

**Inventing the Indigenous**  
**Local Knowledge and Natural History in**  
**Early Modern Europe**

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*To my parents  
and to Tim*

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## Introduction

In the year 1643, on the shores of the Baltic, an obscure author published a small book on the plants to be found growing near his home town. Nicolaus Oelhafen's treatise was tiny, but it discussed what its author felt was a significant problem, one which extended far beyond its immediate setting, the merchant town of Danzig (today's Gdańsk). Why, Oelhafen complained, were so many people in his day fascinated by "strange" natural objects, "brought from faraway regions at great expense," while they "trod underfoot" those to be found at home? Rebuking them for their "ingratitude," he bitterly remarked that "Meanwhile, those things which grow under our own sun, in our own soil . . . if they don't lie entirely neglected and in contempt, are at any rate held to be viler than seaweed!"<sup>1</sup> In his book, Oelhafen attempted to reintroduce his readers to the richness and variety of their own easily accessible countryside by compiling a detailed inventory of hundreds of local plant species, together with notes on where they could be found. By thus documenting local nature, he hoped, he could help to remedy his compatriots' ignorance while reestablishing a sort of balance and harmony in the greater world.

By taking this step, Oelhafen joined himself to a much larger enterprise. For across early modern Europe, many of his contemporaries – in such areas as Italy, France, England, the Netherlands, and the scattered territories of the Holy Roman Empire – were also beginning to contribute to "natural history," as they saw it, by documenting their own local natural worlds. Natural history, which comprised the study of rocks, plants, animals, and any other phenomena that might conceivably be described as "natural," was a pursuit with a venerable genealogy dating back to Greco-Roman antiquity.<sup>2</sup>

<sup>1</sup> Nicolaus Oelhafen, *Elenchus plantarum circa nobile Borussorum Dantiscum suâ sponte nascentium* (Danzig: typis & impensis Georgi Rheti, 1643), 1–2.

<sup>2</sup> See Nicholas Jardine, James Secord, and Emma Spary, eds., *Cultures of Natural History* (Cambridge: Cambridge University Press, 1996). Brian W. Ogilvie, *The Science of Describing: Natural History in Renaissance Europe* (Chicago: University of Chicago Press, 2006), 87–89, has recently argued that there is in fact a sharp discontinuity between ancient and Renaissance natural history, in other words that since no uninterrupted *community* of naturalists persisted throughout antiquity and the Middle Ages, the discipline itself must be seen as having been invented by Renaissance naturalists, who first established such an enduring community.

But Oelhafen's early modern counterparts had few words to describe exactly what it was that they were doing, in their efforts to investigate *local* nature in particular. The ubiquity of the term "local" is itself a relatively modern phenomenon; during the early modern period, it was used only in certain fairly narrow contexts, for example to discuss "local motion" in physics. Some compilers of inventories, then, declared the essence of their projects to be the study of their "domestic" natural worlds, while others talked of the "indigenous" or the "native," or used other similar terms (these decisions, of course, being highly dependent on the languages they spoke and wrote). Many just simply announced their intention to focus on natural objects in a particular place, whether a town or entire territory. Gradually, these compilers of inventories became aware of each other's existence; they began to cite each other and to compare their own local natural phenomena, wherever in Europe they might be, with those elsewhere. And gradually, they came to see their projects as sharing a common goal: not only the furthering of knowledge about the natural world in general, but also the furthering of a very specific sort of natural knowledge, that of "indigenous" natural kinds profoundly influenced by the places where they were to be found.

This book explores the meanings of the "indigenous" and related concepts in early modern Europe. When we use the term "indigenous" today, we tend to refer almost exclusively to the *non*-European – to those species, peoples, cultures, and knowledges most dramatically affected by the Columbian Encounter and its aftermath. Yet over the course of the early modern period, Europe saw the emergence of a fascination with a very different "indigenous": its own. Many early modern Europeans, as they struggled to make sense of the kinds of diversity they confronted from the fifteenth century on – previously unknown peoples, rediscovered ancient authorities, disturbing religious differences – sought new ways of understanding their worlds, and especially of coping with what they often perceived as "strange" and "foreign" influences.<sup>3</sup> In the process, many of them came to see these influences as embodied not just in human affairs, but also in the *material* world, most visibly in the trade in foreign medicines and exotic substances that had existed ever since antiquity, but had expanded substantially following medieval urbanization and the Columbian Encounter itself.<sup>4</sup> Debating

However, since early modern naturalists did in fact frequently draw on Pliny as a model, and the range of his concerns actually corresponds quite well with theirs, this book will use the term "natural history" in its broader chronological and thematic sense.

<sup>3</sup> Anthony Grafton, *New Worlds, Ancient Texts: The Power of Tradition and the Shock of Discovery* (Cambridge, MA: Harvard University Press, 1992).

<sup>4</sup> This topic has long been studied primarily by historians of medicine and pharmacy, as well as by economic historians and food historians. In recent decades, however, cultural historians have begun to contribute as well: see for example Wolfgang Schivelbusch, *Tastes of Paradise: A Social History of Spices, Stimulants, and Intoxicants*, translated by David

the qualities and merits of these substances, many early modern Europeans thus came to interpret their experiences of the foreign in large part through the natural world as well as the human one. And as they grappled with issues of geography, identity, and natural origins, many Europeans began to look *inwards* as well as *outwards*. In short, they began to pay attention to an "indigenous" located within Europe itself.

This may seem a controversial claim. But it is one rooted in intellectual debates and practices within early modern Europe, ones we have long since forgotten. In the wake of the Columbian voyages and early colonial endeavors overseas, a number of impulses joined to promote the scrutiny of local nature in Europe. New forms of fascination with the material world led to new conceptions of knowledge. New preoccupations with difference, both between and within communities, prompted new technologies for the gathering and recording of information. And polemics arose in which many Europeans – from physicians to popular pamphleteers – began to question the value of what they termed "exotic" substances more generally. Challenging boosters of expensive and fashionable remedies from afar, whether lavishly-prepared medicines long imported from the Mediterranean world or the increasingly trendy hot beverages of chocolate, coffee, and tea, some physicians in particular began, in reaction, to declare the need to take inventory of what they called the "indigenous" or "domestic" natural worlds of their own towns and territories. The resulting movement reached deep into Europe, attracting supporters not only in such colonial powers as England, France, and the Netherlands, but also, even more prominently, in the fragmented and decidedly non-colonial territories of the Holy Roman Empire, where local institutions and sentiments combined to produce the strongest push for the rediscovery of European natural objects and environments. In each of these places, people began to put pen to paper and to attempt, haltingly at first, to catalogue the "lowly" and "humble" weeds and pebbles in front of their doorsteps.

This book is thus, in part, about the ways in which, during the early modern period, the "indigenous" natural worlds of early modern Europe came to be debated and, ultimately, painstakingly documented. It was in Europe, rather than its colonies, that the kinds of works we today call "local floras" – books that catalogued the plant species to be found within a given radius of a town (often three, four, or five miles) – first began to be written. While medieval authors and, even more notably, the humanist botanists of the early Renaissance had shown a keen eye for local nature, their tendency

Jacobson (New York: Vintage Books, 1992); the articles in Roy Porter and Mikuláš Teich, eds., *Drugs and Narcotics in History* (Cambridge: Cambridge University Press, 1995); and David T. Courtwright, *Forces of Habit: Drugs and the Making of the Modern World* (Cambridge, MA: Harvard University Press, 2001).

had been to embed their descriptions of local species within universalizing works, ones which aimed to encompass all existing knowledge.<sup>5</sup> But early modern local florists gloried in their self-prescribed limitations to the local, explicitly restricting themselves to the pursuit of species “indigenous” or “native” to strictly limited regions. Such works were soon followed by other local inventories, from mineralogical surveys of areas’ “subterranean riches,” to ambitious schemes to write the “natural histories” of entire territories. The production of these kinds of inventories, which would ultimately shape many of the most basic structures and assumptions of today’s environmental surveys, came to constitute one of the most significant arenas through which early modern Europeans engaged in reflecting on their own natural worlds – and, ultimately, on their perceptions of their own place within them.

By investigating this series of attempts to rediscover European nature, *Inventing the Indigenous* pursues several broader goals. One of these is to reconsider the ways in which Europeans thought about issues of geography and identity during this crucial period, so often labeled the “Age of Discovery.” Recently, in the wake of the quincentenary of Columbus’s first American voyage, a veritable explosion of scholarship on Europeans’ encounters with extra-European peoples has occurred, examining these encounters anew from a wide range of critical perspectives, including those of postcolonialism and the emerging field of Atlantic history.<sup>6</sup> This literature has brought many new insights. For example, while some scholars of colonialism have unfortunately tended to treat Europe as a monolithic entity, others have begun to use more sophisticated analyses to reveal the ways in which religiously and politically diverse European polities in fact drew on colonial encounters to shape their identities in very different ways.<sup>7</sup> Similarly, studies of the ways

<sup>5</sup> Jerry Stannard, “Natural History,” in *Science in the Middle Ages*, ed. David C. Lindberg (Chicago, IL: University of Chicago Press, 1978), 429–460; Karen Meier Reeds, “Renaissance Humanism and Botany,” *Annals of Science* 33 (1976): 519–542; Karen Meier Reeds, *Botany in Medieval and Renaissance Universities* (New York: Garland, 1991); and Ogilvie, *The Science of Describing*.

