ports of South Sulawesi to ports on Java, and the civet coffee from West Lampung is frequently transported by ferry from the port of Bakauheni in southern Lampung to the port of Merak in West Java.

Weather, and the Challenges in Bringing Civet Coffee to Market

The movement of civet coffee, other commodities, and the anthropologist following them, is contingent upon the functioning of fleets of land-based, sea-based, and airborne vehicles. A vehicle breakdown can set off the delivery by days at a time, which is generally a much more critical issue for the delivery of live animals than coffee beans. This movement to market also depends on the stability of infrastructure—of roads and ports, in particular. The maintenance of vehicles and the infrastructure that facilitates their movement is critical to the success of the industry, and there are destabilizing forces that can disturb infrastructure and halt the movement of civet coffee on its way to market.

Weather can be a livelihood-threatening force on the coffee industry. On the morning of

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[37] For example, civets are known to be present on the island of Sulawesi, but they are of a species that do not have significantly frugivorous diets, and cannot be incorporated into the production of civet coffee. Producers in Java and Sumatra shared with me stories of experimenting with different types of civets in their production only to discover that some species will not eat coffee cherries. Civet coffee producers in Sulawesi must acquire the right kinds of civets from contacts on other islands—most often from Java or Sumatra.

July 18, 1975, farmers across most of Brazil's coffee-farming areas awoke to find that temperatures had dropped low enough to kill coffee trees, wiping out over half of the country's crop. Not only did many farmers lose the source of their livelihoods, the frost destabilized international coffee markets for years[38]. If the temperature drops too low, it can ruin a harvest, or as in the case in Brazil, it can kill coffee trees, ruining harvests for at least four years, as new trees must be planted and allowed time to mature. If the temperature is too high for too long, it can allow temperature-sensitive pests to spread to higher altitudes where they can kill arabica (*Coffea arabica*)[39] trees. Coffee rust (*Hemileia vastatrix*), a temperature-sensitive, parasitic fungus, spread through Asia killing coffee crops during the 19th century, and slowly spreading to the rest of the coffee-growing regions of the world during the 20th century. In many areas in Indonesia, as arabica trees died, farmers switched to other crops. It seemed that crops above a certain altitude were protected by temperatures that varied beyond the limits tolerated by coffee rust. In discussing the limitations for farming arabica in Indonesia with farmers and agricultural researchers, most mentioned either 900 or 1000 meters above sea level as the minimum altitude necessary for farming arabica in Indonesia[40]. Temperature marks the mountainous landscapes of

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[38] For a more thorough discussion of the historic frost and its effect on global coffee markets, see Talbot (2004).

[39] As I explain earlier in the dissertation, arabica was the primary coffee species to be cultivated, and even as pests have driven farmers to farm other species, there is a prevailing bias for arabica against other species among most coffee experts and on the international market.

[40] This is a critical topic in the Lampung, South Sumatra, and Bengkulu states in southern Sumatra, which are sometimes referred to as the "Coffee Triangle" because together they frequently produce over 50% of Indonesia's annual coffee harvest, but it is almost entirely a low-value robusta crop that has become unprofitable for many farmers. While farmers are interested in transitioning to a higher-value arabica crop, most farms are just not at high enough altitudes to prevent coffee rust.

coffee production as it is correlated to altitude to make generalizations about coffee rust (among other pests) and the likelihood of being able to grow a healthy coffee crop.

In addition to its effects on the survival of coffee trees, temperature is also one of the variables that can affect how coffee cherries ripen, which can directly influence the flavor of coffee beans. The weather during a growing season influences the health of coffee trees, the ripening of the coffee cherries, and the development of the beans, which all influence the qualities sought in coffee beans. Weather is also a significant influence on the processing of coffee beans. Coffee processing primarily concerns removing the layers of skin and pulp that surround the coffee bean and the drying of the beans that helps to preserve them over time and prepares them to be roasted. Most robusta coffee in Indonesia is hulled with what is called a "dry" or "natural process." This process entails allowing the entire coffee cherry, with the seed still inside, to dry by laying them out in the sun, with the outer skin slowly changing color from red[41] to black. Producers with more financial means utilize drying tables made of mesh that allows air to flow all the way around the coffee cherry, providing a more uniform dryness. Most Indonesian robusta farmers dry their coffee on cement patios, on plastic tarps, or directly on the dirt. This last situation is undesirable, as the scent and taste of coffee beans can be heavily influenced by prolonged contact with dirt, yielding flavors that have been recuperated through marketing as "earthy."

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[41] Ideally coffee is harvested at peak ripeness when most varieties turn a bright red; some turn bright orange. This increases the likelihood of the coffee bean developing a light, natural sweetness and fruity flavors, which can be more intense in dry-processed coffees. Influenced by a number of variables, many Indonesian farmers—especially those working with low-grade robusta—will harvest all of their cherries at one, yielding a blend of red, orange, yellow, and green, which yields an inconsistent flavor. Much of this inconsistent coffee ends up in instant coffee products, which incorporate processing methods to improve the quality of flavor.

Dry processing requires dry air and plenty of time. The longer it takes to dry, the greater the chance it is exposed to forms of mold and fungus. Once the cherry has dried, they are hulled by a machine with burrs that grind off the hull—the dried skins and mucilage—with friction. After hulling, the beans often require additional drying to reduce their moisture content to a level that will reduce the likelihood of mold and fungus[42]. Most of this process is dependent upon a season with lower humidity and infrequent rain.

Most arabica coffee in Indonesia is hulled with a process called *giling basah*, or "wet hulling," which involves a machine that removes the exterior skin of the cherry. These pulping machines are sometimes referred to locally as *luwak*, suggesting that the machine strips and consumes coffee cherries in a way—and more importantly, in a volume—that locals understand to be similar to how civets consume coffee cherries. The beans, still covered with thick, sweet mucilage, are fermented to help break down this mucilage. The beans are then hulled while still wet and soft. This can shorten the amount of time it takes for beans to move to market, but it also yields high quantities of deformed beans that are easily crushed due to their softness. This process, and the slightly different wash-process that is used primarily in Java, Bali, and Flores, utilize large amounts of water. The wash-process, which is the most common processing method in the coffee industry outside of Indonesia, involves washing away the fermented and broken down mucilage with large volumes of water, and then the beans are dried inside the parchment.

Dry processing, *giling basah*, and wash-processing all depend on specific weather conditions, and Indonesians have developed and adapted their processing techniques based on

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[42] Mold and fungus can affect the flavor of coffee beans, yielding undesirable musty, mushroom-like flavors.

their understanding of annual weather cycles. Those utilizing *giling basah* and wash-processing depend on access to large volumes of water, so they require consistent rainy seasons to replenish springs and wells. In Bali, the management of water among large-scale farm communities working with water-intensive rice agriculture has been well-studied and shown to have unique relationships with the history of local religious practices (Lansing 2007). Hindu temple rituals play a role in managing rice agricultural rhythms; the temple schedules guide rice planting in ways that distribute water across immense farming communities and aid in preventing pest outbreaks. This history of the development of coffee farming is radically different from that of rice farming, and so unlike much of the rice-farming in Indonesia, the coffee industry has little in terms of systemic, collaborative water management. *Giling basah* and wash-processing rely on weather-sustained water sources. And dry processing relies on a sustained dry season. If the air is too humid (as frequently happens), the drying process slows and often leads to higher amounts of mold and fungus in the coffee, which is considered to be a defect and can decrease the value of coffee on international market. Yet, as dry processing is most frequently used in producing lower-value robusta coffee, the decrease in value is often insignificant to farmers who already have had to diversity their crops to supplement what can be meager income from coffee.

Given the choice between investing time and energy into guarding their drying crop against the small rainstorms that seem to have become increasingly common during the dry season, or in a second or third business venture, most farmers choose to leave their coffee laying out in the rain. While this can alter the quality of their coffee in negative ways, the incentives for higher quality coffee are low for farmers in most of Indonesia's coffee regions. The price incentives are rarely enough to sustain a family through the year, let alone enough to enable

farmers to save part of their income for a future trip to go on Hajj or Umroh, as is a priority for many of Indonesia's Muslim majority. Even as market pricing has forced many coffee farmers to prioritize other activities over attending to their drying coffee cherries, most coffee is sampled as it is introduced to buyers, weather can directly impact at least in minor ways the desirability of a coffee lot and the prices it can fetch on markets.

Weather impacts the quality of coffee during growth and processing, and it impacts the act of transporting coffee to market. With sea-based transport, the importance of weather conditions is quite obvious. Each type of ship has different limitations, and Indonesia has suffered numerous disasters when overloaded ships have suffered structural failures or hit rocky weather at sea. A safe, stable sea trip takes many variables, including weather, into account, and trips are frequently delayed due to sea conditions that are considered unsafe. Archipelagic life is often oriented around the movements of seawater—the force of currents and the dynamics of waves—which are frequently generalized into seasons. During rainy seasons, sea transportation is dependably undependable. During dry seasons, weather conditions can facilitate smoother and more frequent trips. In the next section, I examine how weather affects the transport of coffee over land.

Rhythms and [In]Stability

Tall grass brushes my left knee as I look over the ledge to my right, down into the valley; I squeeze my thighs and feel the weight of my body settle downwards into the seat of the motorbike, orienting myself as best as I can as a passenger on this motorbike. I'm with Angga, a Javanese civet coffee producer in southern Sumatra. We are driving along what they called a road

and I would call a narrow dirt path through the woods. It looks like the deer trails that we would follow in the woods behind my parents' home in rural Pennsylvania. But the dirt is a different kind of red from the red-shale-dirt in Pennsylvania, and in some areas it becomes sandy and paler in color. The path has been hardened by the wheels of motorbikes, but where it runs along the cliffs, the edge crumbles, sinking downwards. As the path pulls away from the cliff, winding back into the forest, Angga releases his hand gently on the throttle, slowing slightly, and he turns to look back at my tensed face. I'm probably grimacing. He laughs, shouting, "still afraid?" I assure him that this route still terrifies me. He reassures me, reminding me that he has driven along these paths for his entire life, and no locals have ever died. With a grin, he shouts, "No deaths… but many broken bones." I laugh, nervously, and focus on relaxing so my reflexes don't cause me to tense and shift my body against Angga's balance. He accelerates again, as we enter a shaded, slalom-like stretch slender of path, winding between slender trees, past a tobacco field on our right, and we continue on our way to visit the coffee orchard of his friend.

