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Monsoon Cultures: Climate and
Acculturation in Alexander Hamilton's
A New Account of the East Indies

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IN THE PREFACE TO HIS 1727 work *A New Account of the East Indies*, Alexander Hamilton describes the beginning of his decades-long career as a merchant and ship's captain in the Far East. "Having a rambling Mind, and a Fortune too narrow to allow me to travel like a Gentleman," he writes, "I applied myself to the Study of nautical Affairs at *Neptune's School*"; after an apprenticeship in the Atlantic and the Mediterranean, he sailed, probably before he was twenty, "to the East-Indies, where [he] spent between five and six and thirty Years."¹ While little is known of Hamilton's life besides what he tell us in his *New Account*, the success of his "Observations and Memorandums" is indicative of his contemporaries' fascination with the trade to the Far East—a fascination that dominated European commercial and travel writing before 1800.² Given the East India Company's obsession with expanding trade to India, China, and the sultanates of the Indonesian archipelago during the late seventeenth and eighteenth centuries, firsthand accounts of the region typically sold well, but Hamilton takes pains to tell his readers that he is "no mercenary Scribbler, for altho' [he was] proffered a good round Sum" for his manuscript, he refused it and instead gave his manuscript to a friend who "print[ed] [it] for his own Benefit" (1:xxvii). Hamilton's disdain for cashing in on his experience is matched only by his contempt for "Map-Travelers," those armchair geographers whose secondhand and thirdhand accounts extol prospects for the India trade without describing the forms of local knowledge—derived from a lifetime's experience among the islands, coasts, and kingdoms of maritime Asia—that Hamilton deems essential to commercial success. In its geographical, environmental, and cultural specificity, his *New Account* rejects generic overviews of foreign lands and peoples in favor of a socioecological account of South, Southeast and Far Eastern Asia. To a greater extent than most eighteenth-century writers on the East, Hamilton devotes his energies to describing the interanimating processes of *acculturation* to the peoples, languages, and cultures he encounters and *acclimatization*

to the monsoon-driven seasons, winds, and tides of a vast region that remains alien to the experience of his readers.³

Hamilton arrived in Asia in time to witness the defeat of the East India Company's hired forces in the disastrous Mughal War (1689–90), and therefore had to cope with the subsequent contraction of English trade.⁴ By 1694, he tells his reader, he was working as an independent trader to evade the Company's restrictions on profit-taking and leasing ships from Muslim merchants in Bombay and Surat to ply the intra-Asian or "country trade."⁵ Frequently criticizing the Company for its hostility to independent traders, Hamilton makes a point of describing his efforts to establish and sustain cordial relationships with indigenous merchants and rulers: "few (if any) [Europeans]," he declares, "ever had the living Acquaintances that I have had, to inform or instruct them in many Particulars relating to the ancient, or present State of [East Asian] Countries, whose vernacular Languages can best illustrate their Histories, some of which I understood" (1:iii–iv). Hamilton's knowledge of some local dialects and his fluency in the pidgin Portuguese that served as a lingua franca among merchants of different nationalities lend authority to his incisive comments on local politics; the histories of previous trading ventures in the region; the distribution of different varieties of plants, trees, and crops; and the complex interactions between market opportunities and climatic conditions. Throughout his *New Account*, Hamilton interlaces discussions of indigenous cultures, histories, commodities, and trading practices with descriptions of seas, coastlines, shoals, and harbors. Culture, for Hamilton, is always bioculture, and bioculture is cast in terms of political ecology.⁶

To read Hamilton's hybrid, eco-cultural text is to become aware that the specifics of wind force and direction, currents, tides, and sailing directions exist as "actants" in the kinds of multicausal and multirelational networks that Bruno Latour describes.⁷ Hamilton demonstrates a sophisticated, if often intuitive, awareness of the feedback loops among climate, ecology, and culture in the "world's largest area of monsoonal tropics, [that] shares a pattern of rainforest and water which provided a background for all . . . economic and social activity."⁸ *A New Account* thus offers a means to read these complex interactions in a way that treats climate, environment, and political anthropology as the site of complex biocultural realities. Climate, by definition, encompasses the meteorological and geographical conditions—including temperature, precipitation, humidity, wind, river or sea currents, topography, and vegetation—that prevail in a given region over long periods of time. It is also internally unstable, given to abrupt and unpredictable shifts, failures of biochemical feedback loops, and random variations.⁹ In the early modern period, European writers frequently compare conditions in the monsoonal

tropics to those in temperate zones in order to characterize exotic species, including carefully nurtured cultivars, and unfamiliar agricultural, commercial, and technological practices suited to an alien environment. Such comparisons, in consequence, implicitly or explicitly cast idealized versions of the temperate climate of northwestern Europe as a normative standard—"nature"—against which other regional ecologies can be described and evaluated for potential trade or colonization.

In describing ports and trading opportunities throughout Southeast Asia, Hamilton resists this idealization of a Eurocentric nature and relies instead on complex modes of analogical reasoning to render exotic locales, peoples, and species accessible to his readers. As a rhetorical strategy, such comparisons involve a reciprocal process of negotiation between various species found in Western Europe and their counterparts in Southeast Asia. This use of analogy disrupts analytical methods based on the application of accepted principles to specific examples; because it works by a point-by-point comparison of observed characteristics or phenomena, analogical thinking has the potential to call into question the very principles that allow such comparisons to be made.¹⁰ In this respect, while Hamilton captures the climatological and cultural specificity of the regions he describes, his analogies destabilize generalized observations about the tropics and, more broadly, holistic understandings of nature itself.¹¹ Hamilton registers the qualitative experience of adapting to environments that resist the conceptual categories and descriptive techniques native to the ecological mindset of northwestern Europe. In this respect, his *New Account* recasts the epistemological status of observations of the natural world by defamiliarizing "nature" and thereby encouraging his readers to understand climate as a constitutive force in shaping and reshaping a wide range of economic, technological, agricultural, and political responses to the disparate environments inhabited by humankind.

Climate and Contingency

Most sophisticated discussions of climate focus on the dynamic interactions between humans and their environments described by the historical ecologist Carole Crumley: the landscape, she argues, is a manifestation of "ongoing dialectical relations between human acts and acts of nature."¹² These dialectical relations resist being straitjacketed into progressivist models of scientific and material development. Rather than trying "to isolate patterns in order to predict the future of behavior," historical ecologists remain skeptical of approaches that privilege stability in ecosystems and, more generally, holistic and deterministic conceptions

of “system” itself. Consequently, as a growing body of work in the field demonstrates, “nature” itself becomes historically and climatologically contingent, and can be studied only by tracing “multiple causal pathways” among phenomena and processes.¹³ As Elizabeth Graham argues, “by embodying contradiction, historical ecology may allow us to move more freely among the three realms [of the natural sciences, the social sciences, and the humanities] because it does not require a macrotheory to integrate them.”¹⁴ This resistance to all-encompassing theories and deterministic models opens up possibilities for multidisciplinary investigations of the irreducibly complex interactions between climate and biological and cultural evolution. Rather than ontogenetic hierarchies that depend on what Philip Mirowski terms “the very ideal of natural law[,] . . . the verification of a stable external world independent of our activity or inquiry,” historical ecology treats empirical data as a heuristic means to map “heterarchies,” “system[s] in which elements are unranked . . . or ranked in a variety of ways depending on conditions,” or “scalar hierarchies” in which any level of organization can affect or temporarily control others.¹⁵ Such relational models locate agency neither in human subjects nor in nonhuman objects, but in heterogeneous constellations of actants organized into multiple, intersecting, and irreducibly complex networks. In this sense, Hamilton’s *New Account* redefines a twenty-first century conception of bioculture in terms of what I have called elsewhere an eco-cultural materialism, defined by heterarchical networks of mutually constitutive identities and relations.¹⁶ The complex interactions between the dynamic processes of acculturation and acclimatization that Hamilton describes suggest some of the ways in which an eco-cultural approach offers a powerful analytic to explain a wider range of phenomena than conventional “intellectual” or “literary” history, and brings higher standards of interdisciplinary accountability to bear on “travel” literature in the early modern period. Rather than treating Hamilton as a transitional figure between nonsystematic biological observation and collection and the scientific study of the monsoonal tropics by, among others, Joseph Banks in the eighteenth century and Alfred Russel Wallace in the nineteenth, I want to suggest that his multivalent account becomes a heterarchical effort, within the analytic vocabularies of his time, to make sense of the dynamic interactions among climate, plant biology, and human ecology.