<sup>6</sup> To cite just a few of the most prominent works belonging to this literature: Stephen Greenblatt, *Marvelous Possessions: The Wonder of the New World* (Chicago, IL: University of Chicago Press, 1991); Mary Louise Pratt, *Imperial Eyes: Travel Writing and Transculturation* (London: Routledge, 1992); Anthony Pagden, *European Encounters with the New World From Renaissance to Romanticism* (New Haven, CT: Yale University Press, 1993); and Stuart B. Schwartz, ed., *Implicit Understandings: Observing, Reporting, and Reflecting on the Encounters Between Europeans and Other Peoples in the Early Modern Era* (Cambridge: Cambridge University Press, 1994). On Atlantic history, see for example Bernard Bailyn, *Atlantic History: Concepts and Contours* (Cambridge, MA: Harvard University Press, 2005) and the essays in David Armitage and Michael J. Braddick, eds., *The British Atlantic World, 1500–1800* (Houndsmills, UK: Palgrave Macmillan, 2002), which both (despite the latter’s geographical limits) include many useful references to broader work in the field.

<sup>7</sup> For a critique of some of the excesses of post-1992 revisionism, see Anthony Grafton, “The Rest versus the West,” *New York Review of Books* 44, 6 (1997): 57–64, reprinted in *Bring Out Your Dead: The Past as Revelation* (Cambridge, MA: Harvard University Press, 2001),

in which differences between culturally, ethnically, and religiously disparate groups were perceived at the time have shown the complexity of early modern views on these differences, in an era when modern reifications of “race” had not yet fully developed.<sup>8</sup> In short, as recent research has revealed, contacts with newly-trafficked continents reached much more deeply into particular European societies than has previously been realized, as new ideas about their own place in a broader world subtly shaped their self-conceptions.<sup>9</sup>

Yet early modern Europeans grappled with issues of geography and identity not only through reports of new and strange peoples, but also – as scholars have only recently begun to recognize – through the *natural* world, both near and far. Europeans had long been accustomed to attaching meanings to natural objects based on their perceived origins, experiencing exotic products like spices, for example, as freighted with the mystery of the Eastern lands they came from, while viewing the vegetables that grew in peasants’ gardens as emblematic of their “lowly” and humble nature.<sup>10</sup> This tendency

77–93. One key work demonstrating Europeans’ highly diverse approaches to colonialism is Patricia Seed, *Ceremonies of Possession: Europe’s Conquest of the New World, 1492–1640* (Cambridge: Cambridge University Press, 1996), though it too has been criticized as promoting a monolithic view of European societies, this time on a national level.

<sup>8</sup> Ivan Hannaford, *Race: The History of an Idea in the West* (Baltimore, MD: Johns Hopkins University Press, 1996); George M. Fredrickson, *Racism: A Short History* (Princeton, NJ: Princeton University Press, 2002); Joyce Chaplin, *Subject Matter: Technology, the Body, and Science on the Anglo-American Frontier, 1500–1676* (Cambridge, MA: Harvard University Press, 2001); Jorge Cañizares-Esguerra, “New World, New Stars: Patriotic Astrology and the Invention of Indian and Creole Bodies in Colonial Spanish America, 1600–1650,” *American Historical Review* 104, 1 (1999): 33–68; and the special issue titled “Constructing Race: Differentiating Peoples in the Early Modern World,” *William and Mary Quarterly*, 3rd ser., 54, 1 (1997).

<sup>9</sup> The classic work on the impact of the New World on the Old is J. H. Elliott, *The Old World and the New 1492–1650* (Cambridge: Cambridge University Press, 1970), though see also J. H. Elliott, “Final Reflections: The Old World and the New Revisited,” in *America in European Consciousness, 1493–1750*, ed. Karen Ordahl Kupperman (Chapel Hill: University of North Carolina Press, 1995), 391–408. Recent studies complicating Elliott’s theses include Grafton, *New Worlds, Ancient Texts*; Kathleen Wilson, *The Sense of the People: Politics, Culture, and Imperialism in England, 1715–1785* (Cambridge: Cambridge University Press, 1998); Kathleen Wilson, *The Island Race: Englishness, Empire, and Gender in the Eighteenth Century* (London: Routledge, 2002); and Benjamin Schmidt, *Innocence Abroad: The Dutch Imagination and the New World, 1570–1670* (Cambridge: Cambridge University Press, 2001). On the development not merely of new interests in the exotic, but of *exoticism* per se, see the recent work by Peter Mason, *Infelicities: Representations of the Exotic* (Baltimore, MD: Johns Hopkins University Press, 1998), and Benjamin Schmidt, “Inventing Exoticism: The Project of Dutch Geography and the Marketing of the World, circa 1700,” in *Merchants and Marvels: Commerce, Science, and Art in Early Modern Europe*, ed. Pamela H. Smith and Paula Findlen (New York: Routledge, 2002), 347–369.

<sup>10</sup> On spices see Schivelbusch, *Tastes of Paradise*, 3–14; on vegetables, Paul Freedman, *Images of the Medieval Peasant* (Stanford, CA: Stanford University Press, 1999), 154 and Allen J. Grieco, “The Social Politics of Pre-Linnean Botanical Classification,” *I Tatti Studies: Essays in the Renaissance* 4 (1992): 131–133.

seems only to have intensified in the wake of the Columbian voyages. As natural objects flowed in from an increasingly wide array of far-off continents, Europeans constructed imaginative geographies around their supposed origins. The New World medicaments known as “Brazil wood” and “balsam of Peru,” for example, advertised their exotic genealogy through their very names, and descriptions of their virtues reflected this positioning.<sup>11</sup> Cartographers, meanwhile, drew strange creatures onto their new maps to fill uncharted spaces, and these came to symbolize entire continents; thus, for example, images of macaws, opossums, and armadillos increasingly took on the symbolic freight of South America in its entirety.<sup>12</sup> Not only plants and animals, but also a wide range of other kinds of natural phenomena were assigned their places in the European imagination. The appearance in 1494 of the disease now known as syphilis, for example, sparked a controversy around its own naming, as soldiers on the Italian battlefields where it first struck debated whether to call it the “French” or the “Neapolitan” disease.<sup>13</sup> This kind of imaginative geography was, obviously, often mistaken in its attributions of origin. The wild “Turkey” fowl brought back from the New World had, for instance, no connection whatsoever with the Ottoman Empire.<sup>14</sup> But early modern Europeans nevertheless seem to have found natural objects “good to think with,” to paraphrase Lévi-Strauss.<sup>15</sup> Literally thousands of treatises were published over the course of the early modern period debating the merits of particular substances, from local beers or wines to exotic tinctures. In almost every case, the geographical origins of each item, as well as its prospects for replication or naturalization in

<sup>11</sup> For these examples, see Antonio Barrera-Osorio, *Experiencing Nature: The Spanish American Empire and the Early Scientific Revolution* (Austin: University of Texas Press, 2006). A thriving new literature has begun to emerge, based on the analysis of particular commodities in Atlantic or global contexts, and tracing their shifting cultural meanings: see for example John Brewer and Roy Porter, eds., *Consumption and the World of Goods* (London: Routledge, 1993); Arjun Appadurai, ed., *The Social Life of Things: Commodities in Cultural Perspective* (Cambridge: Cambridge University Press, 1996); Jordan Goodman, *Tobacco in History: The Cultures of Dependence* (London: Routledge, 1993); and Marcy Norton, *Sacred Gifts, Profane Pleasures: A History of Tobacco and Chocolate* (Ithaca, NY: Cornell University Press, forthcoming).

<sup>12</sup> Wilma George, *Animals and Maps* (Berkeley: University of California Press, 1969), 56–85.

<sup>13</sup> The former term struck, to the indignation of Gallic physicians who repudiated the dubious honor. See Claude Quénel, *History of Syphilis*, translated by Judith Braddock and Brian Pike (Baltimore, MD: Johns Hopkins University Press, 1990), 10, and Jon Arrizabalaga, John Henderson, and Roger French, *The Great Pox: The French Disease in Renaissance Europe* (New Haven, CT: Yale University Press, 1997), 40.

<sup>14</sup> Ken Alcala, *Eating Right in the Renaissance* (Berkeley: University of California Press, 2002), 233.