Paths like this are common at the edges of areas where the state has invested in developing infrastructure for transportation and access to electricity. Most coffee farmers travel on motorbike, and they have grown accustomed to navigating mountainous pathways. These are the routes that they travel as they bring their beans to towns where they can sell to agents who either represent larger firms that trade in coffee beans by the ton or resell to larger firms in port cities. This entails orienting oneself with sacks of coffee beans strapped to one's body, achieving balance on a motorbike with an additional 50-100 kilograms. One farmer explained to me that his body seemed to shift, tense, and relax automatically, as he had become so familiar with the contours of the road that he could rely on memory. But when the dirt paths are wet, following a

period of rain, he is hesitant to attempt to transport anything, knowing that the dirt turns to mud, which changes the texture and contours of the path, altering the kinds of traction the motorbike tires can achieve. Rain changes how our bodies must orient to maintain balance in transport.

In a beautifully crafted examination of the relationship between the development of technologies and nationalism in the colonial Dutch East Indies, Rudolf Mrázek (2002) describes how bodily orientation was altered as new ways of moving across the landscape were engineered. With the development of roads, rail transport, and motor vehicles, colonial subjects were re-oriented to each other and to the ground. As transportation infrastructure was changing how people moved and made contact with the surface of the ground, it facilitated the transport of ideas and political movements. Mrázek argues, "modern roads and railroads, or so one tends to expect, were the veins and arteries of the [growing nationalist] movement" (2002:37). While his argument about the relationship between the engineering of modernist transportation infrastructure and the engineering of a nationalist, independence movement is both innovative and important to an understanding of Indonesian history, I want to dwell with the materiality of transportation infrastructure as a form of modernist ambition—that is, as a form of mastery over the natural world that also reflects the separation of humans from nature, reflecting how Bruno Latour (1993) writes about modernity. For Latour, modernity is characterized by the paradox of the very real proliferation of hybrids of nature and culture—recognizing that human cultural practices directly impact aspects of nonhuman nature—alongside cultural practices of purification that increasingly conceptualize humans (and culture) as separate from nature. Latour argues that, despite the modernist cultural commitments of humans to differentiate humanity from the rest of nature, we can never fully be modern. Out of concrete and steel, transportation

infrastructure has been crafted as a calcified skeleton for the re-shaping of the landscapes in the form thought to facilitate a specific kind of human progress that would further distance humans from the rest of nature. As these technologies re-oriented humans to the landscapes and against nature, the integrity of their engineering has been tested by natural forces.

The testing of infrastructure is apparent in what Anna Tsing has described as “frontier landscapes.” Tsing explains, “frontier landscapes are particularly active: hills flood away, streams are stuck in mud, vines swarm over fresh stumps, ants and humans are on the move. On the frontier, nature goes wild" (2005:29). In many ways, coffee-farming areas are not frontiers. Coffee-farming communities have been participating in transnational, capitalist markets as far back as anyone can remember. But there is a liveliness to the landscape that echoes Tsing’s description. And they are frontiers when it comes to the kinds of infrastructure that is present. While cities are thick with layers of accrued, engineered forms that can accentuate a sense of mastery over the landscape and over nature, rural agricultural communities have not received the same kind of investment, or “development.” This can be seen in the simple dirt paths along which farmers transport their coffee harvests to nearby towns to be sold. And it is strongly felt when their infrastructure fails.

The rural highlands, especially on the outer islands, feel particularly marginalized when experiencing the failure of infrastructure. While civet coffee producers rely on social media to connect to buyers, their cell phone batteries seem to drain faster during the frequent power outages—some of which can affect the availability of cellular service. In areas where the inconsistency of electricity is consistent, coffee farmers and civet coffee producers have developed back-up systems: they accumulate powerbanks, or portable batteries used to recharge

small electronics devices, which are charged whenever electricity is available. Those with enough savings purchase noisy gas-powered generators. When transport infrastructure fails, there aren't always easy temporary solutions.

One of my fieldsites was a small town at the convergence of three paved highways, two of which lead to cities, and the third to a coastal port town. I was working with Ardi, a civet coffee producer who had just started his business two years prior. He had met his wife in college, and when she accepted a civil servant position in the small town where she had grown up, he moved with her. He had been unemployed for two years. They didn't own enough land for farming, but he also wasn't interested in farming, describing himself as a city kid. After meeting a civet coffee producer in a nearby coffee-farming community, he decided to experiment with producing it. With the help of his wife and her brother, Ardi built fourteen cages, which he quickly filled with civets that he acquired from a neighboring farmer who catches civets in the traps he keeps around his coffee orchard. We had spent the day roasting small batches of his civet coffee and packaging them to be shipped to buyers in Jakarta and Singapore. When I arrived at his home the next morning, he barely said hello as I sat down next to him. He set down his cigarette, released a slow, deep breath, and announced, "today we just relax." I nodded, and got up to prepare small mugs of *kopi tubruk* for the two of us, and after handing him his mug, he stirred the coffee slowly, and explained that he would need to explore an alternate route for mailing his packages.

During the night, there was a heavy rainstorm, and the water had eroded the main road that led to the state capital, causing a section of the road to collapse into the ravine below it. The road leading to the coastal port town was already closed because sections that had washed out

earlier in the season were currently being rebuilt.

This left Ardi, as well as farmers trying to bring their harvests to nearby market centers, with one option: the third road leading to a large, inland city about eight hours to the north. We spent the day contacting shipping companies in that city to compare options for getting his packages to Jakarta and Singapore, and finding out which local SUV owners would be driving on the route up to the city. Ardi, feeling a little better as we figured out a plan to ship his civet coffee, explained that he loves living where he does—that it is clean and healthy compared to city life. But in moments like the one we found ourselves in that morning, he feels trapped. His business involves a precarious balancing of loans and payments, and each time the roads wash out, he wonders whether it will collapse his business.

Ardi explained that the roads regularly washed out during the rainy season, but by the time rainy season arrives, most coffee has either been sent to market or been arranged to be stored, waiting for market prices to rise. But both of the washouts that I describe occurred during the so-called dry season, catching farmers off-guard. This experience echoes stories I heard in each of my fieldsites, covering most of the Indonesian coffee farming areas. Civet coffee producers and coffee farmers expressed a sense that their weather was increasingly inconsistent, with rain becoming increasingly frequent outside of the dry season. Agricultural communities at the frontiers of Indonesian and foreign investment seem to be feeling the effects of climate change, tracked through their harvest and production cycles. While I don't have quantitative data to show how the economic activities of civet coffee producers and coffee farmers have been impacted by changes in weather patterns, the volume of weather-related stories and concerns highlights what has become a threatening sense of instability for the livelihoods of farming

communities. To repeat what Tsing writes, “Hills flood away, streams are stuck in mud, vines swarm over fresh stumps, ants and humans are on the move” (2005:29). Or more specifically in this instance, transport infrastructure floods away, and while ants and humans are on the move, coffee is halted on its way to market.

Infrastructure and Instability

In her work on seismicity and earthquake detection systems, anthropologist Elizabeth Reddy (2016) argues that the concept of stability has become important for making sense of life in the Anthropocene. Reddy brings our attention to the recent spate of earthquakes hitting Oklahoma in recent years, asking how we make sense of what seems like seismic change, and what very well may be seismic change induced by human activity. Seismic change, like climate change, requires an attention to scale, as it is tempting to make draw conclusions that earthquakes—and rainstorms during the dry season—are supposed to be unlikely. Looking at broader histories of climate and seismic activity can show that dramatic changes that impact our livelihoods might actually reflect typical variation when viewed over centuries or millennia. But what is most important, argues Reddy, is that we attend to “…why, and how, stability matters as we mark the Anthropocene and its effects in material and theoretical spaces.” In the case of the civet coffee industry, and the broader coffee industry, stability underpins “the regularity of bourgeois life” (Ghosh 2016) and facilitates the reproduction of the labor of civet coffee producers and coffee farmers. Instability has encouraged entrepreneurs to experiment with civet coffee production, in the wake of the destabilization of international coffee markets that left small-scale coffee farmers—especially robusta farmers—unable to earn profits from their coffee farming.

And it makes infrastructure visible to those of us who, in the regularity of our bourgeois lives, come to take its presence for granted.

Stability is a potent concept for thinking about how coffee beans travel to market, and the forces and understandings of nature that influence how the infrastructure that makes that travel possible is designed, maintained, and eroded. It is easy to slip and lose one's footing when the ground underneath is eroding away. As Nikhil Anand (2015) has shown us in his work on the water systems of Mumbai, what might get described as a failing system is actually reflective of all water systems. In reviewing the technocratic audits of leakage in the Mumbai water system, Anand encountered overwhelming volumes of calculations that could not seem to capture water. Modern infrastructure, as defined by development literatures, is supposed to enable quantification and calculation, but Anand found that water evades easy measurement and regulation, and water systems seem to be contingent upon leakiness and instability. Similarly, farming, even as it has been increasingly industrialized, has been marked by instability. Because weather is never guaranteed, pests and disease are inevitable over a long enough period of time, and political conflicts have disrupted and displaced farming communities, large-scale industrial farm systems have focused on over-production and the creation of surpluses in case of such instability (Pollan 2006).

Conclusion: Markets Have Never Been Modern

I didn't initiate this project with infrastructure or weather on my mind, because I could afford to think about civet coffee production without attending to the forces that threaten the ability of producers to connect to markets. Through this project, I had the opportunity to study widely,

across the Indonesian coffee industry, following beans between farmers and coffeeshops, and between urban and rural communities. I lived and worked with farmers struggling to survive on volatile markets and in unstable ecologies. I got to see how out-of-the-way communities have been attracting investment in new infrastructure, even as the existing infrastructure is failing. Capital is driving more infrastructure (bearing with it the illusions of modernity) out into rural areas, where transnational market competitiveness demands greater quantity and consistency of commodity extraction. But these are not pre-capitalist frontiers. They are frontiers for the experimentation in control and regularity, which are crystallized in the infrastructure that brings coffee to broader, wealthier markets.

The stories of civet coffee producers and coffee farmers show us that things might not be as stable as modernity promises. And a historically particular examination of the making of coffee as a commodity, as it constitutes and is constituted by coffee markets, highlights how coffee cannot be taken for granted. Infrastructure might be modernist in its aims, but it is not modern in the ways described by Bruno Latour (1993). As Anand shows us in his response to modernization theory, modern infrastructure is actually leaky and unstable, and as socio-technical structures, it is "…brought into being by relations not only between social actors but also between 'a mass of silent others'—human and nonhuman—and their enabling environments" (2015:325). That is, it is only through systematic forms of ignorance, blinding local communities to the innate messiness of infrastructure and its ecological constitution, that infrastructure appears modern. This reflects what Latour calls the modern constitution, which "…allows the expanded proliferation of the hybrids whose existence, whose very possibility, it denies" (1993:34). The messiness of infrastructure comes about through the translation process

of producing hybrids, while purification processes present a more composed, all-too-clean depiction of infrastructure as monuments to the human separation from—and mastery over—nature. But if infrastructure is inherently leaky and messy, Latour's purification does not actually accomplish what it claims to do.