Climatological knowledge, whether in the eighteenth century or the twenty-first, is always a function of networks of observers, technologies of measurement, data sets, prior knowledge and experience, calculation, and communication. Even on a planet orbited by hundreds of weather satellites, climate variations are difficult to anticipate because the scalar hierarchies of global weather systems resist hard and fast mathematical

prediction: seemingly minor or random changes can have far-ranging systemic effects that, in turn, produce cascading biocultural consequences. Local observations and measurements must be registered over long periods of time and then contextualized by data from remote regions with very different weather patterns. In recent years, however, Richard Grove and Mike Davis have argued that during the late eighteenth century European observers in South and Southeast Asia, particularly employees of the British East India Company, began to understand some of the relationships—what climatologists now call teleconnections—among geographically distant weather phenomena: storms, droughts, and floods in a vast region of the Indian and Pacific Oceans, stretching from Bengal to Australia.¹⁷ This incipient understanding of these teleconnections marks the advent of a modern scientific climatology that emerged in and from the contact zones between East and West in South Asia, Southeast Asia, and China. In these regions, long before the colonialist regimes of the late eighteenth and nineteenth centuries, imperial, provincial, and local governments and populations developed and adapted irrigation networks; agricultural practices (breeding hybrid cultivars, adopting new crops, and cultivating recently deforested land); grain collection and storage; demographic controls; and voluntary and involuntary migrations to cope with the variations of shifting and anomalous patterns of monsoon flooding, drought, and subsequent crop failures. The East India company officials, notably William Roxborough, who figure prominently in the development of modern climatology, however, already had almost two centuries of official reports, traditions, word-of-mouth accounts, and accumulated experience on which to base their own observational practices, descriptive techniques, and suppositions. For more than two hundred years before the late eighteenth century, Portuguese, Dutch, English, Danish, Spanish, and Swedish mariners had inserted themselves within the intra-Asian country trade and adapted their commercial strategies to the seasonal constraints of the monsoons. As Grove argues, sixteenth-century Portuguese botanists in South Asia borrowed indigenous methods to catalogue the unfamiliar species of the subcontinent.¹⁸ Two centuries later, Hamilton and other Europeans adapted local practices and technologies in order to navigate the monsoonal tropics and, in their cataloguing of exotic species, extended hybrid schemes of plant classification that emphasized the significance of ecological contexts as well as properties and commercial applications.¹⁹

In South and Southeast Asia, Western merchants and sailors had to contend with climatological conditions alien to their knowledge and experience of the Atlantic littoral. In the 1940s, the geographer Carl Sauer noted that English colonists in North America “were at no loss to identify the native plants and animals they found on the western side of

the Atlantic. It would be impossible, indeed, to cross an ocean anywhere else and find as little that is unfamiliar in nature on the opposite side. In all the lands of earliest colonization, from Massachusetts Bay south to Virginia, flora and fauna were closely related to those in the European homeland and indicated to the settlers that they were still under familiar skies and seasons."²⁰ Because moderate rainfall is the norm and principal geomorphic agent on both sides of the northern Atlantic, the dominant descriptive metaphors of early modern ecological understanding, as in Gilbert White's *Natural History of Selborne* (1788), are those of balance, harmony, and gradual change. In contrast, monsoons confronted Europeans in South and Southeast Asia with a radically different experience of "nature" that forced major adaptations in sailing, traveling, socializing, eating, and dressing. These adaptations, in turn, necessitated efforts to survey local forms of knowledge, employ indigenous modes of analysis, and identify materials and technologies that were suited to navigation and commerce in the monsoonal tropics.²¹ The properties of new or unfamiliar materials—the use of teak to build or repair ships is a good example—had to be ascertained and catalogued to allow Western merchants to compete successfully with their Asian counterparts in the alien environments of South and Southeast Asia.

Interpreting the Monsoons

Monsoons are characterized by patterns of winds, storms, and currents that recur with "extraordinary regularity": "from April to August the monsoon winds blow dependably northwards toward the Asian land mass; from December to March they blow equally dependably southward, from the land masses into the Indian Ocean and South China Sea." This predictability, Anthony Reid argues, "determined the pattern of Asian maritime trade" throughout the early modern period.²² A precise knowledge of winds, tides, and currents around the thousands of miles of coastline in the region was essential to minimize sailing time and thereby maximize profits. The buccaneer turned explorer William Dampier made his reputation as the most scientifically astute of early explorers of the Pacific by publishing the first charts of the monsoon and trade winds in the Pacific Ocean and the China Sea.²³ (Fig. 1) The patterns of rainfall associated with the monsoons produce a range of complex ecosystems that fall roughly into two categories. Sumatra, Malaya, Borneo and western Java are ecologically rather inhospitable, characterized by a dense rainforest canopy, poor soil fertility, low nutrient soils, and therefore low population densities. In contrast, Thailand, Cambodia, central Burma, and southern Vietnam are subject to distinct wet and dry seasons: seasonal flooding in

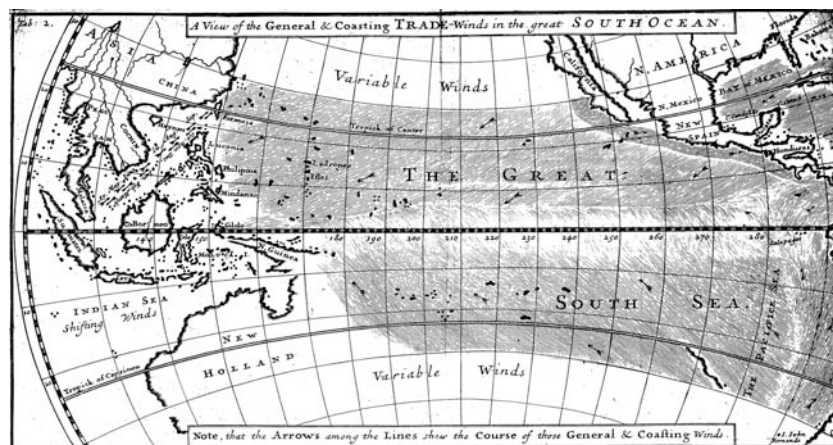


Fig. 1. William Dampier, *A Discourse of Winds*, 1705.

river deltas replenishes soil nutrients, and these regions therefore can sustain higher levels of agricultural productivity and higher population densities.²⁴ These distinct regions offered different trading opportunities for merchants and provoked, as I shall discuss below, different responses from Hamilton. However, the understanding of the complex feedback loops among climate, soil fertility, agricultural products, state formation, and patterns of trade by armchair geographers in Europe was limited. Before the mid-eighteenth century, descriptions of the tropics typically were cast in the moral and conceptual frameworks—pagan and Judeo-Christian—of the ancient Mediterranean world.