<sup>15</sup> For the original reference see Claude Lévi-Strauss, *Totemism*, translated by Rodney Needham (Boston: Beacon Press, 1963), 89. Another example of this phenomenon can be seen in the case of the court of Louis XIV, where certain kinds of flowers became powerful symbols for the king's own reign: see Elizabeth Hyde, *Cultivated Power: Flowers, Culture, and Politics in Early Modern France* (Philadelphia: University of Pennsylvania Press, 2005).

Europe, were presented as key topics for consideration. Natural objects thus offered Europeans attractive opportunities to think not only about faraway places, but also about where they themselves stood in a rapidly-changing world.

A striking example of this phenomenon may be seen in a cycle of four seventeenth-century paintings on the popular early modern theme of the “Allegory of the Continents,” completed by the Flemish still-life master Jan van Kessel of Antwerp between the years 1664 and 1666. In these paintings, devoted to “Europe,” “Asia,” “Africa,” and “America,” respectively, van Kessel allegorized each continent as a queen, surrounded by a plethora of artifacts and, most prominently, natural objects clearly set forth as emblematic of the continent itself. Thus “Africa,” for example, features a gigantic lion being stroked by its queen, while “America” is adorned by anteaters, an armadillo, a monkey, and several exotic birds.<sup>16</sup> Let us turn our attention, though, to the painting of Europe, or “Europa” as it is in fact titled (see Figure 1). Here Europe herself, represented as a queen, is seated in a large hall crammed full of objects and artifacts. Through a giant archway on the painting's left side can be seen the Castello Sant' Angelo with its bridge over the Tiber, placing the scene firmly in the traditional European cultural capital of Rome. Inside the hall, meanwhile, are ranged a vast array of both natural and artificial items which, it soon becomes apparent, symbolize the products of Europe. Among the artifacts shown strewn around the room, for example, are a celestial globe; several suits of medieval armor; a tall flag; assorted statues in the wall niches; an hourglass; a papal tiara; a portrait of Alexander VII (the Pope at the time); the Bible; and in the foreground, appearing somewhat incongruous amidst these more elevated objects, a set of playing cards and a tennis racket. Here, then, are depicted many of the most important symbols of European culture, representing its military, technological and scientific achievements as well as its religious triumphs, and not omitting its recreational pastimes – all displayed in liberal profusion around the figure of Europa herself.

Yet these symbols of European culture are in many ways overshadowed by the representations of European *nature* that occupy an even more prominent role in this painting. For the smiling queen's gaze is admiring *not* the above-mentioned symbols of her power, but rather a gigantic horn of plenty, stuffed full of fruit and grains, being handed to her by a cherub half its size. Meanwhile, at the very center of the picture stands a man (could he be Jan

<sup>16</sup> To add to the complexity of this cycle of paintings, Jan van Kessel placed a series of sixteen miniatures around the frame of each, surrounding its central panel and depicting animals and natural scenes associated with cities or places to be found on each continent; for the sake of simplicity, these are not treated here, though they reinforce many of the points made above. For further discussions of this cycle of paintings and of the broader genre of the “Allegory of the Continents,” see Ulla Krempel, ed., *Jan van Kessel d. Ä., 1626–1679. Die Vier Erdteile* (Munich: Alte Pinakothek, 1973), and Sabine Poeschel, *Studien zur Ikonographie der Erdteile in der Kunst des 16.-18. Jahrhunderts* (Munich: Scaneg, 1985).



Figure 1. Jan van Kessel, *Europa* (central panel), 1664–1666. The crowned female figure at the left represents Europe; the man at the center, possibly the artist himself. Note the abundance of both natural and artificial objects symbolizing the wealth of Europe. Courtesy of the Bayerische Staatsgemäldesammlungen, Alte Pinakothek Munich.

van Kessel himself?) holding up and gesturing at a painting of butterflies, dragonflies, and other insects, depicted flat against its surface as if pinned. This painting is, in turn, surrounded by others: a gigantic still-life of carnations, roses, and tulips emerging from a tiny vase; another painting of butterflies, this time portrayed in mid-flight against a background of peaceful hills; and, most curious of all, a painting depicting writhing snakes and caterpillars spelling out the name of the artist himself. Nor is this cluster of paintings, occupying a vast block of space in the image, the only reference to the natural world. Shells spill out over the floor, perilously close to Europa's and the cherub's feet, while an open book reveals still more images of butterflies and other insects, a closed book labeled "Plinius" alludes to the famous Roman's *Natural History* (which indeed enjoyed a considerable revival during the early modern period), and in the lower left corner, yet another painting (half-draped) can be seen, illustrating mandrake roots. Meanwhile, above all this profusion, murals of marine invertebrates, high on the topmost walls, overlook the scene. All of these *naturalia* are presented as emblematic of the European continent, bountiful in its harvests of grain, surrounded by the sea as well as mistress of it, and of a wide variety of technologies for understanding and representing the beauties of the natural world. For the

European viewer, in short, every natural object in this and other similar visual and verbal descriptions of the world was replete with meaning. Nature's productions helped serve as means of interpreting the geography of a world in flux, where trade and travel increasingly connected Europeans with wider horizons, and forced them to attempt to construct their own sense of their place in the world.

Under these circumstances, as this image suggests, Europeans began to pay new *kinds* of attention to natural objects, as well as to "nature" in the abstract. Collectors, for example, drew on correspondence networks and personal ties to assemble vast quantities of unusual and rare natural objects, which they then showcased in their cabinets of curiosities or *Wunderkammer*, with walls, cupboards, and even ceilings hung with specimens and/or depictions of *naturalia*.<sup>17</sup> Painters and engravers, meanwhile, carefully studied particular items so as to produce such depictions, sharpening their skills at new naturalistic forms of representation in the process.<sup>18</sup> Goldsmiths and other artisans labored to transform select natural objects, such as giant conch shells, into magnificently-crafted artifacts like drinking cups, inviting these objects' users to reflect and converse on the paradoxical relationships between art and nature.<sup>19</sup> Courtiers at Renaissance princely palaces – and, eventually, the earliest scientific academies – honed their wits on discussions of striking natural phenomena from the mysterious "Bologna stone" to the "Medicean stars" observed by Galileo (now known as the moons of Jupiter).<sup>20</sup> And, last but not least, a wide range of writers and compilers scratched their heads and attempted to figure out how, using newly-arrived printing technologies and older manuscript ones, to develop new intellectual tools to enable them to set these newly vibrant natural worlds down on paper.<sup>21</sup>

<sup>17</sup> Oliver Impey and Arthur MacGregor, eds., *The Origins of Museums: The Cabinet of Curiosities in Sixteenth- and Seventeenth-Century Europe* (Oxford: Clarendon Press, 1985); Paula Findlen, *Possessing Nature: Museums, Collecting, and Scientific Culture in Early Modern Italy* (Berkeley: University of California Press, 1994).

<sup>18</sup> See for example Svetlana Alpers, *The Art of Describing: Dutch Art in the Seventeenth Century* (Chicago, IL: University of Chicago Press, 1983).

<sup>19</sup> Pamela H. Smith, *The Body of the Artisan: Art and Experience in the Scientific Revolution* (Chicago, IL: University of Chicago Press, 2004).

<sup>20</sup> Mario Biagioli, *Galileo, Courtier: The Practice of Science in the Culture of Absolutism* (Chicago, IL: University of Chicago Press, 1993); Bruce T. Moran, ed., *Patronage and Institutions: Science, Technology and Medicine at the European Court, 1500–1750* (Woodbridge: Boydell, 1991).

<sup>21</sup> See for example the articles in Marina Frasca-Spada and Nick Jardine, eds., *Books and the Sciences in History* (Cambridge: Cambridge University Press, 2000); Helmut Zedelmaier and Martin Mulsow, eds., *Die Praktiken der Gelehrsamkeit in der frühen Neuzeit* (Tübingen: Niemeyer, 2001); Mario Biagioli and Peter Galison, eds., *Scientific Authorship: Credit and Intellectual Property in Science* (New York: Routledge, 2003); and, though it deals with a slightly later period, Daniel R. Headrick, *When Information Came of Age: Technologies of Knowledge in the Age of Reason and Revolution, 1700–1850* (Oxford: Oxford University Press, 2000).