The processes of producing and bringing civet coffee to market entail instability, precarity, and volatility. Similar to the pharmaceutical commodity chain that Kristin Peterson describes in her beautifully crafted ethnography, *Speculative Markets: Drug Circuits and Derivative Life in Nigeria* (2014), market structures have redistributed market risks from the broader population to the livelihoods of individuals. A closer look at the practices of coffee producers and the agents who move coffee from farming regions to urban markets and consumers exhibits similar negotiations of risk through arbitrage, as farmers and agents attempt to capitalize on fluctuations in price on coffee markets. The storage of coffee while waiting for better market prices introduces potential risks—risks of theft, mold, and price collapses, that can leave farmers profitless. The volatility of transnational markets—both pharmaceutical and agricultural—distributes risk and instability unevenly on Nigerian pharmaceutical importers and traders, and on Indonesian coffee farmers, civet coffee producers, and coffee agents.

By bringing commodity studies into conversation with the work of Bruno Latour, we can see how the social history of foods is also an ecological history, and that the commodity chains that connect producers and consumers in "modern life" are ecologically-situated, and have never been modern. An examination of how civet coffee moves to market shows us how markets can obscure the complexities, the volatilities, and the precarity that is distributed to communities situated at the margins of markets and infrastructural development. And we can see how markets

and infrastructure are never fully modern, and are subject to the syncopated and changing rhythms of seasons and weather. As Fernando Coronil warned us in his critical essay "Smelling Like a Market" (2001), despite the promises of modernist utopian visions and the accompanying supposedly rational master designs, no plan can account for life's contingencies. Those contingencies remind us that purification, as theorized by Latour, is an illusion, and the modern constitution is an unstable concept prone to collapse. The colonial and developmental discourses of modernity that promise smoother integration into transnational markets are themselves symptoms of the modern constitution, and as such, offer modernist fantasies that obscure the messy, leaky, unstable qualities of the material world. As I write this, sitting in the master-planned city of Irvine, California, sipping coffee, it is all too easy to settle into the regularity that is enabled there by capitalist markets. That is, it is all too easy, until smoke from a nearby wildfire fills the sky, or a bee swarm searching for a new home decides your car looks appealing. It is in attending to life's contingencies that we can start to see how commodity chains, infrastructure, and markets have never been modern.

Chapter 5

Translation, Classification, Purification:

Making a [Fecal] Commodity

At a dinner party with friends from NGO communities in a city in Java, I spoke with Nabila, a woman greatly respected by my friends and considered by them to be particularly devout and a bit "conservative." She was energetic, outspoken, and assertive, yet she stood out from the other Muslim women in the room in two clear ways. The plain jilbab[43] framing her dynamic facial features was wrapped in a most modest manner, and she was careful to avoid contact with me and the other men in the room. She was curious about my research, so I began to explain how I was working with civet coffee producers, and as typically happens when I mention this, I was asked a series of questions in quick succession: "is it real?" "how do they make it?" "what does it taste like?"

I described to Nabila the digestive process of the civet and how the beans are removed from the feces of the civets. She expressed a sense of disgust, explaining that it is important for her to also listen to her intuition, which is informed by her years of Qur'anic study. I explained that multiple organizations have come out in support of a halal classification for civet coffee—that it is safe for consumption according to the Islamic rules for food passed down through the

[43] For a discussion of the religious politics of veiling in Indonesia, see Brenner (1996).

Qur'an and hadiths[44]. Nabila's sense of disgust with civet coffee is example of the Islamic concept *makruh*—that something that is not strictly prohibited can still be abominable, and it gestures at the interpretive space between being halal (safe for consumption) and haram (prohibited). That sense of *makruh* over particular food items suggests that while the items are not inherently haram, they can be haram-like for those who recognize the importance of their "gut response" for leading a proper life.

My discussion with Nabila reflected the concerns expressed by many other Muslim friends about the safety of civet coffee as a potentially infectious matter. These concerns resonate with the concerns from non-Muslim friends about the potential unruliness of civet coffee—that even after its processing, it is still fecal, and fecal matter is famously infectious as an ideal substrate for microbiological forms of life. Friends in Indonesia and abroad, most commonly in a whisper, ask, "could it carry dangerous bacteria or viruses?" The perceived unruliness infects the way many imagine civet coffee.

Nabila, and many others, commented on the strangeness of knowing that food was extracted from the feces of an animal, and the strangeness of not knowing how to make sense of civet coffee in relation to general Islamic dietary rules. The common form of coffee—processed by human hands, without the participation of civets—has been labored into consumable states through centuries of debate within Islamic communities, deconstructed and reconstructed over and over, like the meditative worrying of prayer beads gripped by inspecting fingers. Coffee has

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[44] A hadith is an account of the words and life of the prophet Muhammad, and hadiths are a source for guidance on proper Islamic practice. They are authoritative documents in Islam, secondary to the Qur'an, and the various branches of Islam (such as Shia and Sunni) recognize different sets of hadiths. When a topic or issue is not directly addressed in the Qur'an, hadiths may be referenced.

not always been safe for consumption by Muslims, and its classification as halal has been produced through repetitive analysis. While coffee has become a relatively stable element in Islamic culture[45], civet coffee has only recently begun to be inspected with theological scrutiny.

These are curious discussions for an anthropologist, coming from a discipline committed to making the familiar strange and the strange familiar. As James Siegel—an influential figure in the anthropology of Indonesia—reflected, in an article examining the work done with ethnographic objects in museum collections, "from the start ethnography almost literally domesticated, gave a home to, the strange. It reduced strangeness by showing its rationality or its place in scientific thinking" (2011:216). Initial reactions to civet coffee—its fecal origins and its high prices—often highlight a sense of strangeness and irrationality, but by tracing the material and regulatory techniques for differentiating, extracting and purifying coffee from excrement, this project also shows ways in which producers and regulators make sense out of the strangeness, establishing rational modes of engaging with civet coffee.

In this chapter, I describe how civet feces is transformed into a consumable good, and how it is labored into being. Following a discussion of the study of excrement, waste, and hygiene within anthropology, I provide descriptions of the lively ways civet coffee is materially and ideologically produced. The chapter is punctuated with vignettes of sorting, as choreographed, purifying acts that show material-semiotic orders being labored into being. Slowly turning the excremental bean, viewing it from different angles, reflecting multiple, intersecting cultural logics, I examine how it fits within [post]colonial genealogies for how hygiene has been cultivated and deployed for ordering, regulating, and purifying; and I examine

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[45] For more on the history of coffee in Islamic culture, see Hattox (1985).

how it has been classified as halal. I argue that the handling of civet coffee—a novel and niche, high-end good—can tell us about how cleanliness and purity are being transformed in Indonesia in the wake of Islamic cultural shifts that have continued to try to "purify" Islamic religious practices of syncretic, local practices, while establishing capitalist, market-friendly practices (Rudnyckyj 2009; Hefner 2010; Brenner 2011). I examine how the regulatory programs of modern Islam in Indonesia—as a form of Islam that converges with modern markets and modern science, and relies on translation and purification as described by Bruno Latour in *We have never been modern* (1993)—that the purification of coffee beans from civet feces, as a material-semiotic act of separation, reflects Modernity's [false] division of humans from nature. For as Latour shows us, the paradox of modernity is that as we purify humans as separate from nature—like the purification of civet coffee beans from civet feces—we enact more translations, or the creation of hybrids of nature and culture. While seemingly transgressive (against modernist conceptions of cleanliness and hygiene), I argue that civet coffee, as a fecal commodity, is an ideal example of a modern product that relies on the boundary-work of modernism to subjugate the messy, multispecies relations that produce such fecal commodities.

Fecal Cultures, and the Anthropologies of Waste and Hygiene

Anthropologists are not new to the study of fecal matter. A careful reading of the work of archaeologists finds a landscape littered with coprolites—the fossilized fecal matter of our human past—which have been instrumental in reconstructing the diets and health of the deceased. But within cultural anthropology, excrement, as a material and symbol, and defecation, as a practice, have been given little attention. Some speculate that this reflects an interest in

social practices over individual acts[46]. Defecation is most commonly considered a private act, but few private acts have been left with privacy intact by cultural anthropologists. It is difficult to imagine defecation receiving the amount of attention that sexuality and sexual acts have received. But while sexuality and sex acts are frequently understood culturally to be private acts, there have been political stakes in building intellectual discussions around the role of sexuality in the construction of public and private spaces (Boellstorff 2004; Boellstorff 2005; Warner 2005). Defecation has been little discussed in relation to public spaces, aside from a few niche projects, like the edited volume organized by sociologists Harvey Molotch and Laura Noren (2010) examining the cultural politics of public restrooms.

There has been a slow-building movement within cultural anthropology to address feces —the cultural understandings, materiality, and management of excrement, as well as defecation as a practice. The movement reflects a broader discussion, inspired by environmental concerns, that examines trash, pollution, landfills, recycling programs, and feces as an anthropology of waste, or as Joshua Reno names it, "Discard Studies" (2015:558). Discard Studies examines what makes something discardable, and how that reflects broader ideas about value, taboo, and ecologies. These works, as well as the smaller group of work directly addressing excrement[47], engage with Mary Douglas's (1966) influential analysis of the cultural concepts of cleanliness and pollution.

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[46] For example, see Reno (2015), who elaborates a genealogy rooted in the work of Durkheim and its influence on European anthropology.

[47]For example, see Al-Mohammad (2007); van der Geest (2007); Kawa (2016); McGlotten and Webel (2016); and Wolf-Meyer (2017)

In *Purity and Danger: An Analysis of the Concepts of Pollution and Taboo* (1966), Douglas provides a systematic analysis of the anthropological canon in the 1960s to demonstrate that rituals of purity and impurity function as ordering practices such that they establish unity in societies. She considers descriptions of pollution, hygiene, and magic to illustrate the instrumental qualities of the related rituals for a society. Douglas describes dirt as "matter out of place," and uses an analysis of practices related to matter out of place to challenge problematic representations of pollution and religion in non-European societies. Explaining the ordering function of [im]purity rituals, Douglas argues that it is important to see them as creative acts to be interpreted systematically. Systematic analysis figures the rituals as public displays of symbolic patterns. Douglas's use of the term "patterns" suggests a particular kind of structuralist thought, although her description of the emergence and existence of patterns does not automatically require the over-arching permanence of Lévi-Strauss's structuralism. Douglas leaves open the possibility for society as a system with conforming behaviors to be challenged by actors and practices framed as peripheral – the periphery is a site of challenges to the system, which leads to changes in societal norms. Douglas explains that "all margins are dangerous," and that "any structure of ideas is vulnerable at its margins" (122).