In his *History of the World* (1614), for example, Sir Walter Raleigh locates the Garden of Eden on the western fringes of the Indian Ocean monsoon region. Even in its fallen state, the area retains vestiges of its originary fertility: “so great is the fertilitie of the ground,” he asserts, “that the people are constrained twice to mow downe their cornfields, and a third time to eat them up with sheep.”²⁵ Although Raleigh had sailed to North America, he translates climatological differences between the single growing season of northwestern Europe and the twice-yearly harvests characteristic of the South Asian monsoon region into traditional historical and religious idioms: the fecundity of the land can be explained only by the biblical account of divine creation. Raleigh conceives of “the world” in fundamentally Eurocentric terms; the dozens of varieties of grain grown in the region are subsumed under the generic rubric of “corn.” Ironically, however, his description of the historical Eden depends on sixteenth-century Portuguese, Dutch, and English reports of the wealth to be found in central and South Asia—the much-desired

products (spices, pepper, teak, cotton, and silk) that testify to the fertility of the region. In this regard, his insistence on situating the region's climate within a biblical metanarrative was already outmoded by the time his *History of the World* was published; detailed accounts from the first two decades of ventures to Southeast Asia by the British and Dutch East India Companies had been widely circulated, printed, and reprinted. By 1618, the year of Raleigh's execution, the East India Company (EIC) was the largest employer in London.²⁶

Even veteran mariners in the tropics, particularly those with experience in the Caribbean, had trouble understanding the ways in which the monsoons of Southeast Asia affected the soils, growing seasons, and vegetation in the region. Writing nearly a century after Raleigh, Dampier reasons analogically to promote the idea that the English can find new sources of silks and spices in the islands south and east of Java. In his account of his voyage across the Pacific to discover new trading opportunities in Southeast Asia, *A Voyage to New Holland* (1704), he relies on extrapolation and wishful thinking to persuade his readers that the sparsely populated rainforests in the New Hebrides can sustain the same kind of intensive agriculture found in the pepper-growing regions of Java and Sumatra or on the nutmeg and clove plantations in the Moluccas. Running short on provisions and concerned about sailing through uncharted waters, Dampier was forced to turn back before his crew could explore the interior of New Britain. Nonetheless, in his official account, he remains confident that "this Island [north of present-day Australia] may afford as many rich Commodities as any in the World; and the Natives may be easily brought to Commerce, though I could not pretend to it under my present Circumstances."²⁷ In this description and throughout *A Voyage to New Holland*, Dampier's imagined profits from "Commodities" and "Commerce" depend on his understanding of the far western Pacific as a mirror image of the Atlantic tropics in which he had spent the first half of his career as buccaneer, navigator, and ship's captain. In his 1709 *Continuation of a Voyage to New Holland*, he tells his readers, "I could not but hope to meet with some fruitful Lands, Continent, or Islands, or both, productive of any of the rich Fruits, Drugs, or Spices (perhaps Minerals also, &c.) that are in other Parts of the Torrid Zone, under equal Parallels of Latitude."²⁸ Dampier's insistence that the indigenous species of these "fruitful Lands" can be inferred from conditions in the Moluccas reveals a principal means of understanding eco-climatological conditions in the early modern world: the geosymmetrical assumption that similar climates obtain the same across the same latitudes and therefore similar resources can be found across similarly situated regions, countries, and continents.²⁹ His reasoning about "equal Parallels of Latitude," then, becomes a way to project what he knows or has read about soil fertility,

demography, agricultural products, and even geology from one group of islands onto the imagined ecology of New Britain. Although Dampier found no drugs, fruits, or spices on the forbidding coasts of Australia or in the New Hebrides, his assessment of the prospects for trade subordinates his firsthand experience to the inferential, geosymmetrical logic based on the idea that Earth is banded by distinct climatological regions “under equal Parallels of Latitude.”

Raleigh and Dampier attribute tropical fecundity to a de-anthropomorphized nature that does not seem to require—but can be exploited by—intensive labor, cultivation, speciation, and irrigation. This myth of an underexploited, if not pristine, biological world of potentially infinite resources underlies Raleigh’s and Dampier’s very different idealizations of the “fruitful lands” of Asia. Their invoking of these idealizations reflects a dialectic that constructs the natural world in biocultural images of abundance and scarcity; this dialectic both informs and is informed by analytical languages—biological, social, economic, and political—that are dominated by the assumptions and values of subsistence agriculture. Well into the eighteenth century, a few days of inclement or unseasonably hot weather could delay planting or harvesting and lead to dire consequences for much of the population in a given region. As Brian Fagan argues, many modern scholars “fail to appreciate just how devastating a cycle of drought or heavy rainfall, or unusual cold or warmth, can be. . . . [I]n Europe at the end of the sixteenth century, . . . well over 80 percent of the population was engaged in subsistence agriculture . . . and at the complete mercy of short-term climatic shifts . . . that brought storms, killing frosts, greater storminess, and cycles of poor harvests.”³⁰ On the outskirts of Raleigh’s London or Hamilton’s Edinburgh, agricultural laborers had a far greater firsthand experience than any reader of this essay of the vagaries of wind, temperature, precipitation, soil fertility, and humidity, and consequently a healthier respect for cold, frost, mud, and potentially devastating diseases that might decimate crops, livestock, or poultry.

This sensitivity to and fascination with climate characterizes the responses of the English and other Europeans to conditions in the monsoonal tropics and on the Indian subcontinent. During the time that Raleigh was imprisoned in the Tower, Edward Terry spent three years in the Mughal Empire as chaplain to the English ambassador to Agra, Sir Thomas Roe. In his account of his experiences, *A Voyage to East-India* (1655), he describes his accommodation to Mughal society and his embodied experience of acclimating to the environment as intimately related processes. Like other seventeenth-century commentators, Terry is unambiguous in his praise of “this most spacious and fertile Monarchy [that] so much abounds in all necessaries for the use and service of man, to *feed* and *cloath*, and

enrich him, as that it is able to subsist and flourish of it self, without the least help from any Neighbour-Prince or Nation.”³¹ Having described “the *Commodities, Riches, . . . Provisions* and *Pleasures*” of this economically self-sufficient “vast *Monarchy*,” he admits that he is concerned “lest that place I have describ’d, should seem to be an Earthly *Paradise*, I must acquaint my *Reader . . .* with many unpleasing things” (120). He then devotes an entire chapter on “the discommodities, inconveniences, and annoyances, that are to be found or met withall in this Empire” (121). After cataloguing the biohazards of the subcontinent—“many harmful beasts of prey, as *Lions, Tygres, Wolves*, [and] *Jackalls*” (121) as well as “aboundances of *Flyes*,” “*Musqueetoes*,” and “*Chinches*” (123)—Terry turns to the difficulties of an Englishman trying to acclimate to the heat, wind, and dust: “if God did not provide for those parts, by sending a *breeze* or breath, or small gale of *winds* daily, which somewhat tempers that hot sulpherous *air*, there were no living in that torrid Zone for us English, who have been used to breath in a te[m]perate climate; and notwithstanding that benefit, the air in that place is so hot to us English, that we should be every day *stewed* in our own *moisture*, but that we *strive* very little in the *heat* of the day, and have clothing about us as thin as we can make it. And no marvail, for the coldest *day* in the whole year at *noon* (unless it be in the time when those raines fall) is *hotter* there than the hottest day in *England*” (124–25). In trying to dispel the notion that India is an “earthly Paradise,” Terry describes the ways in which the climate dictates travel, work habits, and clothing. For an Englishman, this process of acclimation is always incomplete; the very alien quality of the environment means that Terry must compare conditions in India to the reader’s knowledge and experience of the English climate. The heat and humidity in South Asia, he makes clear, defy the language of experiential reference; Englishmen and women can only imagine conditions that render irrelevant their embodied sense of northwestern European summers and heat. Only God-given breezes can temper the heat and ease Terry’s discomfort. Climatological difference becomes embodied experience: sweat, lethargy, even heat prostration register the vulnerability of the Western body to an environment that resists any but the roughest analogies to ecological conditions in Britain.