Historians of science in particular have, over the past several decades, done much to illuminate how these and similar practices came to infuse the study of nature in early modern Europe with still further cultural meaning and importance. Whereas traditional Aristotelian natural philosophy, as taught at medieval universities, had emphasized a “common-sense” understanding of nature, grounded on the commonly observed attributes of living organisms and other natural phenomena, the “new science” of sixteenth- and seventeenth-century Europe came to focus more and more on strange and unusual phenomena, on “particulars” and other isolated “facts” that often posed challenges to traditional natural-philosophical explanations.<sup>22</sup> Virtuosi sought out *naturalia* that were rare and unusual, that challenged conventional expectations of nature, and sought to explain them. Many of the natural objects that attracted the most interest within learned circles were, in fact, exotic. Stuffed birds or animals from the Indies, or depictions of strikingly-shaped or -colored fruits of the tropics, fascinated viewers through their revelations of the diversity of forms that nature could produce. Though few natural inquirers were willing to undertake perilous journeys to new continents themselves to collect strange specimens, they nonetheless hastened to examine them as they arrived in Europe, and avidly read accounts of natural phenomena from newly-trafficked lands, in search of whatever new insights about nature’s workings these might provide.<sup>23</sup>

Yet as this book demonstrates, even while early modern Europeans sought out the rare and exotic, new and divergent ways of valuing nature simultaneously came into being, as many – especially the great majority of naturalists who would not have dreamt of travelling overseas – also began to pay new attention to what they called the “humble” and “common,” even “vulgar” natural worlds surrounding them. The “rarities” of nature, they argued, could be found as well at home as abroad, and even the most apparently undistinguished kinds of plants or minerals might possess hidden value.<sup>24</sup> These kinds of objects, they felt, were well worth cataloguing in

<sup>22</sup> Lorraine Daston, “Baconian Facts, Academic Civility, and the Prehistory of Objectivity,” *Annals of Scholarship* 8 (1991): 337–363; Lorraine Daston and Katherine Park, *Wonders and the Order of Nature, 1150–1750* (New York: Zone Books, 1998).

<sup>23</sup> For recent studies of early modern Europeans’ scientific interests in the foreign, see the articles in Londa Schiebinger and Claudia Swan, eds., *Colonial Botany: Science, Commerce, and Politics in the Early Modern World* (Philadelphia: University of Pennsylvania Press, 2005); Pamela H. Smith and Paula Findlen, eds., *Merchants and Marvels: Commerce, Science, and Art in Early Modern Europe* (New York: Routledge, 2002); and, though it deals primarily with eighteenth-century developments, Londa Schiebinger, *Plants and Empire: Colonial Bioprospecting in the Atlantic World* (Cambridge, MA: Harvard University Press, 2004).

<sup>24</sup> Keith Thomas, *Man and the Natural World: Changing Attitudes in England, 1500–1800* (London: Allen Lane, 1983), 58 and 66–69, discusses the long-standing application of traditional social hierarchies, like those of “nobility,” to the nonhuman world, and the gradual eclipse during the early modern period of these distinctions; his broader argument about

their own right – hence the profusion of local floras, regional mineralogies, and other kinds of local natural histories that began to be produced documenting towns’ and territories’ natural “wealth.” This development has, by and large, received little attention. On the whole, most historians – and, for that matter, other scholars in the humanities and social sciences – have long tended to regard topics relating to the natural world itself as beyond their purview.<sup>25</sup> Meanwhile, those scholars who *have* taken natural history seriously have, until quite recently, focused overwhelmingly on its classificatory aspects, to the exclusion of the many other meanings it held within early modern European culture.<sup>26</sup> Yet early modern writings on local nature, however obscure their “stay-at-home” authors, are, in fact, well worth our notice.<sup>27</sup> As they demonstrate, the early modern period saw the rise of new ways of valuing and understanding European objects and environments. By recovering this lost historical episode, and its consequences, this book aims to enhance significantly our understanding of how early modern Europeans actually thought about ideas of geography and identity, as they saw them mirrored in the natural world.

This book also has a broader goal, namely to reevaluate how we think today about issues of the local and of “local knowledge.” In recent years, work in a variety of disciplines has come to draw heavily on these concepts. Anthropologist Clifford Geertz’s influential *Local Knowledge*, for example, following on his earlier *Interpretation of Cultures*, exerted considerable

the early modern rise of sentimental, non-utilitarian attitudes towards nature has, however, been widely criticized. See also Grieco, 131–149.

<sup>25</sup> Recently, however, this has been changing, as historians of art and literature have taken an interest in representations of nature, and as environmental historians and commodity historians have sought to reintegrate natural environments and objects into history; for discussions of the latter two approaches, see William Cronon, “A Place for Stories: Nature, History, and Narrative,” *Journal of American History* 78 (1992): 1347–1376, and the works cited in note 10 above.

<sup>26</sup> As a number of scholars have begun to show, the pursuit of early modern natural history in fact had many different goals, extending far beyond the merely taxonomic; see for example Jardine et al., eds., *Cultures of Natural History*; Paula Findlen, *Possessing Nature*; Londa Schiebinger, *Nature’s Body: Gender in the Making of Modern Science* (Boston: Beacon Press, 1993); Lisbet Koerner, *Linnaeus: Nature and Nation* (Cambridge, MA: Harvard University Press, 1999); E. C. Spary, *Utopia’s Garden: French Natural History from Old Regime to Revolution* (Chicago, IL: University of Chicago Press, 2000); David Freedberg, *The Eye of the Lynx: Galileo, His Friends, and the Beginnings of Modern Natural History* (Chicago, IL: University of Chicago Press, 2002); Schiebinger, *Plants and Empire*; and Ogilvie, *The Science of Describing*.

<sup>27</sup> In fact, by far the majority of Europeans were and have always been “stay-at-homes,” in the sense that they contemplated broader worlds from the perspective of the armchair traveler; see for example Mary B. Campbell, *The Witness and the Other World: Exotic European Travel Writing, 400–1600* (Ithaca, NY: Cornell University Press, 1988) and Susanne Zantop, *Colonial Fantasies: Conquest, Family, and Nation in Precolonial Germany, 1770–1870* (Durham, NC: Duke University Press, 1997).

influence on scholars inspired by the book's implied project: namely the recovery and "thick description" of individuals' or communities' ways of knowing the world, previously ignored or suppressed in favor of seemingly universal "modern" forms of knowledge.<sup>28</sup> The concept of "local knowledge" has since been applied to a wide variety of situations and problems. Researchers in environmental studies and international development, for example, have used it repeatedly to explore contemporary controversies from England to the Philippines, showing how ordinary people in these places possessed crucial understandings and practices, for example related to agricultural sustainability or natural limits, that had been dismissed by the "experts."<sup>29</sup> Historians, meanwhile, have long been accustomed to paying close attention to particular local contexts. But recently, exciting work has begun to appear on how, in non-European situations in particular, "indigenous knowledges" either came to be assimilated into European knowledge systems, or were rejected for inclusion in them.<sup>30</sup> The results of this work have been quite rewarding, and have opened new avenues for scholarly research.

What this book aims to do, however, is examine the trajectory of "local knowledge" *within* Europe itself. For it was within Europe, during the early modern period, that numerous claims came to be made about the emergence of a new and seemingly "universal" form of knowledge, namely that which we nowadays associate with modern science. Over the past several decades, many scholars have come to argue that some of the most important features of this new "universal" knowledge in fact had their roots in the "local" settings in which they originated: in the laboratories of Robert Boyle, for example, and in his assistants' intimate knowledge of what it took to make an experiment actually "work."<sup>31</sup> Much of this scholarship

<sup>28</sup> Clifford Geertz, *Local Knowledge: Further Essays in Interpretive Anthropology* (New York: Basic Books, 1983). This book followed Geertz's equally influential *The Interpretation of Cultures: Selected Essays* (New York: Basic Books, 1973).

<sup>29</sup> See for example Frank Fischer, *Citizens, Experts, and the Environment: The Politics of Local Knowledge* (Durham, NC: Duke University Press, 2000); and Alan Bicker, Paul Sillitoe, and Johan Pottier, eds., *Investigating Local Knowledge: New Directions, New Approaches* (Aldershot, UK: Ashgate, 2004).

<sup>30</sup> On the appropriation (or lack thereof) of indigenous knowledge during different periods, see Richard Grove, *Green Imperialism: Science, Colonial Expansion and the Emergence of Global Environmentalism, 1660-1880* (Cambridge: Cambridge University Press, 1994), 73-94; Judith Carney, *Black Rice: The African Origins of Rice Cultivation in the Americas* (Cambridge, MA: Harvard University Press, 2001); Jorge Cañizares-Esguerra, *How to Write the History of the New World: Histories, Epistemologies, and Identities in the Eighteenth-Century Atlantic World* (Stanford, CA: Stanford University Press, 2001); Schiebinger, *Plants and Empire*. On indigeneness itself, or "indigeneity," see Jace Weaver, "Indigeneness and Indigeneity," in *A Companion to Postcolonial Studies*, ed. Henry Schwarz and Sangeeta Ray (Oxford: Blackwell, 2000), 221-235.