To write of modernist classification and ordering projects in Indonesia is to write about colonialism and colonial regimes as modes of knowing and ordering the world, enacted as a form of violence by Dutch colonizers against native subjects and transgressive subjects (Stoler 2002). In the case of Indonesia's colonial history, hygiene plays a central role in both determining and describing the "place" out of which matter falls when it becomes pollution, as "matter out of place." Hygiene marked a modernizing movement in Indonesia and was both a medium for and a

product of Dutch codification of the plants, animals and islands, and the people and their practices in the Dutch East Indies, which would later become Indonesia. From the work of Rudolf Mrázek (2002) and Hans Pols (2008), we encounter hygiene as a technology of empire and imperialism as it is tested and enacted in the Dutch East Indies. In this way, the colonies could be—and often were—laboratories for the technologies of modernization.

Hygiene is evocative as a metaphor, as one example of boundary-making. It is both a systematic ordering of relationships with nature from colonialism to postcolonialism, but also an evocative metaphor for the boundary-making work of colonialism and postcolonialism. We see social and racial hygiene as the topic of study in Ann Stoler's work on race and intimacy in the Dutch East Indies (2002), and we see the sanitization of cultural complexity and diversity in the Mini-ization of Indonesia's ethnolocalized[48] cultural practices through the replication as models in the culture-themed Taman Mini (Pemberton 1994). Hygiene provides an evocative, multi-valent framework for understanding modernity, colonialism, and postcolonialism in Indonesia, and hygiene programs are clear examples of colonial projects that were aimed at modernizing Indonesia while functioning to order, divide, and regulate colonial citizens.

In his rich history, *Engineers of Happy Land* (2002), Rudolf Mrázek draws our attention to the photographs and writings of Hendrik Freerk Tillema (1870-1952), a Dutch pharmacist based in Semarang, who called himself an "engineer of health and hygienist," and whose archives have been referred to as "a monument of Indies scatography" (Mrázek 2002: 57,103).

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[48]I draw here on Tom Boellstorff's (2005) discussion of the traditional focus on the ethnolocal within the history of the anthropology of Indonesia. He explains, "ethnolocality… appears to have originated in the colonial encounter, where it was shaped by fears that people living in the archipelago might identify with broader spatial scales like Islam or nationalism" (43).

Tillema was the author of *Kromoblanda: On the Question of Living*, which Mrázek describes as "a six-volume opus published between 1915 and 1923 on the Indies asphalt roads, modern bridges, cities, prisons, and bathrooms, classic of the late-colonial Indies" (132). The word *kromoblanda* is considered to have been invented by Tillema as a portmanteau of *kromo*, as the Dutch called the East Indies natives, and *blanda*, as the natives called the Dutch. Tillema's books suggest a masterplan "…of the *kromo* and the *blanda* living in the future, well-equipped, modern, happy, and efficient Indies, together" (xvii). Tillema's scatography includes photographs not just of the contrasting bathrooms and latrines of the Dutch East Indies, but also depictions of them in use, as we see the image of a native youth on a "native latrine" re-printed in *Engineers of Happy Land* (2002:106). While the removal of the hyphen from between *kromoblanda* might suggest an easy blurring of social, cultural, and racial boundaries in the Dutch colony, Ann Stoler (2002) presents a complex vision of a social hygiene that didn't just regulate the intimacy between the Dutch and the natives, but that also regulated the identity and mobility of the children of Dutch-Indonesian interracial couples.

One case from Mrázek's discussion of Tillema is particularly evocative for tracing out hygiene as a class of modernizing technologies in Indonesia: the hard, asphalt road. In an article separate from *Kromoblanda*, Tillema described a famous road in his Indonesian hometown of Semarang that was essential to the transport of extracted goods as "one big latrine" (Mrázek 2002: 24). Mrázek describes Tillema's terror as "[wheels] rode over 'the feces of men, horses, and buffaloes, and made them into dust'" (2002:24) – dust that would enter not just homes, but also human bodies. Tillema linked this fecal dust to disease, and appealed for "…modern roads to be taken care of, 'healed,' as modern man, in the same unkind tropical land of the Indies, was

cared for and healed" (Mrázek 2002: 25). A hygienic road meant a road clear of dust—a road clear of soft particulate matter that could be kicked up by walking feet and turning wheels. Colonial figures such as "Mr. Sweep"—the nickname given to the secretary to the Dutch governor of Malacca in the early 19th century—instituted practices of sweeping the streets, including dirt surfaces, to regulate the presence of dust (van Dijk 2011). The practice of spraying water on dirt driveways to harden and control the dust continues to be a popular practice in contemporary Indonesia (Hull 1989). Through this story, which is illustrated with clarity in the writings of Tillema, Mrázek links understandings of health and illness that have been identified as "modern" through the adoption of *Wegen-hygïene*—"road hygiene" to the surfacing of the colonies. A modern subject in this case would prefer the tidiness and hardness of a properly hygienic road, and this suggests something broader about the qualities of the subject.

In the work of Warwick Anderson (1995, 2006, 2010), David Arnold (1993, 1996), and Reynaldo Ileto (1995), we see hygiene as a justification for colonial paternalism, figuring the body of the natives as dirty and in need of regulation and medical intervention. David Arnold (1993) examines the role of the body in the colonization process in India as a central site for the elaboration of colonial power through medical intervention. Ileto (1995) traces a similar extension of power over the bodies of the colonized in the Philippines during cholera epidemics in the late 19th and early 20th centuries. While the American victory over cholera in the Philippines was celebrated as a sign of medical and scientific advancement, Ileto critiques the depoliticization of medical tales of progress. Ileto illustrates the political nature of the quarantines carried out in the name of stemming the spread of cholera, but which actually cut off

supplies to guerrilla groups fighting against American imperial rule; in these cases, Ileto notes the convergence of Imperialism and disease control.

At the center of Warwick Anderson's (2006) history of colonial medicine in the Philippines is human excrement. Following the introduction of germ theory to the colonies, Anderson explains, "of all the manifold sources of germs—whether soil, water, food, blood, urine, pus, mucus, or saliva—feces appeared to public health officers the most conspicuous and the most dangerous, just as to an earlier generation of physicians the odor of human waste had been generally the most feared of all noxious emanations" (1995:642). Human feces, as an exceptionally risky substance, became the central concern for the ordering of public space and bodies. Anderson describes the Americans' concern with what they framed as the "toxic waste" of Filipino bodies, writing, "especially in times of cholera and typhoid, physicians overwhelmed with fecal specimens were inclined to reduce the Filipino—in practice—to little more than a gaping anus and two soiled hands" (1995:648). It was through feces that the Americans cemented corporeal distinctions between themselves and Filipinos (Anderson 2010), framing racial differences in terms of cleanliness and pathogens.

As Filipinos were framed as biological reservoirs of disease (Anderson 2006), Americans consolidated hygiene within their broader "civilizing" process. Timothy Burke (1996) provides a relevant analysis from his work in Zimbabwe on the commodification of soap and its extension to Africans as a part of a general colonial effort to "civilize" them. The colonial mission was to spread the colonizers idea of cleanliness, and this simultaneously created a market for soap as a commodity. In the Philippines, the Americans' civilizing process was to initiate amongst the "natives" the same modernizing processes of transcending the "natural" and Bakhtinian

"grotesque" body[49] that they thought they had achieved (Anderson 1995). Anderson draws out the colonizers' fascination with the scientific laboratory as a "place of somatic control and closure, organized around the avoidance of contamination," transcending the risky bodies and risky tropical environment of the Philippines (1995:652). In response to their construction of the dirty, contagious body of the colonized, the colonizers fantasized about how to make the colony more "laboratory-like," and their hygiene programs represented attempts to bring the sterility of the laboratory and scientific technology into the management of the dirty and diseased colonized bodies (Anderson 1995).

In his work on the history of soap and cleanliness in Indonesia, Kees van Dijk (2011) describes how the Dutch in the 17th century dismissed bathing as a useless ritual. He notes the prominent bathing culture represented in the form of water palaces found throughout Indonesia, and he draws attention to the theory that Indian bathing practices influenced the spread of new hygiene practices in England. Additionally, historians trace the introduction of shampoo in Europe to Indians. Rather than be influenced by the local bathing practices in the East Indies, the Dutch, "with their long-sleeved shirts, woolen jackets, long trousers and dresses," changed their clothing constantly to feel clean (van Dijk 2011:12). These practices reflect a concern for tidiness, and for an appearance of cleanliness. van Dijk points at the hypocrisy of the Dutch stereotypes of the Indonesians as dirty (reflecting other Europeans' ideas about the various locals of South and Southeast Asia). As bathing became more common amongst the Dutch, soap began

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[49] Bakhtin discusses the grotesque in his analysis of Rabelais's writing in *Rabelais and His World* (1984). The grotesque is in reference to the openness and porousness of the body, which contrasts with modernist depictions of the body as bound and enclosed. Ed Cohen discusses these contrasting figurings of the human body in *A Body Worth Defending* (2009).

to spread in popularity as it was linked with being civilized. By the 1890s, it was seen that the Indonesians weren't wrong for bathing often, but, rather, they were bathing wrong without the use of soap. The Dutch developed what van Dijk refers to as a multifaceted concept of cleanliness, concerning the body, attire, the home, the natural environment and the built environment. This concept of cleanliness was a tool for constructing and enforcing hierarchy (2011:31). van Dijk illustrates through an examination of historical documents how European ideas of hygiene were influenced by common practices in South and Southeast Asia, and as the Dutch formulated rules for hygiene, they framed the Indonesians as unclean and were used to regulating Indonesian bodies and practices.

Hygiene programs were central tools for colonial governance and they provide important examples for tracing the production of knowledge about cleanliness and pollution in connection to shifting forms of power. Hygiene programs were central to the ordering of urban space and the management of populations, while also reproducing particular kinds of subjects such as the "clean European" and the "dirty native." The veneer of science reinforced the structures proposed by hygiene, making it an evocative example of modernist ideology and technology. Colonial hygiene programs were aesthetic regimes concerned with surfaces and ordering, and they privilege and enforce specific material orderings of environments—orderings that are invested with political ideas about the management of populations. As hygiene programs were purifying and enforcing boundaries, they were simultaneously obscuring translations and hybridizations. I draw here on Latour's (1993) description of the modern paradox of the mutual yet contradictory work of hybridization and purification. As modernity is invested in seeing humans and nature as increasingly separate (purification), it is also doing what Latour calls

"translation," or the "[creation of] mixtures between entirely new types of beings, hybrids of nature and culture" (11).