As a veteran of dozens of voyages in the monsoonal tropics, Hamilton deploys more sophisticated modes of analogical reasoning than Terry in order to extend imaginatively the prospect of acclimatization to his readers. For the most part, he downplays his body as a register of the somatic effects of heat and humidity and describes the dangers and trials of sea voyaging in anecdotes about other European traders in the region.³² His analogies often compare various species across multiple geographic and climatological regions, and he returns repeatedly to familiar and much-

prized items indigenous to the British Isles as implied standards against which exotic flora and fauna can be described and evaluated for their economic potential. In this respect, Hamilton renders the products of the Malay Peninsula in analogies that give his readers some sense of the biological diversity and commercial wealth of the region:

The Hills are low, and covered with ever-green Trees, that accommodate the Inhabitants with Variety of delicious Fruits, such as Lemons, Oranges, Limes, *Mangoes*, *Mangostans*, *Rambostans*, *Letchees* and *Dureans*: And in the Vallies, Corn, Pulse, and Sugar-canes. . . The Product of the Country is pepper and Gold, which are mostly exported by the *Chinese*. About 300 Tuns are the common Export of Pepper, and we have it almost for one half of the price that we pay for *Malabar* Pepper. From the Month of *October* till *March*, their River is shut up by the Bar, which fills up by the Impetuosity of the great Seas sent on that Shore by the North-east Monsoons; but in the Months of *July* and *August* their Seas produce the finest Fish that ever I saw or tasted. There is one Sort exactly like a Salmon, both in Shape and Taste, but the Fish is white, as the Salmon is red. (2:256–57)

In an era before Linnean systems of classification, Hamilton's analogies provide a rudimentary taxonomy of products and natural resources in the regions he visits.³³ The italics in Hamilton's list of fruits indicate species that are unfamiliar to British readers or that cannot easily be analogized to European equivalents. Generic terms, "Corn," for example, serve as designators for otherwise unfamiliar cultivars and gloss over complex biocultural histories of speciation and agricultural practice adapted to local conditions.³⁴ Malayan and Malabar pepper are cultivars—commercial commodities produced by centuries of speciation as well as different local conditions; the difference in market price reflects the anthropogenic crossbreeding of different strains that are cultivated to suit local soil chemistries, rainfall patterns, culinary preferences, costs of production, transportation, and seasonal availability. Although he is alert to the significance of local environments, he tends to try to isolate generic designators from the destabilizing tendencies that characterize analogical thinking—"Corn," to take an obvious example, as a rubric for the staple grains that he identifies with civilized cultivation and therefore opportunities for trade. In this respect, Hamilton's descriptive strategies are limited in ways that may seem crude compared to, say, the meticulous analysis of Alfred Russel Wallace's nineteenth-century survey of Southeast Asia, *The Malay Archipelago*.³⁵ Hamilton seizes the opportunity to compare a local fish to salmon. Yet this analogy can work only at a level of sensory experience: sight and taste. Salmon are deep sea, cold-water fish; whatever species Hamilton has in mind is obviously tropical. Nonetheless, the attention he devotes to local fish, fruit, crops, and grains in each country, sultanate, and island he visits offers an alternative to the kind

of inferential logic that Dampier employs in his imaginative description of New Britain.

Hamilton portrays himself as part of a terraqueous world of commerce, politics, and sociability in which rivers, tides, coastlines, and harbors become actants in complex networks of exchange, acculturation, and microacclimatization. In this regard, his description of Bencolon (Bengkulu) on the southwestern coast of Sumatra gives short shrift to indigenous peoples and Chinese merchants to concentrate on its geography and climate:

About the Year 1690 the *East-india* Company built a Fort there, and called it *York* Fort, but Brick or Stone Walls in that Country cannot long continue firm, because Concussions of the Earth are so frequent by Earthquakes, that solid Walls are rent by the shaking of their Foundations. It has the Conveniency of a River to bring their Pepper out of the inland Countries, but great Inconveniencies in shipping it off on board the Ships, for there is a dangerous Bar at the River's Mouth, which has proved fatal to many poor *English* Men. The Road for Shipping is also inconvenient; for in the south-west Monsoons, there being nothing to keep the great Swell of rolling Seas off them, but a small Island called *Rat* Island, the Ships are ever in a violent Motion while that Monsoon lasts. (2:114–15)

Typically, Hamilton situates descriptions of such far-flung outposts within the interlocking narratives of firsthand experience, economic assessment, and environmental context. The port and its environs are dynamic; the monsoons coming from the southwest batter ships at anchor. What distinguishes Hamilton from Dampier and other contemporary writers on Southeast Asia, as this passage suggests, is his concern with practical use-value rather than with promoting visions of fantastic profits. “What relates to Navigation, in describing the Seas, and Dangers lying in them, and the Sea-coasts, with the Dangers and Harbours on them,” he states in his preface, “is purely calculated for the Use of my Fraternity, who may have occasion to navigate in those Seas, or on those Coasts, but to others, who have no Call that Way, they are almost useless” (1:xxii–xxiii). Despite the shaky grammar of this explanation, Hamilton tries to distinguish in theory what he never tries to isolate in practice. The river running from the interior to Bengkulu offers convenient transport for shipments of pepper, but potential profits are balanced against the geological instability of the fort and the treacherous shoals that endanger shipping.³⁶ Moreover, the environment is unhealthy: “The Air is full of malignant Vapours, and the Mountains are continually clothed with thick heavy Clouds, that break out in Lightning, Thunder, Rain, and short-liv'd Storms. Their Food is not fit for every Stomach. Tame *Buffalo* may be had, but no Cow-beef. Poultry are scarce and dear, and so is Fish, but some sorts of Fruit are pretty plentiful; however, the Gentlemen there live as merrily, tho' not so

long, as in other Places blest with Plenty, and so sociable, that they leave their Estates to the longest Liver" (2:117). The unhealthiness of Bencolon is attributed to both local climate (mosquito-infested swamps that were breeding grounds for malaria and dengue fever) and to an unhealthy diet that lacks the staples of upper-class consumption—fish, poultry, and beef—that Hamilton relishes elsewhere in ports throughout Southeast Asia. The small community of European and Chinese merchants and landowners suffer the effects of “malignant Vapours” and bad food, but compensate with liquor, the key to living “merrily” in the tropics, and a sociability born of their willingness to trade longevity for short-term profits. In this context, Hamilton’s risk-benefit analysis of Bencolon turns what otherwise might seem an entry in an atlas into an exploration of the effects of the “minute particulars” of geography, climate, and foodstuffs on both commerce and the bodies of Western merchants.³⁷

The Political Ecology of the Monsoons

Throughout *A New Account*, the monsoons inform Hamilton’s descriptions of peoples, landscapes, and biota, and his climatological observations help to structure his perceptions of potential opportunities for trade as well as the intentions and motivations of would-be trading partners. In recounting his initial visit to Cambodia, Hamilton offers a complex narrative of the ways in which commercial negotiations, regional politics, cash cropping, and the threat of force intersect with the changing winds and tides of the southwest monsoon. Having been welcomed by an officer at the port of Ponteamass (Kampong Saom) and encouraged by an official invitation from the King “to send some Person up [to the capital] with Musters of my Goods,” Hamilton, “dispatcht” a large contingent, led by the “second Supercargo [the head merchant], with an Equippage of 25 Men, well armed with Fuzees and Bayonets, and two small Bales of Musters, and Presents for the King” (2:200–1). The goods are unspecified, but “Bales” suggests cotton cloth, silk, or other products from the subcontinent or China. Even as he prepares samples of this merchandise, Hamilton recognizes the significance of diplomatic rituals centered on gift exchange that signal his obligation to the Court and his commercial aspirations; the “Presents” are both pledges of his men’s good behavior and an inducement for a monarch, strategically positioned between the rival empires of Siam and Vietnam, to enter into an ongoing trade.³⁸ Nonetheless, he sends this party “well armed,” a precaution that testifies to the tension between his desire for cordial behavior on both sides and his awareness of the fragility of the trans-cultural, ethico-political value system of commercial civility on which he

must depend. After three weeks with no word from the men, Hamilton became “extremely uneasie,” and his account of subsequent events is worth quoting at length to examine the mutually constitutive, dynamic relationship between “nature” and “politics”:

the approaching of the Southwest Monsoons, . . . would have made that Coast a Lee-shore, and would have oblig'd me to take Sanctuary in one of their Harbours for five or six Months, and [I] was not certain whether I was in a Friend's or an Enemy's Country. In this Labyrinth I continued a Week, and at last resolved to depart by a certain Day, and leave my People to come after me to *Malacca*, if they were alive and at Liberty. The Goods I had sent up with them, would have been sufficient to have hired a Vessel to carry them thither. I told my Resolution to my Interpreter, and that I should be obliged to carry him and some more of the King's Subjects along with me as Hostages for the civil Treatment of my People at *Cambodia*. He seemed surpris'd at my Resolution, and got a Person to go to the City in all Haste to give an Account of my Impatience and Design, who returned in fourteen Days, about two Days before my Term was expired, that I had set for my Departure. . . . [Three days later] my second Supercargo . . . arrived with all his Retinue, with a Letter of Compliment to me in the *Portuguese* Language, and one directed to the Governor of *Bombay*, to invite the *English* to settle in his Country, and to build Factories or Forts in any Part of his Dominions to protect Trade. (2:201–2)