<sup>31</sup> Steven Shapin and Simon Schaffer, *Leviathan and the Air-Pump: Hobbes, Boyle, and the Experimental Life* (Princeton, NJ: Princeton University Press, 1985).

has concerned itself with disciplines such as physics, whose laws are now indeed seen as applicable everywhere and in all situations. By probing the origins of these most paradigmatic of the modern sciences, and seeking to show the ways in which even the most apparently universal kinds of modern knowledge were shaped by the circumstances in which they were formed, researchers have been able to study the complex negotiations by which these kinds of knowledge first came to be accepted as authoritative, and ultimately universal.<sup>32</sup>

Natural history, however, presented a very different case, as early modern Europeans became more and more aware of the variety of forms that natural phenomena displayed across Europe and across the globe.<sup>33</sup> Because the species and natural objects they investigated tended to differ from place to place, very few naturalists were ever thus in a position to make "universal" claims, as did natural philosophers such as Boyle; instead, the vast majority of naturalists came, in their geographically-defined catalogues, to define themselves through their very possession of what we would nowadays call "local" rather than universal knowledge. Their efforts to do so were complicated by the intricate and often-shifting political geography of Europe during the Age of Religious Wars, and even afterwards. Many scholars have characterized this era before the emergence of the modern nation-state as one of intense localism and regionalism; though often seen as having been strongest in parts of Europe which, like Italy and the German territories, lacked centralizing monarchies, this is also frequently acknowledged as one of the basic conditions of premodern life throughout the entire continent,

<sup>32</sup> Examples of works along these lines would be too numerous to cite; for some recent theoretical approaches to this set of problems, see Adi Ophir and Steven Shapin, "The Place of Knowledge: A Methodological Survey," *Science in Context*, 4 (1991): 3-21; Steven Shapin, "Placing the View from Nowhere: Historical and Sociological Problems in the Location of Science," *Transactions of the Institute of British Geographers*, 23 (1998): 5-12; David N. Livingstone, *Putting Science in its Place: Geographies of Scientific Knowledge* (Chicago, IL: University of Chicago Press, 2003); and the articles in David N. Livingstone and Charles W. J. Withers, eds., *Geography and Revolution* (Chicago, IL: University of Chicago Press, 2005).

<sup>33</sup> Martin Rudwick has over his career repeatedly drawn attention to the ways in which the physical location of and difference between natural objects has shaped directions of scientific research; see for example his *The Great Devonian Controversy: The Shaping of Scientific Knowledge Among Gentlemanly Specialists* (Chicago, IL: University of Chicago Press, 1985); for a discussion of natural history specifically as a "science of difference," see Schiebinger, *Nature's Body*. See also Dorinda Outram, "New Spaces in Natural History," in N. Jardine, J. A. Secord, and E. C. Spary, eds., *Cultures of Natural History* (Cambridge: Cambridge University Press, 1996), 249-265, and Peter Dear's recent point about the direct relevance of geography to the making of natural-historical knowledge in particular in his "Space, Revolution, and Science," in David N. Livingstone and Charles W. J. Withers, eds., *Geography and Revolution* (Chicago, IL: University of Chicago Press, 2005), 38-39.

and it was one that naturalists had to adapt to as they attempted to discover and define “indigenous” nature.<sup>34</sup>

This localism or regionalism might take place on many different geographical levels. First, there was that of the town or village, which depending on its size might be walled off from the countryside for protection; the surrounding countryside, though, was often conceptualized as belonging to the town in question.<sup>35</sup> A person’s primary political allegiance would often be to this most basic unit, as seen in the fact that references to a person’s *patria* (literally “fatherland”) frequently referred just to his or her town, nothing more; in early modern Europe, people from other towns were thus often considered “foreigners.” Then there might follow a whole sequence of larger regional units of administration, depending on the political structure of the area in question; England, for example, inherited from the medieval period a complex pattern of boroughs, shires, and counties, while in the Holy Roman Empire, where over 1000 territories of different sizes effectively ruled themselves, these kinds of regional units ranged from tiny Church-owned landholdings to enormous princely states. Finally, on what we would nowadays call the “national” level, monarchies and, less commonly, republics or confederations held sway, if indeed their influence was felt at all. Many residents of territories within the Holy Roman Empire, for example, seem to have been barely aware of its presence, since it had far less impact on daily life than the more immediate contexts of town and territory; and to have conceived of themselves not so much as imperial subjects, but rather as members of a German “nation” defined more on ethnic and linguistic terms than political ones. When naturalists set out to write about “indigenous” or “domestic” natural worlds, then, they had many different options as to what might be the appropriate scale on which to explore.

In the process of writing their works, though, and thus constructing their own forms of what we might call “local” knowledge, naturalists were confronted with the existence of *other* forms of understanding of local natural worlds. For various other forms of writing about the local existed at the time, some of which did include reference to the “natural.” For example, medieval city chronicles, in their narrations of natural disasters and urban response,

<sup>34</sup> See for example Dietrich Gerhard, “Regionalismus und ständisches Wesen als ein Grundthema europäischer Geschichte,” *Historische Zeitschrift*, 174 (1952): 303–337; on the case of the German territories in particular, see Hajo Holborn, *A History of Modern Germany* (Princeton, NJ: Princeton University Press, 1982), I, 12–14 and II, 37–38; and Walter Bruford, *Germany in the Eighteenth Century* (Cambridge: Cambridge University Press, 1952), especially Ch. 1, “Kleinstaaterei.” While recent works have urged the “provincializing” of Europe – i.e. Dipesh Chakrabarty, *Provincializing Europe: Postcolonial Thought and Historical Difference* (Princeton, NJ: Princeton University Press, 2000) – by examining developments in other parts of the world, an alternative strategy for doing this is to explore the ways in which Europe was already provincialized from within.

<sup>35</sup> Since extremely few urban areas in early modern Europe had more than 10,000 inhabitants, even those labeled “cities” at the time would nowadays be considered towns.

had long told stories about nature, while setting it into its human context. Renaissance humanists, meanwhile, both Italian and Northern, had come to compose a wide variety of works, from civil history to chorography (regional geography), in praise of their towns and territories; these had tended to intermix civil and natural history while rooting them in the classical genres of *laus* (praise) and panegyric.<sup>36</sup> Meanwhile, agents of European states had since the late medieval period begun, extremely gradually, to survey their territories in various ways, whether qualitative or quantitative, verbal or visual: from charging officials with updating or generating new records for tax purposes, for example, to commissioning maps of particular areas.<sup>37</sup> The state, however, was far from the only entity interested in making use of local knowledge. Cartographers, for example, found their knowledge of geographical techniques highly sought after by numerous groups in addition to the state, such as merchants eagerly seeking trade advantages, and printer-publishers well-aware of the commercial potential of the aesthetically pleasing new maps.<sup>38</sup> Meanwhile, still other forms of local knowledge about nature existed, from herbalists’ familiarity with local plant remedies,<sup>39</sup> to

<sup>36</sup> On humanist local history and topography, see for example Hans Baron’s classic *Crisis of the Early Italian Renaissance: Civic Humanism and Republican Liberty in an Age of Classicism and Tyranny* (Princeton, NJ: Princeton University Press, 1966); D. R. Woolf, *The Social Circulation of the Past: English Historical Culture, 1500–1730* (Oxford: Oxford University Press, 2003); Stan A. E. Mendyk, *Speculum Britanniae: Regional Study, Antiquarianism, and Science in Britain to 1700* (Toronto: University of Toronto Press, 1989); Frank L. Borchart, *German Antiquity in Renaissance Myth* (Baltimore, MD: Johns Hopkins University Press, 1971); and Gerald Strauss, *Sixteenth-Century Germany: Its Topography and Topographers* (Madison: University of Wisconsin Press, 1959).

<sup>37</sup> See for example Jacques Revel, “Knowledge of the Territory,” *Science in Context*, 4 (1991): 133–161; David Buisseret, ed., *Monarchs, Ministers and Maps: The Emergence of Cartography as a Tool of Government in Early Modern Europe* (Chicago, IL: University of Chicago Press, 1992); Michel Foucault, “Questions on Geography,” in *Power-Knowledge: Selected Interviews and Other Writings 1972–1977*, ed. Colin Gordon (Brighton, UK: Harvester, 1980), 74–7; and James C. Scott, “Nature and Space,” in *Seeing Like a State* (New Haven, CT: Yale University Press, 1998), 11–52. Scott argues that these state-based projects had the effect of simplifying complex local conditions and making them “legible” to the state; for a cautionary note, though, see Chandra Mukerji, “The Great Forestry Survey of 1669–1671: The Use of Archives for Political Reform,” *Social Studies of Science*, forthcoming, which argues that state agents, on the contrary, often cultivated “near-sightedness,” producing accounts rich in local detail.

<sup>38</sup> On early modern mapping and its multiple audiences, see for example Jerry Brotton, *Trading Territories: Mapping the Early Modern World* (Ithaca, NY: Cornell University Press, 1997); Lesley Cormack, *Charting an Empire: Geography at the English Universities, 1580–1620* (Chicago, IL: University of Chicago Press, 1997); and Denis E. Cosgrove, *Apollo’s Eye: A Cartographic Genealogy of the Earth in the Western Imagination* (Baltimore, MD: Johns Hopkins University Press, 2001).