Shifiting our focus slightly from the modernist projects of colonialism to those of capitalism—often overlapping—I want to discuss French psychoanalyst Dominique Laporte's *History of Shit* (2002), in which he presents a highly theoretical analysis of the emergence of capitalist waste management practices around feces in France from the 16th century onward. Laporte inverts Julia Kristeva's (1982) theory that the clean subject is created through distance from abject matter, claiming that rather than through rejection, subjectivity is formed through the sublimation of excrement—and the initial impulse to reject it—into something with a use-value, giving the examples of fertilizer and beauty products. Laporte argues that after Roman civilization achieved its height through its "cloaca maxima"—its sewer system that manages waste while providing the foundation for the city—modern capitalism "…reinscribed [shit] in the cycle of production as gold" (2002:16). While Laporte is commenting on the fundamental role of defecation in the creation of society, he gestures at capitalism's expansion as it seeks new markets and new forms of value. Similar to Laporte's description of the sublimation of shit into productive forms, we see the literal transformation of civet excrement into a consumable commodity in Indonesia for domestic and international markets.

An anthropology of excrement draws on studies of waste and hygiene to contribute to larger conversations about the governance of populations and their understandings of nature, the cultivation of aesthetic regimes, and the capitalist production of value. I return to these concerns after describing the labor and techniques that produce coffee from civet excrement, and the theological work that renders civet coffee consumable, thereby reinforcing its value for trade.

Sorting I: Cherries

I'm in the Gayo highlands with Taufik, a coffee farmer who is teaching me about local coffee farming practices between our visits with civet coffee producers. A large earthquake hit the area almost exactly one year prior, and Taufik's wife is still bedridden, healing from injuries to her back caused when a wall of the building that she was in collapsed on top of her. We leave her to rest, and drive up the winding, mountainous road from the village where they have their home to their coffee orchard. Taufik brings his motorbike to a stop at the edge of the dirt road, and we climb off, hips stiff from the short but arduous ride. His orchard is high up on the mountain, on the slope leading down from the road. We stand at the edge of the first row of coffee trees, and looking out at the valley, Taufik's orchard seems to drop out of view below us. Because of the steep terrain, Taufik and his family often make use of ropes to help them avoid slipping and falling as they move between trees. We can still see relief tents dotting the landscape, left over from the local and international organizations that came after the earthquake; the tents are marked with the identifying symbols of the various organizations. Taufik points to a cluster of *Palang Merah Indonesia* (Indonesian Red Cross) tents, and explains, "they all still live in those tents; that whole village was destroyed, and they are still trying to access funds to rebuild."

We draw our focus in on the coffee trees directly in front of us. While I admire a fresh cluster of white flowers—jasmine-like in shape—on one of the coffee trees, Taufik moves between a few others, collecting an assortment of cherries. He turns to me, holding his hands out, both closed. He opens his right hand, and asks "what is the difference between these cherries?" I look at three cherries, all roughly the size of an average blueberry, oval in shape. They are all

shiny, and two of them are a deep shade of red and one is bright orange. Feeling unsure, I ask, "is the orange one not quite ripe?"

He shakes his head, explaining that they are from three different varieties of arabica trees. The previous owner of the orchard replaced any dead trees with saplings of whichever variety was cheapest or had the best record for harvest yields at the time, and the orchard had over five varieties of trees. The two red cherries were from similar varieties, and the orange cherry is from an orange bourbon[50] coffee tree. He has been identifying and mapping the tree varieties in his orchard to arrange for separate harvests, hoping to develop his farm as a source for higher-end specialty arabica coffees.

Taufik then opens his left hand, and again asks, "what is the difference between these cherries?" I see four red cherries that look identical. I shake my head, announcing my confusion, and we both laugh. "Look closer," he advises. So I do. I lean in, inspecting the surfaces for something that differentiates at least one of the cherries from the others. I notice what looks like a small, dark hole piercing the disk[51] of the cherry, and ask, "what is that hole?" It is barely visible.

"Naaaaaaah, now you see it—that's from the borer beetles," he explains, as he pinches the cherry, squeezing the seed out to show what the damage from the borer beetles to the coffee bean looks like (see Figure 5.1). I look at the two infested cherries in his palm, next to the two

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[50]The bourbon cultivar was cultivated through selective breeding during the 18th and 19th century in the French colony of Réunion, an island that the French had previously named Bourbon, to the east of Madagascar.

[51] Located on the tip of the cherry, the disk is a small, round, rough patch similar in shape and location to the navel of an orange.

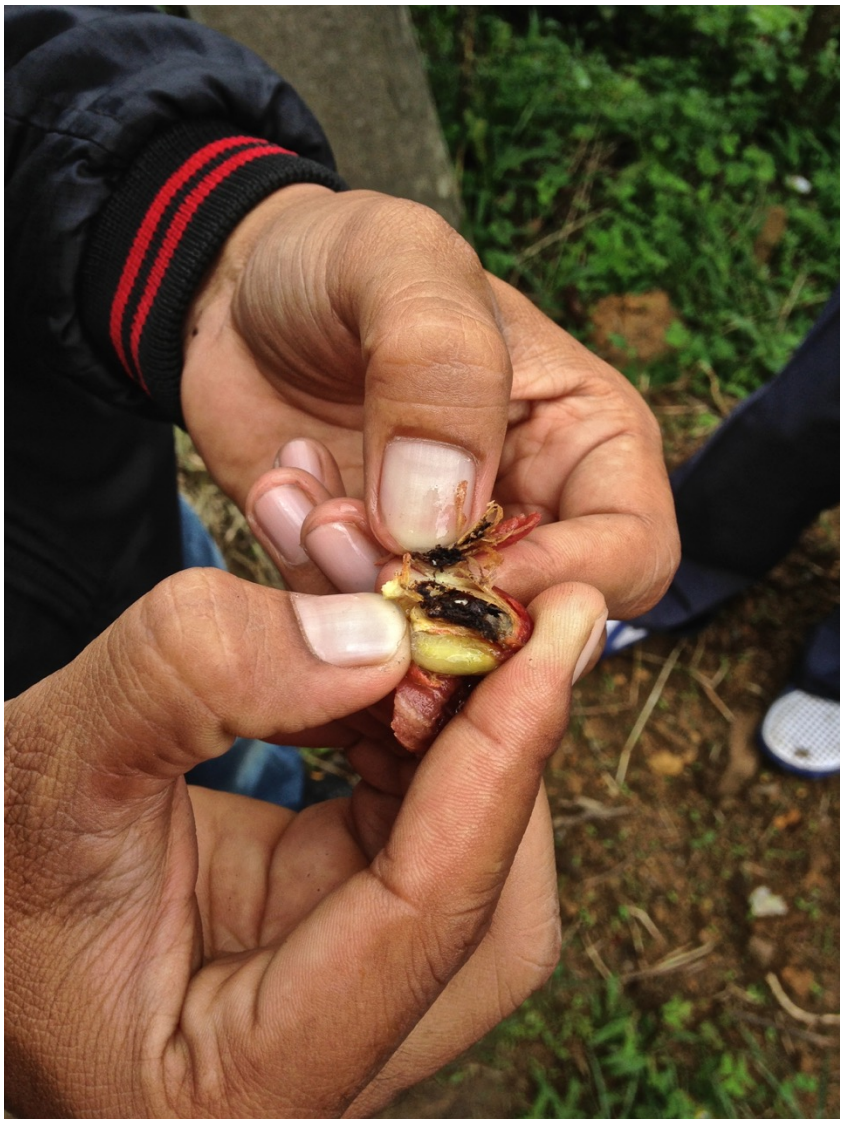

Figure 5.1: Taufik showing the damage from borer beetles to a coffee cherry.

healthy cherries, and then look back at the cherries on the coffee trees next to me, and I ask, "how do you tell them apart? Don't you end up harvesting infested cherries?"

He laughs, at what seems so obvious to someone who has spent most of his life among coffee trees, and suggests, "you learn to see the difference, and you learn to feel the difference."

From Excremental to Edible: Processing Practices

Across the civet coffee industry, while there are minor variations in how producers process their coffee, each firm incorporates a similar set of basic practices, including drying phases, a washing phase, and a parchment hulling phase. Some producers incorporate an additional fermentation process after the fecal matter has been washed away. Fermentation can help break down any leftover cherry pulp that hasn't broken down during digestion. It is also thought to help weaken the structure of the parchment, aiding in the hulling process, and it is thought to increase the positive impacts of the civet's digestive process on the flavor of the coffee beans. To illustrate the techniques and practices that constitute the purification of civet coffee, as a process of material-semiotic[52] transformation of civet feces into civet coffee, I include a thick description of an experience working with one of my informants, Ahmad. The description explains the kind of work—the techniques and labor—that transform bean-laden civet feces into civet coffee.

This morning is typical of an August morning in the coffee-farming highlands. The air is cool and crisp, and there is a pink glow to the morning light. I'm at the home of Ahmad, who has been producing civet coffee since 2008. His home is in the middle of a hamlet. It is a strip of a dozen houses that form a kind of satellite neighborhood to the nearby small town center that is about 25 minutes away by car or motorbike. Behind the homes is a tree line—some grow *cengkeh*, or clove, some *jeruk*, or citrus, and some are staked vines growing *lada*[53], or pepper,—

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[52] I discuss the material-semiotics of Michel Callon in Chapter 2; I also draw on Donna Haraway's (2008) formulation of material-semiotics in her work on multispecies relations, as a way of describing the interspecies entanglement of material forces and meaning-making that constitute how creatures cohabit and co-become.

[53] The peppercorns produced in this area are mostly harvested unripe, with some dried and sold as green peppercorns, and some further processed to be sold as black peppercorns. Like with clove or citrus, farmers have planted pepper vines to supplement their income from coffee.

and behind that are small coffee orchards backed up against forest. The shrublike coffee trees can easily grow beyond the reach of the average, able-bodied harvester, and the pruning that keeps the trees at a manageable size also maintains the canopy of coffee orchards visibly lower than the tree lines and forest that border the orchards.

The neighborhood is along a straight stretch of road, along a flat plateau that is punctuated with steep, verdant hills on each end. From Ahmad's driveway, looking straight down the road in either direction, the road seems to drop off, disappearing into the hills. It can feel isolated—the hamlet most frequently seems devoid of human activity. There are no shops, no post office, no gas station or informal gas vendors, and no street food vendors with whistling, singing, or humming food carts, circling the neighborhood. For most of the day it is quiet except for the vibrant chirping of cicadas and the whooping of the large siamang[54] moving through the forest, their movements made visible by the shimmering and shaking of leaves among an otherwise calm sea of green comprising the surface of the forest canopy.

The nearby, small town center has a vibrant market every morning, and Ahmad and each of his neighbors make the 25 minute trip every day to participate in the market or visit with friends. While I spend just a little time each week with Ahmad and his family, I more-frequently come into contact with neighbors and Ahmad's family at the small town center, either at the market, or around the two blocks of small businesses and homes that join the market and the bus

[54]Siamang are large, black species of gibbon (a small ape) that live in forest areas across Sumatra. Similarly frugivorous to most civet species, Siamang also play a influential role in processing and distributing the seeds of fruit trees across the Sumatran landscape. Their communities have been fragmented and their populations have been threatened by the clearing of rainforest for oil palm plantations.

terminal[55] downtown. The bus terminal is abandoned most days, except for a police officer who sits in a booth at the front gate, frequently with a friend, drinking coffee, smoking cigarettes, and gossiping. They take a break from their gossip to shout, "*hey bule*[56]"—"hey foreigner"—smiling and waving at me as I pass. I usually stop and chat with them, sometimes about US politics, sometimes about Indonesian politics, sometimes about the coffee markets and prices, sometimes about Dutch colonial history, sometimes about David Beckham's career in Los Angeles, and sometimes about the music of Scorpion. Even as we get to know each other, the novelty of my whiteness outweighs any familiarity that we establish.