Hamilton's perception of and response to a nerve-wracking situation can be understood only in the context of intersecting forms of situated knowledges: the shifts in wind direction and intensity that foreshadow the coming monsoon and force a half year's stay in harbor; the time a courier takes to travel to the capital and back; the political situation in the 1690s that had turned the remnants of the Khmer empire into a battleground between the Siamese and Vietnamese; the dependence of the Cambodian ruler on his Vietnamese overlord; and the always-present threat that new regimes will prove hostile to commercial ventures.³⁹ The overlapping networks of communication, local knowledge, and sociopolitical understanding that he describes are always incomplete and always mediated by a variety of actors, such as the Portuguese, who are no longer a major commercial force in the region and serve as interpreters for the English and French. Such mediation extends to the nonhuman actants as well—notably the monsoons that force a crisis in his efforts to open trade with Cambodia and lend a narrative urgency to his account. More generally, as this passage implies, the regularity of the monsoons encourage a generic troping of his encounters with Cambodians, Siamese, and Malayans as a form of mercantile romance—a series of tales structured by the recurrent cycles of winds and tides rather than the passage of time. Profit, civility, and identity assume hybrid forms in a world that is defined by the embodied experience of rain, wind, and current.

If twenty-first century discussions of actor-network theory tend to operate by analogies to electronic and digital technologies of communication, Hamilton's metaphor of trying to find his way through a "Labyrinth" emphasizes the difficulties of negotiating material networks that depend on sophisticated but time-intensive modes of travel, communication, and decision-making. Distance and time provoke Hamilton's threat to take hostages, and his gamble reflects the dark underside of an ideology of gift exchange that is predicated on sustaining the mutual obligations essential to international trade. Hamilton's strategic calculations cannot be divorced from natural phenomena, and his ongoing efforts to reassess economic, political, and even narrative opportunities assume urgency because information is always limited and the monsoons are always at hand. The situation is resolved only by a rearticulation of the relations among actors, seen and unseen, once the ship's supercargo arrives with the news that the King is eager, though currently unable, to trade. This resolution, in turn, requires a further explanation: "[t]he Reason why [the Cambodian king] kept us so long in Suspence, was, that he would not enter into Correspondence with us without the Knowledge and Consent of his Guardian the King of *Cochin-china*, who, at last, consented to allow us Commerce both in *Cambodia*, and in his own proper Dominions, but that the *Siamers* had destroyed the Country where they had been, and they had nothing ready for Barter with my Cargo, then, but in a Year or two they would be provided" (2:201). This political back-story suggests something of the complexity of tributary relations in the region, and Hamilton's decision to send armed men along with his sample goods reflects his awareness of the ways in which political, military, and economic relations can change with little or no warning. The Siamese who "destroyed the Country" have devastated harvests, burned storehouses, killed or driven off agricultural laborers, and disrupted trade. But as this explanation suggests, Hamilton does not consign Cambodia and Siam to a "backward" realm of uncivilized barbarity; warfare and commercial tensions are a necessary byproduct of international trade and the rivalries it generates. While many of his contemporaries believed, as John Arbuthnot argues, "that the Air operates insensibly in forming the Constitutions of Mankind, the Specialities of Features, Complexion, Temper, and consequently the Manners of Mankind, which are found to vary much in different Countries and Climates," Hamilton's account of the intricacies of political ecology in Cambodia testifies not to essential differences between East Asians and Europeans but to the ways in which the monsoons shape social, diplomatic, and economic existence for all of the actors in the region.⁴⁰

Like most Asian peoples (the Chinese, Japanese, Persians, and Siamese, among others), Cambodians were described, almost universally by

seventeenth- and eighteenth-century European writers, as “white”—and therefore racially unmarked. They are among the civilized peoples with whom Hamilton can strike deals and trade profitably, Siamese raids aside. In this respect, his narrative complicates early modern understandings of the relationship between race and climate.⁴¹ Rather than simplifying climate as a primary determinant of stereotyped Asian “Features, Complexion, [and] Temper,” Hamilton assumes that indigenous rulers and prominent merchants share the transcultural values—sociopolitical, economic, and moral—subsumed under the rubric of “civility.”⁴² Therefore climate—not race—becomes the crucial variable in differentiating the lands and islands of the monsoonal tropics from countries in Europe or Caribbean colonies. It is only by Hamilton’s attention to local political ecologies—geography, tides, currents, harbors, local flora and fauna, different varieties of pepper, and fish—that the distinctions among the inhabitants of Cambodia, Bengkulu, and Johor can be understood. Racial typologies are not part of his biocultural analytic.

Narrative and Nature

As anyone who has tried to read through an eighteenth-century log-book knows, the noon observations of wind speed and direction, precipitation, current, latitude, and eventually longitude do not make for compelling reading. Daniel Defoe begins his final novel, *A New Voyage Round the World* (1725), by disparaging the accounts of mariners who had circumnavigated the world and lived to write about it, notably Sir John Narborough and Dampier. Whatever their accomplishments, Defoe sneers that their prose demonstrates only that “a very good Sailor may make but a very indifferent Author.” Their “long Journals [and] tedious Accounts of their Log-Work, how many Leagues they sail’d every Day; where they had the Winds, when it blew hard, and when softly; what latitude in every Observation, what Meridian Distance and what Variation of the Compass,” he continues, “have little or nothing of Story in them, for the use of such Readers who never intend to go to Sea.”⁴³ Ironically, these “tedious Accounts” contain the minute particulars that fascinate twenty-first century climatologists: these data points can be translated into modern scientific standards of measurement and painstakingly plotted to provide a “Story” about atmospheric-oceanic conditions at the end of the Little Ice Age.⁴⁴ Nevertheless, Defoe, like Hamilton, questions the entertainment value of observations and sailing directions that “have little or nothing of Story in them” and provide little to excite the imagination. The day-to-day experience of navigation—the practical knowledge for which Hamilton’s descriptions of harbors and sea-coasts

are but a form of shorthand—resists being troped into either the kind of fanciful narrative that Defoe spins in *A New Voyage Round the World*, *The Farther Adventures of Robinson Crusoe* (1719), and *Captain Singleton* (1720), or into the speculative regime of investment-hungry mariners like Dampier. More generally, Defoe's critique of travel accounts and Hamilton's acknowledgment that observations of currents and winds are likely to bore his readers point to the generic difficulties of finding a way to turn such experiential knowledge into marketable narratives. Climatological reporting is too localized, too concerned with minute particulars, and too devoted to registering "multiple causal pathways" to conform to Defoe's sense of narrative art.

To relegate Hamilton's *New Account* to the catch-all rubric of "travel literature," however, is to downplay the significance of observational techniques in the early modern world and to marginalize the significance of the local, situated knowledges necessary to navigate the winds, tides, and politics of the monsoonal tropics. In his descriptions of the spices, plant species, timber, metals, and cloth of South and Southeast Asia, Hamilton offers a primer on the intensification of land use in the region, and, in this respect, *A New Account* supplements and calls into question the production of biocultural knowledge in texts by other Europeans who visited South Asia. His contemporaries are often less sanguine than Hamilton about the environmental effects of the monsoon regions on unacclimated Western bodies.