<sup>39</sup> Because it was rarely recorded, whether for reasons of secrecy or illiteracy, historians have found the knowledge of herbalists on the village level very difficult to track (Renaissance “herbals,” though they may have drawn on herbalists’ experiences, were in most cases compiled by learned physicians or printers), but for some suggestive approaches to reconstructing this knowledge, see Jole Agrimi and Chiara Crisciani, “Immagini e ruoli della ‘vetula’ tra

peasants' understandings of the land they plowed.<sup>40</sup> During the early modern period, however, certain particular forms of local inventory – for example, the local floras and other genres that will be discussed in this book – came to acquire a special status among natural inquirers as privileged repositories of empirical information about the individual objects and species that made up the natural world. Over the course of this transformation, the authors of local natural inventories drew on and incorporated many different kinds of knowledge and expertise. Yet owing to the very “local” nature of these inventories, they ultimately came to be challenged as insufficiently “universal” for a world transformed in many ways by the new sciences.<sup>41</sup> One of the contributions of this book will be, hopefully, to illuminate some of these tensions and contradictions in light of their historical origins.

Let me reframe this set of problems in a somewhat different way: through the example of an intriguing map I found in the early pages of a standard botanical reference work, D. G. Frodin's *Guide to Standard Floras of the World*.<sup>42</sup> This “five-grade map of the approximate state of world floristic knowledge as of 1979” (see Figure 2) graphically displays a striking unevenness, or disparity, in modern botanists' perceptions of how much they know about different parts of the world. While the map shows much of the globe – Africa, Asia, and the Americas, for example – as lightly shaded, i.e. relatively poorly known, much of northern Europe stands out in contrast, densely colored, as quite well-studied. Some regions appear particularly dark, suggesting especially intense investigation: England, the Netherlands, Switzerland, much of Scandinavia, and a large swathe of central Europe. Here so much detailed information has apparently become available, in forms that professional botanists can digest, that certain small areas of the map are shown almost black with information.

This map presents us with a world which is, in large part, the outcome of the historical processes analyzed in this book. In this world, natural

sapere medico e antropologia religiosa (secoli XIII–XV),” in *Poteri carismatici e informali: chiesa e società medioevali*, ed. Jole Agrimi (Palermo: Sallerio, 1992), 224–261; J. Burnby, “The Herb Women of the London Markets,” *Pharmaceutical Historian* 13 (1983): 5–6; and Martha Baldwin, “Expanding the Therapeutic Canon: Learned Medicine Listens to Folk Medicine,” in James Van Horn Melton, ed., *Cultures of Communication from Reformation to Enlightenment: Constructing Publics in the Early Modern German Lands* (Aldershot, UK: Ashgate, 2002).

<sup>40</sup> See Piero Camporesi, “Retarded Knowledge,” in *The Anatomy of the Senses: Natural Symbols in Medieval and Early Modern Italy*, translated by Allan Cameron (Cambridge: Polity Press, 1994).

<sup>41</sup> On rejection of the “particular,” even amidst the use of “particulars,” in universal science, see Lorraine Daston, “How Nature Became the Other: Anthropomorphism and Anthropocentrism in Early Modern Natural Philosophy,” in *Biology as Society, Society as Biology: Metaphors*, ed. Sabine Maassen (Dordrecht: Kluwer, 1995), 38–39.

<sup>42</sup> D. G. Frodin, *Guide to Standard Floras of the World*, 2nd ed. (Cambridge: Cambridge University Press, 2001), 12.

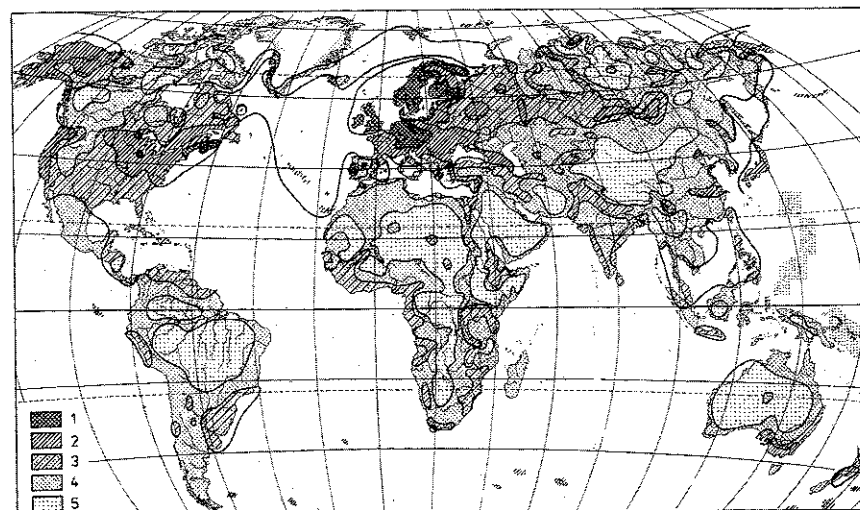


Figure 2. “Five-grade map of the approximate state of world floristic knowledge as of 1979.” The more darkly an area is shaded, the more thoroughly it is believed to be scientifically “known.” Contrast in particular the shading of various parts of northern Europe with that of Latin America, Africa, and Asia. From D. G. Frodin, *Guide to Standard Floras of the World*, 2nd ed. (Cambridge: Cambridge University Press, 2001), p. 12, as revised from E. J. Jäger in *Progress in Botany* 38 (1976), p. 317.

knowledge is far from evenly distributed. Even though an enormous quantity of books, articles, and other documents have come to be published over the past five centuries on the local natural worlds of particular places, certain areas have come to receive much more “scientific” attention than others, in ways which, as the global patterning of this particular map suggests, clearly go beyond mere random distribution. As the respective colorations of Europe and the rest of the world attest, historical conditions have here played an enormous role in shaping what has been judged or defined as “known,” and what is seen as remaining “unknown.” For example, the local flora has clearly come to serve, in this map, as an arbiter of “world floristic knowledge”; in other words, as the unit upon which, according to the map, botanical knowledge is to be built. *Inventing the Indigenous* explores how it was that the local flora, and its related genres, came to assume this role, despite their own “local” origins in early modern Europe; in short, how these kinds of judgments about the validity and extent of different kinds of knowledge came to be made in the first place. In the course of examining early modern European decisions to record and make public information about specific natural objects, the book thus simultaneously explores how it was that some crucial activities of science came to be distributed in unequal ways, and the broader implications of this development.

The chapters in the book move, both chronologically and thematically, from early concerns with the “indigenous” to their realization in various situations and contexts. Chapter 1 uses the tools of cultural and intellectual history to investigate the origins of early modern Europeans’ interests in their own “indigenous” or “domestic” natural worlds, as they called them, amidst a new era of cross-cultural encounter and exchange. Looking at examples ranging from the early writings of Paracelsus, the controversial sixteenth-century medical reformer, through an assortment of herbal, medical, and travel writings of the next two centuries, the chapter traces how the very categories of the “indigenous” and the “exotic” (which came to be seen as the polar opposite of the “indigenous”) came to be formed in the early modern European imagination.

Chapter 2, meanwhile, approaches these issues from a social and institutional perspective. It focuses on the emergence of one particular way of documenting the European “indigenous”: namely through what we now call “local floras,” or catalogues of plants to be found growing in a given area, which came to be compiled and published in ever-growing numbers throughout Europe. Investigating the origins and development of this genre in provincial towns, universities, and gardens, the chapter explores how the pursuit of “indigenous” nature came to be translated into practice, in the quest for a natural diversity to be found within Europe itself.

Turning to a different form of interest in the “indigenous,” Chapter 3 investigates efforts in the German territories, after the end of the Thirty Years’ War, to survey the full range of those territories’ rocks and minerals. The resulting documents, which might be termed regional mineralogies, diverged from local floras in significant ways. Taking as a case study the striking example of the “lying stones” of Würzburg, and drawing on insights from the correspondence of late seventeenth- and early eighteenth-century writers of regional mineralogies, the chapter analyzes authors’ attempts to publicize their own local areas’ “natural riches” for the benefit of local economies and states, and argues that for inhabitants of early modern Central Europe, local rocks and minerals came to provide a way to discuss the “nature” of their own territories.

Chapter 4 explores the ways in which, in seventeenth- and eighteenth-century Europe, various individuals embarked on utopian attempts to describe the full “natural history” of entire regions – not only their plants or minerals but also a wide range of phenomena from their birds and bugs to their weather, climate, and landscape more generally. As this chapter shows, naturalists in different areas of Europe had very different approaches toward this goal. The chapter focuses on the efforts of naturalists in different areas to influence each other through the new international networks provided by scientific academies and journals, and on the problems they encountered in attempting to communicate their “local” knowledge to an increasingly far-flung audience.