At the market, which fills an open, breezy cement yard that is covered by a high, simple metal roof, women sit with vegetables or coffee, gossiping in a variety of languages, and bargaining in the local language. Ahmad moved to Sumatra as a child, joining his parents who were Javanese transmigrants. He laughs, admitting that he still hasn't learned the local language, preferring to communicate in Javanese or Indonesian. He explains that women must learn the local language to participate in the market culture—bargaining is done almost exclusively in the

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[55] Like in many other small towns across Indonesia, the bus terminal is less of a terminus than a regulatory check point. Buses rarely park in the terminal. Most buses slow down by the gate to pay small formal and informal fees to local police officers before moving on to their next transit point.

[56]*Bule* used to mean "albino," but it has come to be used as a general term for pale-skinned foreigners, usually those of European-descent, but sometimes also including those from East Asia or the Middle East. Despite the association of the term with strangeness, some explanations of the term echo Eurocentric ideas about unilinear progress. The criteria for which Asians are included in the term can reflect stereotypes based on development ideology, and ideas about cultural sophistication and advancement. Visitors from Japan and Korea are more commonly described as *bule,* though many Indonesians do not consider Japanese and Koreans to be *bule.* Those Indonesians who use the term to describe Japanese and Korean visitors do not necessarily consider all Japanese and Koreans to be *bule,* often discriminating between degrees of paleness and sophistication of style. For more on the use and meanings of *bule*, Alcano (2011) describes the nuances of the term in the context of male sex-worker communities in Bali.

local language. When Ahmad and I visit his wife, Ratna, who helps their neighbor sell tomatoes and *kacang panjang*, or yardlong bean—a slender, crisp pod common in South and Southeast Asia—she jokes with the women nearby in the local language, and then shifts into Indonesian to placate Ahmad and me, bringing us into the conversation.

This morning, Ahmad and I skip the market. Much of the work with civets is oriented around the early morning and evening, when we are least disruptive to the civets' diurnal rest periods. While the morning light is still pink, the air is still chilly, and the material world seems divided between that which is dew-covered and that which is not, Ahmad and I distribute a bedtime snack of papaya to the eleven civets that he keeps in cages on a small cement patio under a simple shade structure, against the front of his and Ratna's house.

Ahmad hands me a small, metal shovel similar to one that my parents use to scoop ashes out of their wood-burning stove, and similar in size and proportions to the plastic scoops my friends use to clean cat litter boxes. I use this shovel to move civet feces from the pans underneath the cages, where it falls when the civets defecate, to trays that are set out in the sun for drying. Ahmad reminds me to be careful; some buyers, worried about the authenticity of the civet coffee, request semi-processed beans that have been dried within the feces and shipped in that form. In these cases, the integrity of the fecal form—still maintaining the shape formed during defecation—is thought to demonstrate the integrity of the coffee beans as "real," "authentic" civet coffee. Most civet coffee producers have buyers who request to purchase civet coffee in the form of dried feces, and these buyers will carry out the rest of the processing, necessary to transform the beans out of feces into something consumable, on their own.

So I lift each turd with care, recognizing that not all feces are equal in integrity. They vary widely in softness, dryness, size, and shape, reflecting a diversity of civet biologies—a diversity of civet anatomies, diets, and health. A few of Ahmad's largest civets produce unwieldy fecal matter that spreads and settles into piles that have lost the identifiable forms of the civet's anatomy through which the feces exit the body. The feces that have lost the integrity of their form are dried separately, and join civet coffee beans that receive further processing locally.

Once all the feces have been moved to drying trays and set out in the sun, we inspect the drying trays from previous days and weeks, inspecting them to determine whether they are dry enough for the next phase of processing. It generally takes one to two days for an average-sized turd to dry, although depending on the weather—the amount of sunlight and the dryness of the air—it can take longer. They are dried this way, with the fecal matter, because it is easier to separate the beans from dried fecal matter, and, Ahmad explains to me, laughing, "it imparts just a little extra flavor from the civet, which is why people want it, right?" I shrug my shoulders, laughing.

We select three trays covered with feces that seem thoroughly dried. From these trays we sort out the turds that have maintained a clearly defined shape, setting them inside a large, plastic bag-lined cardboard box—when this box is filled, it will be sealed and weighed, and Ahmad will select dried turds from it when he receives his next order for civet coffee in the form of dried feces. The rest of the feces on the drying trays are broken apart. The dry, brittle fecal matter crumbles easily, though some are a little resinous and require extra attention. We spread the beans and deteriorating feces across a framed screen, which sieves the beans out of the fecal

matter, much of it turned to dust. We shuffle the screens back and forth, and as the fecal matter drops to the ground, fine particles float in the air, like dust motes.

We leave the beans on the screens to be washed, and we fill buckets with water. Crouching over the screens, each with a bucket of water, we slowly pour it over the beans with one hand while rubbing them gently with the other, watching the remaining fecal dust wash away in the water as it drains through the screen and into an open drainage ditch along the edge of the patio. After Ahmad and I shuffle the screens a few more times to shake off any remaining water, we leave them sitting in the sun to begin drying. The drying process varies significantly, influenced by the weather. Once the pale tan parchment skin is dry on the outside of the bean, they are ready for hulling. But many civet coffee producers choose to store their beans still within their parchment, to be hulled at a later time.

When Ahmad has an order for civet coffee that has already been roasted, he rents a machine huller in town, choosing speed and ease over the traditional process of manually pounding the dry parchment off the beans in a large, wooden mortar with a long, thick wooden pestle. Once it is hulled, the beans are usually dried further, before they are ready for roasting. Once their moisture content is thought to be low enough—this can be tested with a machine, but most producers determine this based on a number of factors, including the appearance, weight of the beans, and the feel of a bean as it is pressed between two finger tips—they can be roasted. Depending on the size of an order, if it isn't too large, Ahmad roasts the beans in a wide, shallow, clay pot over a gas burner (see Figure 5.2). If it is a larger order, he pays for an allotted time to use a small, gas-powered coffee roaster at the same shop in town that rents out the machine huller, as well as a grinder that can be used if an order requests that the coffee already be ground.

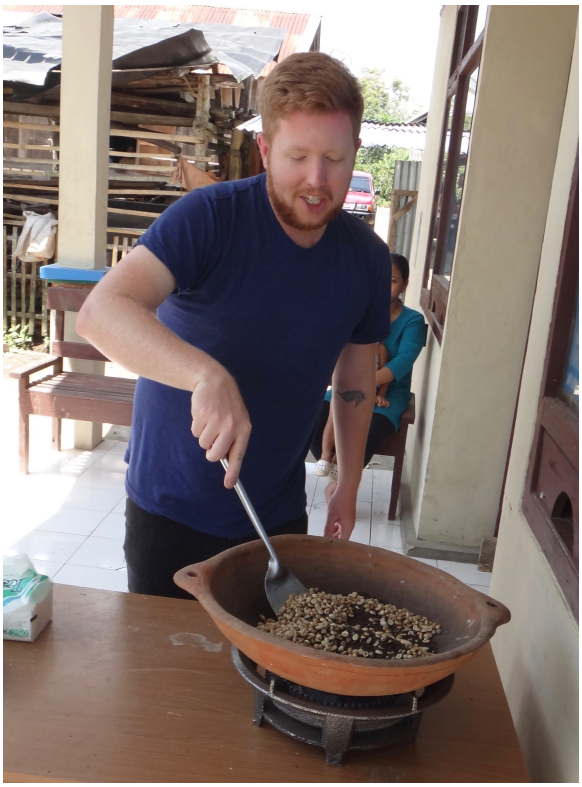

Figure 5.2: The author roasts a small batch of civet coffee beans with the common method in a clay pot on a gas burner. Source: Author.

Ahmad more frequently receives domestic orders for pre-ground coffee, while most of his international orders are from coffee shops that prefer to grind the coffee on their own.

It is through these procedures that Ahmad prepares his civet coffee to be safe for consumption and ready for the market. These processes—and Ahmad's business—are regulated by local offices from a few different government ministries, including the Ministry of Health, the Ministry of Cooperatives and Small & Medium Enterprises, the Ministry of Agriculture, the Ministry of Environment and Forestry. A few of these ministries have agencies that provide permits to prove that the producer complies with government regulations and their product is safe for consumption. Some regency capitals have a centralized office—an Office of Licensing

Services and Investment (*Kantor Pelayanan Perizinan dan Penanaman Modal*, or KPPPM)—where small business owners can apply for all the permits relevant to their particular industry. For example, in one of my research sites producers were able to acquire permits for animal husbandry and permits for capturing wildlife specimens from the Nature Conservation Agency under the Ministry of Environment Forestry, and a home industry food production certificate from the National Agency of Drug and Food Control. These permits and certificates provide civet coffee businesses with formal evidence to prove to customers and regulatory bodies that the businesses comply with Indonesian law. Most importantly, producers pursue halal certification to validate the safety of civet coffee for Muslim consumers.

Sorting II: Green Coffee Beans

I'm visiting the roughly 1,200 hectare (almost 3,000 acres) Sulotco plantation[57] in Bolokan, in the Tana Toraja Regency of South Sulawesi, because they are one of the few civet coffee producers on the island. They recently completed a wall around one hectare of their orchard, or around roughly 1,500 coffee trees. In this enclosed area, they have been releasing civets to experiment with producing what they call "free range" civet coffee.

After we visit their original civet coffee production area, which comprises two long rows of cages under a shade structure, Pak Samuel, the plantation manager, leads me into an adjacent building. It's made of white-washed clapboards, and feels bright and open. The space is filled

[57] The Sulotco plantation is a former Dutch colonial plantation that the Indonesian government rents to Kapal Api Global, Indonesia's largest coffee company. Kapal Api specializes in the mass production of low end coffee, but they also produce high end specialty coffee on their Sulotco plantation, some of which is used in their chain of specialty coffee shops, Excelso, which are found across Indonesia.

with rows of sorting tables that have a wooden lip to keep beans from rolling onto the floor, and there are chairs along the sides of the tables. It is a slow day. Two women in their 30s sit, facing each other at the table, each with her own large pile of hard, dry, unroasted, green coffee beans. Pak Samuel explains quickly to them that I am here to learn about their coffee production. They pause, briefly, looking between Pak Samuel and me, and then at each other, smiling. I introduce myself in polite Indonesian, and they giggle before looking back down at the coffee beans on the table in front of them. As they slide clusters of beans along the table surface away from the pile, examining them quickly for defects, I ask them how they learned to sort the beans so quickly. Without looking up, the one who is sitting facing me explains quietly, "We just know. When you grow up around coffee orchards, you just know."