John Ovington, who arrived in India about the same time that Hamilton began his career, was horrified by the effects of the monsoons on the British in Bombay: "The prodigious growth of vermin, and of venomous creatures, at the time of the Mussouns, do abundantly likewise demonstrate the malignant conception of the air, and the natural cause of its direful effects upon the Europeans." The heat and humidity, he asserts, literally breed spiders "the size of a man's thumb" and toads almost the "size of a small duck."⁴⁵ To a far greater extent than Hamilton, Ovington and other seventeenth-century travelers, notably John Fryer, found the climatological conditions in Bombay "extremely Unhealthy," exposing Europeans both to the dangers of monsoon winds and tides and to "a Putridness in the Air" that produces "Fluxes, Dropsy, Scurvy, Barbiere [beri-beri] . . . , Gout, Stone, Malignant and Putrid Fevers, which are Endemial Diseases."⁴⁶ In contrast, Hamilton ascribes the deleterious effects of Bombay to a cause that Fryer, a physician, explicitly rejects. Acknowledging that the "Air is somewhat unhealthful," he attributes health problems to the natives' "dunging their Cocoa-nut Trees with *Buckshoe*, a Sort of small Fishes which their Sea abounds in. They being laid to the Roots of the Trees," he continues, "putrify, and cause a most unsavoury Smell; and in the Mornings there is generally seen a thick Fog among

those Trees, that affects both the Brains and Lungs of *Europeans*, and breed Consumptions, Fevers, and Fluxes” (1:181). If Fryer anticipates a later nineteenth-century pessimism about the ability of European bodies to acclimate themselves constitutionally to life in the tropics, Hamilton describes a specific local practice, the indigenes’ fertilizing techniques, necessary in a region where the “Ground is steril, and not to be improved” (1:181), that has unintended effects on these unacclimated bodies.⁴⁷ The word “disease” appears only once in *A New Account* and only to describe the universal scourge of smallpox; “malignant Vapours,” of the kind that plague Bengkulu, are local phenomena (2:117). More commonly, European nations and their inhabitants are the sites and carriers of figurative as well as actual distempers. In countries such as Siam, where “every one is at Liberty” to worship as one pleases, the inhabitants are spared the “heavenly Frenzy” of religious persecution, “a raging mad Distemper that affects the melancholick Brains of the western World.” For Hamilton, disease marks the failure of acculturation as well as acclimatization: even the Europeans in Bengkulu “live merrily” in a region beset by earthquakes, storms, and the southwest monsoon.

The differences between fictional descriptions of South and Southeast Asia (in Defoe’s *Farther Adventures of Robinson Crusoe* and *A New Voyage around the World*, for example) and Hamilton’s *New Account* reveal the narrative problems of representing a dynamic natural world that resists a literary mythos of stability, timelessness, universality, and infinite exploitability. Defoe’s narrators embark on fanciful voyages that disembodify the somatic effects of heat, rain, bad diets, and “malignant Vapours”; Hamilton *accounts* in multiple ways for the truth-value of his observations: cataloging commercial species, calculating distances, negotiating prices, and balancing risks and rewards. As I have suggested elsewhere, Defoe often projects an idealized version of the English countryside onto Asian environments, real and imagined, and thereby universalizes the conditions of southern Britain as a normative standard against which the ecologies of India, China, and Terra Australia Incognita must be judged.⁴⁸ In turn, this generic vision—essential to the colonial projects of the late eighteenth and nineteenth centuries—underwrites the belief that the European Enlightenment’s “scientific” and “rational” models of agriculture, forest management, resource extraction, administration, social organization, and economic aggrandizement can be transplanted unproblematically to tropical climates. In contrast, Hamilton uses the relative predictability of the monsoons to locate and recalibrate his coordinates within complex biocultural systems. His reassessments are ongoing, measured by logbook entries of the ship’s position, observations on fish, grain, and fruit, and days spent waiting for supercargoes to return. Although Hamilton frequently reminds his readers that he

is relating firsthand observations, he recognizes that his perspective is always partial.

Local knowledge, however, has its conceptual limits and is never free from the assumptions and values that mark Eurocentric generalizations. In his descriptions of Johor on the eastern coast of the Malay Peninsula, Hamilton does not make allowances for the relative poverty of resources in the nutrient-poor soil of the rainforest and vents his frustration with the resulting lack of agricultural commodities on the indigenous people:

The Inhabitants [of Johor] are lazy, indolent, perfidious and cruel. The Country is very woody, being daily refresh't with Showers and Breezes of Wind. It abounds in Tin, Pepper, Elephants Teeth, Gold, *Agala* Wood, and Canes, but the Inhabitants are such Drones, that they sow very little Rice or other Grain . . .

About the Sea-coast they feed mostly on Fish and Rice brought to them from *Java*, *Siam* and *Cambodia*. The people of Industry are the *Chinese* who inhabit among them . . . and there may be about 1000 Families of them settled in the *Johore* Dominions, besides a much greater Number who drive a foreign Trade among them. (2:94)

Ecology in this passage mirrors national or peninsular character. On deforested tracts of land, the nutrient-poor soil produces some crops (pepper and sugar cane) and other minerals and woods, but it discourages the kinds of plantation agriculture—rice and grain—that characterize the delta regions of Cambodia and Siam. Hamilton's characterization of the inhabitants as "Drones" reveals the extent to which his judgments about the complex relationships between culture and cultivation are indebted to the assumption that transcultural standards of commercial probity—distinguished by the values and behavior of the "industrious" Chinese—obtain or should obtain among all civilized peoples. In one respect, he seems to echo the criticism of the cosmopolitan metropole (the Chinese-dominated trading community of the port) leveled against the "backward" inhabitants of a sultanate given to civil unrest and succession crises that Hamilton goes on to describe at length. In this respect, the low-yield agriculture of Johor both produces and is produced by people "lazy, indolent, perfidious and cruel" who violate the bedrock principles of transcultural and commercial civility: the poverty of subsistence agriculture is projected into the minds and inscribed on the bodies of the peasantry.

Nonetheless, Hamilton never is seduced by the prospect of large-scale colonization or the tendency to propagandize for British ventures in the Pacific. However one characterizes Hamilton's interest in bioregionalism, his concern with navigation, cash crops, local foods, and amiable trading partners mitigates against the kind of data collection that characterizes the works of naturalists later in the eighteenth century or even

the contemporary scientific observations of Dampier. Yet *A New Account* registers the syncretic nature of seventeenth- and early eighteenth-century perceptions of what we now term biocultures. The trade routes that Hamilton charts through Asia follow long-established networks, traversed by Sumatran, Indian, Chinese, and Portuguese merchants, and if Hamilton seldom reproduces the voices of common sailors and interpreters, his accounts of relations with individual monarchs and merchants (far too involved to discuss in this essay) suggest a willingness to acculturate as well as acclimate to the monsoonal tropics. His narrative, with its emphasis on contingencies and dangers, sketches out rough plans that can be quickly changed or jettisoned depending on storms, shifting tides, price variations, the availability of commodities, and changing political situations. In this respect, Hamilton's *New Account* offers an alternative to an ideology of resource extraction and endless exploitation that envisions, in the blank spaces on the maps of the Americas, Africa, and the Pacific, a return to a Lockean golden age in which "all the World was *America*"—that is, all the world was awaiting the kind of exploitation that Defoe idealizes.⁴⁹ Hamilton's emphasis on local environments and conditions situates peoples and commodities within multiple and shifting networks of trade and communication. There can be no universal "nature"—no separation between biology and culture—in a world defined by the parataxis of trade. Rather than grandiose visions, Hamilton offers ad hoc strategies that depend on acclimating himself to the political ecology of the monsoons.

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NOTES

1 Alexander Hamilton, *A New Account of the East Indies*, 2 vols. (Edinburgh: J. Mosman, 1727), 1:xxvi (hereafter cited in text). All quotations are from this edition. Hamilton retired to Scotland and died in either 1732 or 1733. See *Dictionary of National Biography*, 2004 ed., s.v. "Alexander Hamilton."