Chapter 5, finally, takes stock of these various European efforts to document the “indigenous” in the natural world. Examining the very different ways in which the Swiss naturalist Johann Jakob Scheuchzer and his renowned Swedish counterpart Linnaeus framed their early-eighteenth-century histories and bibliographies of natural history, the chapter argues that Linnaeus’s contemptuous dismissal of earlier local naturalists has masked the ways in which Linnaeans ended up incorporating many aspects of previous traditions of local natural history. The chapter argues that debates about “local knowledge” thus ended up being embedded within the genre of the inventory of nature itself.

Before launching into the book proper, however, a note on methodology may be helpful. Owing to the nature of the developments discussed, which unfolded over the course of centuries and in various different areas within Europe, the book will of necessity range rather broadly in both space and time. The approach will therefore be transnational, with the aim of contrasting the varying styles of local natural history that emerged in different places within Europe; however, considerable attention will be granted to Central Europe and in particular the early modern German territories, where, for reasons the book will attempt to explore, some of the earliest forms of local natural history originated.<sup>43</sup> Because of this emphasis on the origins of those forms of local natural history that still survive today, most of which did emerge within the geographical limits of the European continent, the book will therefore unavoidably be Eurocentric in its structure, i.e. colonial developments will be discussed only insofar as they influenced or were influenced by what happened in Europe. Despite this limitation, however, the book will indeed attempt to demonstrate some of the various ways in which broader interconnections between different parts of the world did indeed affect local natural history within Europe itself, as Europeans increasingly began to look outwards – though often, as we shall see, to the Old World rather than the New.<sup>44</sup> No single force or set of forces will be seen to emerge as a sole cause for the new focus on the indigenous in early modern Europe. Rather, numerous paths joined; this book will explore some of their interconnections.

<sup>43</sup> When the phrase “German territories” is used, it will normally refer to the territories within the early modern Holy Roman Empire (*Heiliges Römisches Reich deutscher Nation*); these generally, but not always, overlap with the German-speaking areas of Central Europe. If the terms “German” or “Germany” are used, they should be read as referring to the cultural context of both above-mentioned areas, not to the political unit of unified Germany as created in the nineteenth and twentieth centuries.

<sup>44</sup> On this issue more generally, see Jerry Bentley, *Old World Encounters: Cross-Cultural Contacts and Exchanges in Pre-Modern Times* (Oxford: Oxford University Press, 1993). For recent discussions of Atlantic vs. Old World encounters, see Joyce E. Chaplin, “Expansion and Exceptionalism in Early American History,” *Journal of American History* 89 (2003): 1431–1455; Peter A. Coclanis, “*Drang Nach Osten*: Bernard Bailyn, the World-Island, and the Idea of Atlantic History,” *Journal of World History* 13 (2002): 169–182.

Finally, a note on nomenclature may also be helpful. As has already been mentioned, the analysis of the very terminology that was and is still used to discuss the “local,” “indigenous,” and so forth will form one of the main tasks of this book. In general, my tendency will be to use the “actors’ categories” whenever possible, that is to say the actual terms people used during the early modern period (or their closest English equivalents). However, this is not always possible, and in such cases, I will simply use words according to my best estimate of common English usage today. For example, when the word “local” is used outside of quotation marks, I will use it in its most common colloquial modern sense, namely as referring to phenomena occurring on a very small scale (say, within a village, or a small group of people); I will reserve the terms “regional” and “national” to refer to those larger scales of interaction. Likewise, I will refer to the genre of local plant inventories as the “local flora,” since this is the term by which it has come to be known today; and, by extension, I will refer to similar genres that emerged in the early modern period as works of “local natural history,” since no better umbrella term suggests itself. Similarly, even though few of the individuals I discuss would have thought of themselves primarily as “Europeans” – other forms of regional, religious, and ethnic identity would have been far more meaningful to them – I will indeed have to use this term at times, to contrast them implicitly or explicitly with non-Europeans. In general, however, my guiding principle will be to use and explain early modern categories whenever possible, and to attempt to make them meaningful to the modern reader; this is also, of course, the goal of the book as a whole.

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## Home and the World: Debating Indigenous Nature

In 1652, London apothecary Nicholas Culpeper published an herbal titled *The English Physitian, or, An Astrologo-Physical Discourse of the Vulgar Herbs of this Nation*. This work, which became so popular that it was reprinted numerous times and, as “Culpeper’s Herbal,” remains in print even today, had a simple goal: to discuss how anyone could “cure himself, being sick, for three pence charge, with such things only as grow in *England*, they being most fit for English Bodies.” Previous authors on plants, argued Culpeper, had failed to do this. Instead, he charged, they had “intermixed many, nay very many outlandish Herbs,” and in the process caused immeasurable harm. He meant his book to remedy the situation.<sup>1</sup>

What did Culpeper mean by “outlandish Herbs,” and why did he set out to write about “such things only as grow in *England*” in response? To answer these questions, it will be necessary to venture into a set of wide-ranging early modern debates over nature and the native, debates which had their origins long before Culpeper first set pen to paper. For when Culpeper used the word “outlandish,” he did not mean merely to say that the herbs he was writing about were strange, perhaps, or weird – though he would almost certainly have appreciated these semi-pejorative connotations, and hoped that his readers would as well. But he was also using the word in its original, literal sense, now obsolete or almost so. “Outlandish” things were those that came from outside one’s native land or country, that were foreign or exotic, native to another place, not one’s own. According to Culpeper, foreign herbs were not only expensive, difficult to procure, and often adulterated, they were also not even “fit for English Bodies.” What his countrymen needed, claimed Culpeper, was a source of information on those plants they could call their own. And in his *English Physitian*, he set out to do just that.

Culpeper was not alone. Over the course of the sixteenth and seventeenth centuries, a new enthusiasm for exploring the local natural worlds of early modern Europe came into being. This interest manifested itself in numerous ways, but especially in the pursuit of natural history, the time-honored

<sup>1</sup> Nicholas Culpeper, *The English Physitian: or, An Astrologo-Physical Discourse of the Vulgar Herbs of this Nation* (London: printed by Peter Cole, 1652), sig. A2v (emphasis in original).



study of such natural phenomena as plants and minerals. Amidst an age of exploration and long-distance travel, which saw the spread of European contacts worldwide, many Europeans came to busy themselves much closer to home, producing a wide range of works documenting the natural variety to be found not abroad, but rather within Europe itself. Herbals like Culpeper's proliferated, as did new genres like local floras or plant catalogues, regional mineralogies, and natural histories of entire territories. Each of these genres developed its own distinctive set of techniques for taking inventory of what came to be called the "indigenous," "native," or "domestic" natural productions of Europe. Drawing on a fierce set of polemics about natural origins, authors of these works came to contrast "indigenous" European natural objects with "exotic" imports from other lands. Even as boosters of these imports made lavish claims about their curative powers and other striking qualities, authors of the new local natural histories blasted exotic substances for their perceived moral and medical as well as economic dangers. In the process, the natural world came to serve as a mirror for concerns about geography and identity in early modern Europe.

This chapter will explore the origins of this early modern fascination with the "indigenous," and the debates that accompanied it. As the chapter will show, sixteenth- and seventeenth-century Europe saw the convergence of a number of factors that spurred individuals to begin to look in new ways at their local natural worlds, and to consider how these might be related to natural worlds elsewhere. Renaissance discoveries and rediscoveries, anxieties over the potentially corrupting effects of commerce, and tensions over hierarchies within and beyond the healing professions were all among the contexts that shaped the emergence of a powerful series of concerns about the European "indigenous" vis-à-vis the exotic. Taking one especially revealing early treatise as a case study, the chapter maps the general contours of the debate over the indigenous, before proceeding to examine how it unfolded over the course of the sixteenth century and on into the seventeenth. In this investigation into concepts and origins, no single force or set of forces emerges as a sole cause for early modern Europe's fascination with the indigenous. Rather, numerous paths joined; this chapter will explore some of their interconnections.

"THERE ARE IN GERMANY SO MANY MORE  
AND BETTER MEDICINES . . ."