It may be part intuition, but they know which beans are rejected through the rubrics that have been established by national specialty coffee associations. While most defect beans have obvious visible defects, some feel different to the touch, against a finger pad or resting in the palm. As fast as they work, separating out beans with atypical forms, density, or holes, few defect beans are missed by their sorting. Most civet coffee beans are sorted manually, by hand, and almost always by women. At smaller, family-run civet coffee operations, wives, mothers, sisters, daughters, nieces and cousins are brought together, often seated on woven mats, to sort out any defect beans. Labor is frequently sorted between men and women in the industry.

At the Sulotco plantation, after the defect beans are separated out and removed, the remaining beans are run through a large machine that sorts the beans by size into multiple "grades." They are then stored in sacks organized by grade until an arrangement is made with a

buyer, and the sacks are transported to the coast to be shipped by boat to be roasted and consumed on a different island or in a different country.

Qur'anic Taxonomies and the Halal Classification of Civet Coffee

As the civet coffee industry has grown, it has both come to the attention of and become available to a wider community of Muslim Indonesians. Recognizing that Muslims could come to constitute a majority of the consumers of civet coffee, the Indonesian government's coffee plantation system—as they prepared to develop a civet-breeding program for stock for the production of civet coffee—requested that the MUI (the *Majelis Ulama Indonesia*, or Indonesian Council of Islamic Clerics) produce a fatwa on civet coffee (Firdaus 2010). The MUI was created in 1975, organized and funded by the national government, to improve relations between the government and religious leaders. The MUI produces fatwas, or Islamic juridical opinion based on the study and interpretation of the Qur'an and relevant hadiths, for the purpose of guiding Indonesia's Muslims on living in accordance with the laws revealed in the Qur'an. Fatwas are rational arguments designed to orient their readers in lively worlds. The MUI also has a halal certification program that reviews and labels those goods that meet halal standards.

In addition to the fatwa produced by the clerics of the MUI, councils of clerics from Indonesia's Islamic organizations produce their own fatwas on topics that sometimes coincide with each other's, and sometimes cover new territory. The organizations with fatwa-producing councils include the largest two in Indonesia, *Nahdlatul Ulama* and *Muhammadiyah*, as well as *Persis* (*Persatuan Islam*), and individual, unaffiliated clerics also release their own. The fatwas vary in the structure of their arguments and the texts from which they cull examples for

constructing their argument. They all draw primarily from the Qur'an and the hadiths, but when insufficient reference points can be found in those texts, they draw from various juridical texts that can come from varying schools of thought which elaborate a "human understanding" of the "divine laws" recorded in the Qur'an. Fatwas draw from and become a part of the bodies of juridical thought guiding the lives of Muslims.

Prior to 2010, Indonesian Muslims curious to try civet coffee could refer to a handful of statements by independent ulama online, but the statements often contradicted each other. Following the request from the government plantation system, the MUI organized internal discussions, consulted with scientists affiliated with their Institute for Food, Medicine, Beverages and Cosmetics, and released an official fatwa in July of 2010 (MUI 2010). In their official fatwa, they announce that civet coffee may be safely consumed by Muslims, and they include stipulations for the proper production of halal civet coffee.

The fatwa opens with the reasoning for producing a fatwa on civet coffee—that the fecal origins of the beans bring about questions and concern among Muslims, requiring a fatwa to address the production, sale, and consumption of civet coffee. It continues with a list of quotes from the Qur'an explaining Islamic orienting food principles. It elaborates on those points in a section drawing related quotes from the hadiths. To address the specific issue of civet coffee—whether it is *najis* (spiritually unclean and making those that come into contact with it spiritually unclean) because it is digested and excreted in the feces of the civet—the fatwa draws on texts which are part of juridical traditions, and draws solely from books from the Shafi'i tradition.

From one text (Kitab al-Majmu'), they draw the explanation that if an animal eats, digests, and excretes a seed, if that seed can still germinate and sprout, it is still *suci*, or

spiritually clean, rather than *najis*. From a second text (Kitab Nihayatul Muhtaj), they cite a line that specifies that if a seed can still sprout life, then it is mutanajjis (impure from coming into contact with something najis, but not inherently impure, and therefore purifiable). This second quote draws a comparison with eggs, which if they are still complete and intact, they are at most *mutanajjis*. They cite one more quote from a third text (Kitab Hasyiyah I'anatu al-Thalibin Syarh Fath al-Mu'in), which refers to the case of an animal passing a seed through vomit or feces, if the seed is still firm in texture and able to sprout, it is *mutanajjis* rather than *najis*, For additional evidence, they refer to their exploratory meetings.

The fatwa closes with a list of findings, stating first a definition of civet coffee as coming from the seeds of coffee cherries that have been eaten by the Common Palm Civet (p*aradoxorus hermaproditus* [sic]), excreted in the feces, which are still complete and surrounded by the inner layer of cherry skin, and which can still sprout if planted. They do not recognize that various civet coffee producers utilize at least three additional species—the Small-Toothed Palm Civet (*Arctogalidia trivirgata*), the Masked Palm Civet (*Paguma larvata*), and the Binturong (*Arctictis binturong*). They then specify that civet coffee is *mutanajjis*, and not *najis*, and that it is halal once cleansed (*disucikan*), and according to law, properly cleansed civet coffee may be produced, bought and sold, and consumed. They close with a statement that this is their ruling, and if there arises new, relevant information, the fatwa will be corrected and perfected according to that information[58].

[58] As I write this in 2017, there have yet to be any official corrections or perfections to the fatwa from July 2010.

The Muhammadiyah council of clerics (*Majelis Tarjih)* released their own fatwa on civet coffee classifying its trade and consumption as halal. Their analysis is similar, listing more citations for the Qur'an and hadiths in regard to which animals are specifically haram. Similarly, they focus on the integrity of the bean, as even if it passes through the system of an animal that could be considered haram for eating, if the beans can be thought of as still distinct from the fecal matter, then they are *mutanajjis* rather than *najis*. Similar to the MUI's focus on the wholeness of the "protective" skin and the firmness of the bean, the fatwa from the Muhammadiyah clerics suggests that the beans remain undigested because of their visible wholeness. Chemical analysis of the civet coffee beans show that the chemical structure of the beans is altered as it makes its way through the civet's digestive tract and the gastric juices penetrate the bean (Marcone 2004 and 2007; Jumhawan et al 2013). The fatwas from the MUI and Muhammadiyah treat the beans as *mutanajjis* rather than *najis* because of a categorical separation between the digestive juices of the animal and the feces.

Among civet coffee producers, much of the debate about whether or not civet coffee is halal focuses on whether or not civets are halal, or whether civets can be considered clean and safe enough for the consumption of their meat. Few Muslim civet coffee producers had tried civet meat, but in areas with more Christians, the consumption of civet meat is more common. In parts of southern Sumatra, civet coffee producers and coffee farmers shared stories of eating animals that aren't strictly halal, but are understood locally to be effective for treating medical conditions, such as the meat of *biawak*, or monitor lizards. In his description of the consumption of monitor lizard meat among Sundanese Muslim men in West Java as a medical treatment and an aphrodisiac, Nijman (2016) points out the complexity of local debates about the halal status of

animals that don't quite fit into the taxonomies of the Qur'an and hadiths. Those who argue that monitor lizards are halal point to a story found in a few hadiths, including the Shahih Bukhari, of the Prophet Muhammad rejecting the meat of a lizard while also clarifying that its consumption is not prohibited. The lizard in this story, referred to as "dhabb" or "dabb," is considered to be the spiny-tailed lizard (*Uromastyx*) which is quite different from monitor lizards in ways considered significant to many Muslims. While spiny-tailed lizards a primarily herbivorous and typically grow up to 36 inches (about 91 centimeters) in length, water monitors are carnivorous predators with sharp teeth and talons, growing up to six and a half feet (or about 2 meters) in length[59]. Many Indonesian ulama consider *biawak* to be too different from "dhabb"—and different in the wrong ways—for them to be considered analogs. So while spiny-tailed lizards may be safe for consumption, *biawak* are most-frequently considered *haram.* There are similar debates about whether civets are appropriately analogous to any of the animals described in the Qur'an and hadiths. Some point to the sharp claws and teeth of civets, and their omnivorous (and sometimes carnivorous) diets, questioning whether they are predators, as it is generally understood that predator animals are considered unsafe for consumption. The debates continue to the point of whether, if civets are or are not halal, their feces are considered filth, and if so, what kind of filth. Heavy filth would require more extensive forms of cleaning and purification than light filth. But whether or not a civet produces heavy or light filth reflects how civets are seen to fit into a taxonomy of flora and fauna that doesn't easily align with the taxonomies described in the

[59] Water monitors in Sri Lanka have been recorded, in rare cases, to have grown over 10 feet in length, or over 3.2 meters long.

Qur'an and hadiths. In this way, Indonesian Muslims are tasked with navigating an ecology that doesn't quite match up with the ecology described in their religious texts.

In January 2015, articles circulated in Indonesian-language newspapers and magazines claiming that the Malaysia's Ulama council classified civet coffee as *haram*. In an article in Tempo magazine from January 6, 2015, which includes the *haram* classification of civet coffee in its title, Rijal, the author, explains that civet coffee was classified as *haram* because it is excreted in the feces of the civet. Rijal's article, like the others published at the time, shared a similar source: an article published a day earlier in the Daily Mail (Hopkins 2015). And they share the focus of the Daily Mail article — the supposed excessive production of fatwas. For Hopkins, the author of the piece in the Daily Mail, the fatwas are signs that "…as Malaysia becomes more modern in its thinking and culture its state-backed religious authorities are fighting to slow progress by issuing some 1,500-plus rulings" (2015). Hopkins juxtaposes Malaysia's contemporary infrastructure and markets as "modern," against the theological work of fatwa, as documents that translate and classify contemporary worlds for Muslim residents, missing the intellectual connection between modernity and the ordering of the world through classification systems. For the pieces published in Indonesia, the Malaysian fatwas are identified as evidence that their neighbor, Malaysia, is more conservative—despite the similar claims about Indonesia's MUI that were made ten years prior in Indonesia (Menchik 2007).