2 Between 1500 and 1800, more than 1,500 books about Asia were published in Europe, far more than about the Americas and Africa; before 1750, the vast literature of exploration and trade was skewed heavily towards descriptions of the tropical monsoon regions of South and Southeast Asia rather than to the Caribbean or the Americas. This body of literature is surveyed in the indispensable work of Donald F. Lach and Edwin J. van Kley, *Asia in the Making of Europe*, 3 vols. (Chicago: Univ. of Chicago Press, 1965–93).

3 On the tradition of historical geography, see particularly Peter Heylyn, *Cosmographie* (London: Henry Seile, 1652), the most popular such work in the latter half of the seventeenth century (with eight editions before 1700). I discuss Heylyn and his contemporaries in Robert Markley, *The Far East and the English Imagination, 1600–1730* (Cambridge: Cambridge Univ. Press, 2006), 57–64.

4 On the Mughal War, see John Keay, *The Honourable Company: A History of the English East India Company* (London: HarperCollins, 1991), 144–45. For other contemporary accounts

by British observers of this conflict and later battles in the region, see Charles Lockyer, *An Account of the Trade in India* (London: printed for the author and sold by Samuel Crouch, 1711); and Clement Downing, *A Compendious History of the Indian Wars; with an Account of the Rise, Progress, Strength, and Force of Angria the Pirate* (London: Printed for T. Cooper, 1737).

5 On Hamilton's career as an independent trader and his often vexed relationship with the East India Company, see Keay, *The Honourable Company*, 253–54.

6 For introductions to the key concepts of political ecology, see Paul Robbins, *Political Ecology: A Critical Introduction* (Oxford: Blackwell, 2004); and Bruno Latour, *Politics of Nature: How to Bring the Sciences into Politics*, trans. Catherine Porter (Cambridge, MA: Harvard Univ. Press, 2004).

7 On actants and on actor-network theory more generally, see Latour, *Science in Action: How to Follow Scientists and Engineers through Society* (Cambridge, MA: Harvard Univ. Press, 1987); and Latour, *Resassembling the Social: An Introduction to Actor-Network Theory* (Oxford: Oxford Univ. Press, 2005). There is an extensive bibliography on situated knowledges in science studies; see particularly Lucy Suchman, *Plans and Situated Actions: The Problem of Human-Machine Communication* (Cambridge: Cambridge Univ. Press, 1987); and Donna Haraway, "Situated Knowledge: The Science Question in Feminism as a Site of Discourse on the Privilege of Partial Perspective," *Feminist Studies* 14, no. 3 (1988): 575–99.

8 Anthony Reid, "Humans and Forests in Pre-Colonial Southeast Asia," in *Environmental History in the Pacific World*, ed. J. R. McNeill (Aldershot, UK: Ashgate, 2001), 218.

9 On the significance of climate change and its effects on both biological and cultural evolution, see H. H. Lamb, *Climate History and the Modern World*, 2nd ed. (New York: Routledge, 1995); Brian Fagan, *Floods, Famines, and Emperors: El Niño and the Fate of Civilizations* (New York: Basic Books, 1999); Fagan, *The Little Ice Age: How Climate Made History 1300–1850* (New York: Basic Books, 2000); Fagan, *The Long Summer: How Climate Changed Civilization* (New York: Basic Books, 2004); William J. Burroughs, *Climate Change in Prehistory: The End of the Reign of Chaos* (Cambridge: Cambridge Univ. Press, 2005); and Eugene Linden, *The Winds of Change: Climate, Weather, and the Destruction of Civilizations* (New York: Simon and Schuster, 2006).

10 Ronald Schleifer, *Modernism and Time: The Logic of Abundance in Literature, Science, and Culture, 1880–1930* (Cambridge: Cambridge Univ. Press, 2000), 13–15.

11 On perceptions of the tropics in the eighteenth century, see Felicity Nussbaum, *Torrid Zones: Maternity, Sexuality, and Empire in Eighteenth-century English Narratives* (Baltimore: Johns Hopkins Univ. Press, 1995); Srinivas Aravamudan, *Tropicopolitans: Colonialism and Agency, 1688–1804* (Durham, NC: Duke Univ. Press, 1999), 29–70; Beth Fowkes Tobin, *Colonizing Nature: The Tropics in British Arts and Letters, 1760–1820* (Philadelphia: Univ. of Pennsylvania Press, 2005); and Matthew Mulcahy, *Hurricanes and Society in the British Greater Caribbean, 1624–1783* (Baltimore: Johns Hopkins Univ. Press, 2006).

12 Carole Crumley, "Historical Ecology: A Multidimensional Ecological Orientation," in *Historical Ecology: Cultural Knowledge and Changing Landscapes*, ed. Carole Crumley (Sante Fe, NM: School of American Research Press, 1994), 9.

13 Richard Lewontin, "Facts and the Factitious in the Natural Sciences," *Critical Inquiry* 18 (1991): 147. See also Richard Levins and Richard Lewontin, *The Dialectical Biologist* (Cambridge, MA: Harvard Univ. Press, 1985).

14 Elizabeth Graham, "Metaphors and Metamorphism: Some Thoughts on Environmental Metahistory," in *Historical Ecology*, ed. Crumley, 125.

15 Philip Mirowski, *More Heat than Light: Economics as Social Physics, Physics as Nature's Economics* (Cambridge: Cambridge Univ. Press, 1989), 75; Graham, "Metaphors and Metamorphism," 124.

16 Robert Markley, "'Land Enough in the World': Locke's Golden Age and the Infinite Extensions of 'Use,'" *South Atlantic Quarterly* 98 (1999): 817–37.

- 17 See Richard Grove, *Green Imperialism: Colonial Expansion, Tropical Island Edens, and the Origins of Environmentalism, 1600–1860* (New York: Cambridge Univ. Press, 1995); Grove, “The East India Company, the Raj, and the El Niño: The Critical Role Played by the Colonial Scientists in Establishing the Mechanisms of Global Climate Teleconnections 1770–1930,” in *Nature and the Orient: The Environmental History of South and Southeast Asia*, ed. Richard H. Grove, Vinita Damodaran, and Satpal Sangwan (New York: Oxford Univ. Press, 1998), 301–23; Mike Davis, *Late Victorian Holocausts: El Niño Famines and the Making of the Third World* (London: Verso, 2001); and Jan Golinski, *British Weather and the Climate of Enlightenment* (Chicago: Univ. of Chicago Press, 2007). See also Andrew Cook, “Alexander Dalrymple and the Hydrographic Office,” in *Pacific Empires: Essays in Honour of Glyndwr Williams*, ed. Alan Frost and Jane Samson (Vancouver: Univ. of British Columbia Press, 1999), 53–68.
- 18 See Grove, “Indigenous Knowledge and the Significance of South-West India for Portuguese and Dutch Constructions of Tropical Nature,” in *Nature and the Orient*, ed. Grove, Damodaran, and Sangwan, 187–209.
- 19 See Ursula Klein and Wolfgang Lefèvre, *Materials in Eighteenth-Century Science: A Historical Ontology* (Cambridge, MA: MIT Press, 2007), 199–210.
- 20 Quoted in Mike Davis, *Ecology of Fear: Los Angeles and the Imagination of Disaster* (New York: Metropolitan Books, 1998), 15.
- 21 Rajani Sudan, “Mud, Mortar, and Other Technologies of Empire,” *The Eighteenth Century: Theory and Interpretation* 45 (2004): 147–70.
- 22 Anthony Reid, *Southeast Asia in the Age of Commerce: The Lands Below the Winds*, 2 vols. (New Haven, CT: Yale Univ. Press, 1988–93), 64; see also John R. McNeill, “Islands in the Rim: Ecology and History in and around the Pacific, 1521–1996,” in *Pacific Centuries: Pacific and Pacific Rim History Since the Sixteenth Century*, ed. Dennis O. Flynn, Lionel Frost, and A. J. H. Latham (New York: Routledge, 1999), 70–84.
- 23 See William Dampier, *A Discourse of Winds*, pt. 3, *Voyages and Descriptions* (London: printed for James Knapton, 1705). On Dampier, see Philip Edwards, *The Story of the Voyage: Sea-Narratives in Eighteenth-Century England* (Cambridge: Cambridge Univ. Press, 1994); Glyndwr Williams, *The Great South Sea: English Voyages and Encounters 1570–1750* (New Haven, CT: Yale Univ. Press, 1997); and Diana and Michael Preston, *A Pirate of Exquisite Mind: The Life of William Dampier, Explorer, Naturalist, and Buccaneer* (London: Doubleday, 2004).
- 24 See Reid, “Humans and Forests,” 216–34; and Greg Bankoff, “Coming to Terms with Nature: State and Environment in Maritime Southeast Asia,” *Environmental History Review* 19 (1995): 317–37.
- 25 Sir Walter Raleigh, *The History of the World* (London: Printed for S. Cartwright, R. Best, and J. Place, 1614), 56.
- 26 On the East India Company, see Keay, *Honourable Company*; K. N. Chaudhuri, *The Trading World of Asia and the English East India Company, 1660–1760* (Cambridge: Cambridge Univ. Press, 1978); Michel Morineau, “The Indian Challenge: Seventeenth to Eighteenth Centuries,” trans. Cyprian P. Blamire, in *Merchants, Companies, and Trade: Europe and Asia in the Early Modern Era*, ed. Sushil Chaudhury and Michel Morineau (Cambridge: Cambridge Univ. Press, 1999), 243–75; Femme Gaastra, “War, Competition, and Collaboration: Relations between the English and Dutch East India Companies in the Seventeenth and Eighteenth Centuries,” in *The Worlds of the East India Company*, ed. H. V. Bowen, Margarette Lincoln, and Nigel Rigby (Woodbridge, UK: Boydell Press, 2002), 49–68; and, in the same volume, Sanjay Subrahmanyam, “Frank Submissions: The Company and Mughals Between Sir Thomas Roe and Sir William Norris,” 69–96.
- 27 Dampier, *A Voyage to New Holland: The English Voyage of Discovery to the South Seas in 1699*, ed. James Spencer (London: Alan Sutton, 1981), 224.
- 28 Dampier, *Voyage to New Holland*, 147.

- 29 See Robert Markley, "Global Analogies: Cosmology, Geosymmetry and Skepticism in Some Works of Aphra Behn," in *Science, Literature, and Rhetoric in Early Modern England*, ed. David Burchell and Juliet Cummins (London: Ashgate, 2007), 189–212.
- 30 Fagan, *Little Ice Age*, 103. See also Andrew McRae, *God Speed the Plough: The Representation of Agrarian England, 1500–1660* (Cambridge: Cambridge Univ. Press, 1996).
- 31 Edward Terry, *A Voyage to East-India* (London: Printed by T. W. for J. Martin and J. Allestrye, 1655), 92. All quotations are from this edition.
- 32 In addition to Edwards, *The Story of the Voyage*, and Williams, *The Great South Sea*, see Jonathan Lamb, *Preserving the Self in the South Seas, 1680–1840* (Chicago: Univ. of Chicago Press, 2001).
- 33 See Lisbet Koerner, *Linneaus: Nature and Nation* (Cambridge, MA: Harvard Univ. Press, 1999); and Staffan Müller-Wille, "Nature as a Marketplace: The Political Economy of Linnean Botany," in *Oeconomies in the Age of Newton*, ed. Margaret Schabas and Neil De Marchi (Durham, NC: Duke Univ. Press, 2003), 154–72.
- 34 See Frank Perlin, "The Other 'Species' World: Speciation of Commodities and Moneys, and the Knowledge-Base of Commerce, 1500–1900," in *Merchants, Companies, and Trade*, ed. Chaudhury and Morineau, 145–73; Julie Berger Hochstrasser, "The Conquest of Spice and the Dutch Colonial Imagery: Seen and Unseen in the Visual Culture of Trade," in *Colonial Botany: Science, Commerce, and Politics in the Early Modern World*, ed. Londa Schiebinger and Claudia Swan (Philadelphia: Univ. of Pennsylvania Press, 2005); and Reid, "Humans and Forests," 223–25.
- 35 Alfred Russel Wallace, *The Malay Archipelago: The Land of the Orang-utan and the Bird of Paradise* (London: Macmillan, 1883).
- 36 See Anthony Farrington, "Bengkulu: An Anglo-Chinese Partnership," in *The Worlds of the East India Company*, ed. Bowen, Lincoln, and Rigby, 111–18.
- 37 See Tita Chico, "Minute Particulars: Microscopy and Eighteenth-Century Narrative," *Mosaic: A Journal for the Interdisciplinary Study of Literature* 39 (2006): 143–61.
- 38 On gift exchange in the Far East, see Cynthia Klekar, "Prisoners in Silken Bonds: Trade and Diplomacy in English Voyages to Japan and China," *Journal for Early Modern Cultural Studies* 6 (2006), 84–105. See also Jeyamalar Kathirithamby-Wells, "Restraints on the Development of Merchant Capitalism in Southeast Asia before c. 1800," in *Southeast Asia in the Early Modern Era*, ed. Reid, 123–48.
- 39 On conflicts between the Siamese and Vietnamese, see Reid, *Southeast Asia in the Age of Commerce*, 2:190; on efforts in Siam to curb foreign influence at the end of the 1680s, see Dhiravat na Pombejra, "Ayutthaya at the End of the Seventeenth Century: Was There a Shift to Isolation?" in *Southeast Asia in the Early Modern Era*, ed. Reid, 250–71.
- 40 John Arbuthnot, *An Essay Concerning the Effects of Air on Human Bodies* (London: J. Tonson, 1733), 146.
- 41 In the late eighteenth century, views of the sun's heat as a determinant of both skin color and national or ethnic character gave way to beliefs in inherent racial qualities. See Roxann Wheeler, *The Complexion of Race: Categories of Difference in Eighteenth-Century British Culture* (Philadelphia: Univ. of Pennsylvania Press, 2000); Dror Wahrman, *The Making of the Modern Self: Identity and Culture in Eighteenth-Century England* (New Haven, CT: Yale Univ. Press, 2004), 83–125; and Mark Harrison, *Climates and Constitutions: Health, Race, Environment and British Imperialism in India 1600–1850* (Oxford: Oxford Univ. Press, 1999).
- 42 On civility see Markley, *Far East and the English Imagination*, 105–42. On conceptions of race in Southeast Asia during the period, see Reid, *Southeast Asia in the Age of Commerce*; Sanjay Subrahmanyam, *The Portuguese Empire in Asia, 1500–1700: A Political and Economic History* (New York: Longman, 1993); Joan-Pau Rubies, *Travel and Ethnology in the Renaissance: South Asia through European Eyes 1250–1625* (Cambridge: Cambridge Univ. Press, 2000); and M. C. Ricklefs, *War, Culture, and Economy in Java 1677–1726: Asian and European Imperialism in the Early Kartasura Period* (Sydney: Allen and Unwin, 1993).

- 43 Daniel Defoe, *A New Voyage Round the World, by a Course Never Sailed Before* (London: A. Bettesworth and W. Mears, 1725), 1, 3.
- 44 See, for example, Climatological Database for the World's Oceans 1750–1850, <http://www.ucm.es/info/cliwoc/> (European Union funded project 2001–3, UE contract EVK2-CT-2000-00090).
- 45 John Ovington, *A Voyage to Surat in the Year 1689*, in *India in the Seventeenth Century: Being an Account of the Two Voyages to India by Ovington and Thevenot*, ed. J. Guha, (New Delhi: Associated Publishing House, 1976), 64.
- 46 John Fryer, *A New Account of East India and Persia in Eight Letters, Being Nine Years Travels, Begun in 1672 and Finished 1681* (London, 1698), 68.
- 47 On changing European conceptions of climate and health in India, see Harrison, *Climates and Constitutions*, 58–109.
- 48 Markley, *Far East and the English Imagination*, 177–240.
- 49 John Locke, *Two Treatises of Government*, ed. Peter Laslett (Cambridge: Cambridge Univ. Press, 1960), 2, ¶49, 301.