The piece in the Daily Mail was the common source for the claim of the pieces circulating in Indonesian media that the Malaysian Ulama council reclassified civet coffee as *haram*, and that this reflected the conservative nature of the Malaysian council in its

prodigious quantity of fatwas. But the piece in the Daily Mail drew its claims from an article by Patrick Winn in the GlobalPost, which highlighted what the author considers a large volume of Malaysian fatwas (2015). Winn mentions a Malaysian fatwa on civet coffee as part of the "flood," but never suggests that the fatwa classified civet coffee as haram. Rather, it is shown as evidence of the extent of the concerns of the Ulama council as they would produce a fatwa on such a niche, novelty product. By tracing the rumors that the Malaysian ulama classified civet coffee as haram through a genealogy of citations back to Patrick Winn's piece in the GlobalPost, we can see how the details of Malaysian fatwas have been warped by articles that have exaggerated the conservative nature of the Malaysian Ulama in the wake of a release of what has been considered by some as too many fatwa.

The Malaysian Ulama council did, in fact, produce a fatwa on civet coffee in 2012 which shares the same structure and conclusion as Indonesia's — that the coffee is *mutanajjis* rather than *najis,* and therefore fit for consumption as long as the coffee beans are still whole, and that they may be purified from any *najis* material to be safe for consumption. Additionally, as with the Indonesian fatwa, the civet coffee producer must be certified by local representatives of the Ulama council. Most Indonesian regencies have a local representative or branch of the MUI, which are frequently housed in Islamic Centers.

Implications of the fatwa for the daily practices of civet coffee producers

Certifications play a central role in the marketing of civet coffee as "authentic" and safe for consumption. Upon sitting down for the first time with a civet coffee producer, whether as a tourist, a researcher, or a potential investor, the producer often gestures first to an assortment of

certificates from the local regulative branches of the government. The halal certificate comes from a province-level branch of the MUI's Institute for Food, Medicine, Beverages and Cosmetics. To get the certificate, the producers must arrange with a representative from the institute to visit and review the production practices. Upon passing that inspection, the producers are allowed to place the MUI's halal stamp on their packaging and to sell their product as halal.

Of particular concern in the inspection is the washing process of the beans and the management of the run-off from that process, although there is room for interpretation for how the beans should be cleansed. The various branches of Islam differ slightly on cleansing practices, such as the process for *wudhu*, or washing of the body as a form of ritual purification and preparation for prayer. Of the Indonesian Muslims who identify with one of the branches of Islam, the vast majority are Sunni, who generally wash three times to be considered clean for prayer. The various fatwa discussed above don't address the proper cleansing process for purifying the beans of *najis* matter. It is up to producers to discuss this during the process of acquiring halal certification. During discussions with civet coffee producers across Indonesia about their processing procedures, none expressed concern with the proper cleansing processes, and some have opted to change their practices based on requests for customers and in attempt to intensify aspects of the coffee's flavor. As discussed above, some producers dry the entire feces to sell to re-sellers who want to guarantee the authenticity of the civet coffee. In addition to meeting the request of buyers that the beans come dried in the fecal form, multiple producers explained that they prefer to dry the beans in the feces to guarantee a stronger effect on the flavor —they want to make sure that it has that "civet taste."

The certifications are an important hurdle for producers for gaining legitimacy for their products, but most producers don't worry about whether their production methods might be linked somehow to nuances in making a more- or less-halal product. For example, the MUI fatwa emphasizes the importance on the wholeness of the inner layer of cherry skin around the bean. Each of the species of civet used in civet coffee production have sharp fangs, and chewing of the cherry could result in punctures or tears of that inner skin. While the producers have a sorting process based on the quality of the dried, hulled, green coffee beans, they do not necessarily inspect or sort the beans once that inner layer of skin has dried into parchment in preparation for hulling. This isn't to suggest that civet coffee producers are doing something wrong. As far as they understand halal regulations, they all expressed that they are confident they are producing a halal product. My point here is to acknowledge where there is flexibility and variation in the certification of halal production processes, to show how regulatory systems can be heterogeneous, and can yield to the demands of markets.

Unruly Conclusions

This chapter explores the work that goes into transforming and rendering civet coffee consumable. In a survey of the anthropology of waste, Joshua Reno (2015) brings to our attention the anthropocentric notions about the materiality of feces and the feral qualities of scat as something "*scat*-tered in the open and exposed to public examination" (italics original; 9). As this chapter illustrates, the wild and risky qualities of civet excrement are sublimated through a variety of acts to produce a modern and stable commodity safe for consumption.

While there is a general set of processes through which civet coffee producers transform civet excrement into coffee, there are variations in the practices of producers. And what exactly constitutes civet coffee varies by the types of civets and coffee trees involved. Producers engage with formal institutions to appropriately standardize their product for markets, and the permits and certifications granted by these institutions describe for consumers how civet coffee can be safe according to Islamic understandings of purity and biomedical understandings of industrial food safety. Civet coffee is labored into being, and the modes of making civet coffee legible to consumers as both safe for consumption and authentically fecal in origin reflects additional forms of bureaucratic and religious labor.

I describe production practices, and their standardization and regulation, to illustrate the methods of producers and regulators for addressing the issues of cleanliness and purity. But these descriptions also highlight the multiple ways of making sense of cleanliness and purity. Hold up a civet coffee bean, hard and smooth between your fingers, and look closely. It presents a surface with integrity; the surface appears solid, aside from the rippled cleavage on the flatter side of the bean. There is no fecal matter visible on the bean. For the sake of the market and its various regulators, this bean has been isolated from its previous *najis* fecal environment and rendered clean and safe for consumption. But the visible wholeness might not have the same integrity when placed under a microscope. As Reno argues about waste, it can be less of a violation of symbolic orders and more of "a [semiotic] sign or remnant of a form of life, whether human or otherwise" (2015:8). The fecal environment for civet coffee reminds us of the participation of civets, and the technologies of food chemistry show us microbial and molecular agents in the making of civet coffee. These technologies show us microbiological worlds, and new ecologies

and frontiers for the expansion of modern Islamic jurisprudence. So, while Capitalism has been attending to the value and work of microbial and molecular messmates in food (Paxson 2008; Landecker 2011), the ecologies described in Islamic texts addressing cleanliness and food safety are primarily inhabited by the visible and the macro.

The making of civet coffee involves modernist logics and modernist acts, focusing on the perceivably and materially imperforate surface of beans, the ease of classifying and categorizing the beans within types of matter, and the bureaucratic certifications that guarantee the proper material qualities and symbolic categorizations of the beans. Just as Reno argues that modern forms of waste "…obscure the role of excretion in inter-corporeal and cross-species relating and thus reaffirm human exceptionalism and an anthropocentric constructivism" (2015:10), modernist ideas about cleanliness and purity—from Dutch colonial modernist ideas about hygiene to modern Islam's classifications of the lively world—provide aesthetic regimes for constructing a fecal commodity that reaffirms the culturally-appropriate boundaries between purity and pollution, and between humans and unruly natures. Modern Islam in contemporary Indonesia offers bureaucratic techniques for managing taboos; the halal certification process, engaged with broader Qur'anic debates about cleanliness and purity, offers an ontology—a parsing of the material world—in which the constitution of the coffee bean can withstand the pollution of a fecal environment. Modernist constructions and productions of civet coffee domesticate the feral agents that are also involved in creating civet coffee and give consumers like Nabila a way to see, know, and experience what might otherwise be unruly forms of matter, rendering the strange both familiar and consumable.

Chapter 6
Conclusion:
Fecal Futures Against Purity

This story of civet coffee is also a story of colonial agriculture, financial precarity along destabilized international coffee markets, disorientation along dynamic landscapes in the Anthropocene, conflicts between rural agricultural communities and transnational environmentalist and animal rights organizations, the intersection of Islamic and naturalist taxonomies for flora and fauna, and the laboring of a fecal commodity into being. I have written this ethnography with the intention that each chapter provides additional information to better understand how civet coffee producers, civets, and coffee trees are entangled in worlding and world-making processes—that civets, coffee, and humans are meaningfully influencing each other's material lives. In this way, this dissertation provides a partial depiction of how civets, coffee trees, and humans are involved in world-making practices that in turn, impact the worlding of each other. These practices and entanglements both articulate what is is to be civets, coffee, and humans, and impact the making of actual civets, coffee, and humans. When we encounter wild civets in the forests of Southeast Asia, we are also encountering creatures that have been formed through centuries of multispecies worlding and world-making practices, and acknowledging these practices can destabilize how we understand domestication as part of a broader modernist cosmology that attempts to figure humans and nature into separate ontological zones.

This dissertation shows how regulatory practices are distributed from national ministries in Jakarta through provincial branches to regency offices which do their best to reconcile

national policies and the needs of their local communities; regulatory bodies can be useful for home industry producers to establish a safe reputation for their products, but the bureaucratic hurdles can be difficult, expensive, and time-consuming to navigate. Moving between topics that alternately foreground and background the producers, civets, and coffee trees, each chapter provides additional contextual information to help readers grapple with the complexity of an industry that has been all too easily generalized by journalists, many of whom are writing about civet coffee producers without having ever met one in person. While my descriptions might suggest permanence, fixity, and generality, my aim is to illustrate both similitude and difference in a small yet thoroughly socially-networked industry, one that is young yet has hundreds of years of [under-]accounted history.

The history described in this dissertation starts with the early moments of the Anthropocene, when colonial projects began to develop the plantation as a model for domesticating the landscape. Plantation agriculture sedimented new ways of orienting human cultural practices with and against nature along the Indonesian landscape. Toxic settler colonial logics circulated through these early capitalist economic formations, re-figuring lively landscapes as "waste" because they have not been converted into modernist sites of resource extraction: plantations, mines, and factories. This dissertation attends to the multiple, shifting meanings of waste and purity, showing how particular meanings arise in particular contexts. By deconstructing the logics of waste and purity, this project links understandings of cleanliness to particular histories of cultural practices, showing how these logics often serve to reinforce specific cultural orders. The appearance of order and boundaries is the result of ongoing practices; order, boundaries, and purity are continuously being labored into existence, but by

playing with scale, we can see how precise boundaries and stable orders are representations that mask the realities of living in a dynamic, vibrant, unstable world.

It is fitting that purification practices in the Anthropocene sought to apply our modes of ordering our domesticated spaces onto microscopic scales, as antibacterial products have applied modernist understandings of purity to microbial life, much of which plays essential roles in the constitution of human beings and human health. In grappling with the ordering and purifying of fecal material, this dissertation proposes an understanding of analytical tools as subject to the same purifying processes that obscure the messiness of matter and meaning. By attending to naturecultures, human-nonhuman entanglements, and food and feces, this dissertation challenges forms of purity that enforce a particular ordering of the world which would seek to see these split into separate domains. Not only does it challenge conceptions of purity that figure nature and culture into separate domains, but it challenges the "purity" of analytical tools, which separate and order the world as they are applied in analyses which are intended to simply seek a better understanding of the world. It is in the messy materiality of the fecal that we might find better ways for undoing the divisions of the modern constitution.

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