Thus claimed Paracelsus, the notorious Swiss medical reformer and religious radical of the early sixteenth century, in his *Herbarius*, or treatise "concerning the Powers of the Herbs, Roots, Seeds, etc. of the Native Land and Realm of Germany." And this forms a perfect place to begin a discussion of sixteenth-century views on nature and its geography. Though the iconoclastic Paracelsus can hardly stand for a typical early modern individual (if such

a person indeed ever existed!), nonetheless, his case provides considerable insight into broader sixteenth-century European concerns over the geographical origins of natural objects, concerns which would be expressed again and again by authors from a wide range of European polities over the course of the century. Paracelsus is justifiably better known for his medico-chemical and theological writings, in which he rejected the traditional scholastic learning of the medieval university and set forth his own idiosyncratic views on nature, medicine, and the occult realm; such writings comprise by far the greatest part of the vast body of work he produced.<sup>2</sup> But in his *Herbarius*, a short and fragmentary work composed in German during the 1520s but published only later in the century, we can nonetheless find a particularly striking vantage point into much broader sixteenth-century debates about the origins of natural objects, and the cultural meanings they acquired as a result of these origins.<sup>3</sup>

Paracelsus chose to commence his *Herbarius* with an appeal to his German-speaking readers. It is worth reproducing here, for it encapsulates many of the concerns he and other polemicists were to articulate:

Because I see that the medicines of the German nation come from far-off lands at great cost and with much care, effort, and travail, I have been moved to ask whether Germany might not itself be in command of medicines, and whether, without the foreign sort, these may exist also in its own domain.<sup>4</sup>

Several different themes may be discerned amidst Paracelsus's tangled phrasing. First, we observe a sort of "German" patriotism or cultural pride in Paracelsus's effort to prove his own region's remedies equal to (or better than) those of other areas, and to rescue them from their perceived neglect. This is a position resonant not only with the values of Renaissance civic humanism, with its focus on local pride, but also with the kinds of patriotic sentiments stirred up by the Reformation in northern Europe. As historians of this period have noted, Luther's appeals to the "Germans" and to the "German nation" were crucial in fostering a sense of regional identity in the fragmented territories of the Holy Roman Empire, long before

<sup>2</sup> Walter Pagel, *Paracelsus: An Introduction to Philosophical Medicine in the Era of the Renaissance* (Basel: Karger, 1958).

<sup>3</sup> This treatise has been translated into English in Bruce T. Moran, "The *Herbarius* of Paracelsus," *Pharmacy in History* 35 (1993): 99-127. For convenience, all quotations will be from this translation. The original German text is available as "Herbarius Theophrasti [Paracelsi] de virtutibus herbarum, radicum seminum etc Alemaniae, patriae et imperii" in *Theophrast von Hohenheim gen. Paracelsus Sämtliche Werke. I. Abteilung: Medizinische, naturwissenschaftliche und philosophische Schriften*, ed. Karl Sudhoff (Munich & Berlin: Oldenbourg, 1930), vol. II, 3-58. Moran, 101, explains the complicated publishing history of this treatise; although it was composed during the mid- to late 1520s, pieces of it only originally appeared separately, in 1568, and were first published together as an ensemble in 1570.

<sup>4</sup> Moran, 104; Sudhoff, ed., II, 3.

“nationalism” in its modern sense entered European discourse.<sup>5</sup> Paracelsus may thus be seen to echo Luther’s vision of the “German nation” as a cultural unit, if not yet a political one. What is especially striking here, however, is Paracelsus’s invocation of cultural pride in the context not only of ethnicity, but also of medicine, and thus of *nature*. For Paracelsus as well as many other writers, as we shall see, the geographic origin of natural substances would prove crucial in determining their status. This passage sets forth a theme – the appeal for people to investigate the natural products of their own areas – that would come to be a characteristic feature of writings on local natural history.

Another point of importance emerges from this passage, however. Paracelsus did not mention the “German nation” in isolation; rather, he explicitly contrasted its status with that of “far-off lands,” and its medicines with those of “the foreign sort.”<sup>6</sup> Here, in this set of rhetorical contrasts, we see Paracelsus’s thoughts on nature in Germany as crucially linked to his opinions of “foreign” nature. In the conceptual opposition he set up between the “German” and the “foreign” appears the kernel of a dichotomy between the “indigenous” and the “exotic,” one that would come to assume a major role in sixteenth-century writing on nature as well as on health. In Paracelsus’s usage, this dichotomy may be crudely drawn, but it is vehement: “They want to prepare medicines from across the seas, when there are better remedies to be found in front of their own noses, in their own gardens. Look, dear readers, how contradictory it is that one can see so far that he sees across the ocean, but fails to see what is in the earth right in front of him.”<sup>7</sup> For Paracelsus, the polarity he established between medicines from “across the seas” and ones “in the earth right in front” of a person was thus one heavily charged with meaning on a variety of levels, reaching beyond specific questions about specific drugs to encompass broader issues of the origins of knowledge itself.<sup>8</sup>

<sup>5</sup> See for example A. G. Dickens, *The German Nation and Martin Luther* (London: Edward Arnold, 1974), 1–48. On the fraught question of the emergence of nationalism more generally, see Benedict Anderson, *Imagined Communities: Reflections on the Origin and Spread of Nationalism* (London: Verso, 1991).

<sup>6</sup> For a further discussion of this kind of rhetorical strategy, see Orest Ranum, “Counter-Identities of Western European Nations in the Early-Modern Period: Definitions and Points of Departure,” in *Concepts of National Identity: An Interdisciplinary Dialogue / Interdisziplinäre Betrachtungen zur Frage der nationalen Identität*, ed. Peter Boerner (Baden-Baden: Nomos, 1986), 63–78.

<sup>7</sup> Moran, 104; Sudhoff, ed., II, 4.

<sup>8</sup> That this was not an isolated theme, even in Paracelsus’s own writings, may be seen in his well-known pamphlets on the treatment of syphilis, which sharply criticized the imported remedy of guaiac bark (shipped in from South America), while touting the curative powers of mercury, one of his famous chemical remedies: see *Vom Holtz Guaiaco gründlicher Heylung* (Nuremberg: Friedrich Peypus, 1529) and *Von der frantzösischen Kranckheit. Drey Bücher* (Nuremberg: Friedrich Peypus, 1530).

In order to understand Paracelsus’s stance better, it is necessary to consider, as he did, the state and ambitions of early modern natural history, and in particular of botany, that branch of natural history devoted to accounting for the world of plants. Paracelsus roundly condemned previous efforts in this area: “Several German writers have come forth and have described herbs and plants in books. But their work is like the coat of a beggar, patched together from all sorts of things. But the whole is really nothing and it falls apart like a beggar’s coat which can no longer stand its own weight; and so there is nothing there when one most needs it.”<sup>9</sup> The tradition which Paracelsus thus slandered, calling its authors “raving sorts, these seducers, false informers, and teachers of medicine,”<sup>10</sup> was a venerable one. Medieval compilations of *materia medica*, or medicinal substances, dated back to Dioscorides in the first century, often drawing their illustrations (correspondingly poor in quality, due to the passage of time) from the same purported sources; even after the advent of printing, these materials continued to be recycled. Though medieval people were, of course, far from blind to the natural world around them – as witnessed, to name just one example, by monk Walahfrid Strabo’s delightful poetic exposition of his garden on Lake Constance in the ninth century<sup>11</sup> – nonetheless more traditional collections of remedies predominated, gathered not primarily from personal experience but rather from previous such collections.<sup>12</sup> Paracelsus certainly had obvious reasons for spurning these kinds of works, whose status as obvious compilations from different times and places might seem an apt target for his metaphor of the beggar’s coat, “patched together from all sorts of things.” Even during the Middle Ages, many of these works had already come under heavy criticism for their eclectic and often seemingly indiscriminate character.<sup>13</sup>

Yet it is worth noting that Paracelsus, in this passage, seems to single out “German” authors for particular opprobrium. Why? An answer may have to do with the general character of the herbals that, since the European adoption of moveable type half a century earlier, had begun to roll off the new printing presses in Mainz and other cradles of printing. We have seen Paracelsus’s interest in identifying specifically “German” remedies; but the bulk of these early printed herbals, were, in fact, generally universalist in outlook and compass. Far from focusing specifically on the plants of any one area, most tended instead, in semi-encyclopedic fashion, to incorporate as much material as possible within their covers, merging all information into

<sup>9</sup> Moran, 105; Sudhoff, ed., II, 5.   <sup>10</sup> Moran, 105; Sudhoff, ed., II, 5–6.

<sup>11</sup> Walahfrid Strabo, *Hortulus*, translated by Raef Payne, with commentary by Wilfrid Blunt (Pittsburgh, PA: The Hunt Botanical Library, 1966).

<sup>12</sup> Jerry Stannard, “Natural History,” in *Science in the Middle Ages*, ed. David C. Lindberg (Chicago, IL: University of Chicago Press, 1978), 429–460.

<sup>13</sup> Chiara Crisciani, “History, Novelty, and Progress in Scholastic Medicine,” *Osiris* 6 (1990): 136.



a broader stream of plant lore cobbled together since antiquity.<sup>14</sup> Though compilers of these early herbals sometimes remarked on plants from particular places, in general they saw little need to stress or emphasize the local as such, but rather sought to accommodate all entries within a common framework. Inclusiveness was the general ethos; in these compilations, popular garden herbs and plants growing wild were juxtaposed, in ways often seemingly random, with rare and expensive tropical spices from thousands of miles away. It is perhaps this “patchwork” quality of the early herbals, the recycling of texts and images from a mix of previous sources, that Paracelsus most disliked. In his condemnation of their German compilers may be seen a frustration with the inclusive frameworks within which they (and all other such authors at the time) worked, that encouraged them to extend the fabric of an already existing “patchwork” of knowledge, rather than starting anew in some more radical or coherent way, in keeping with his reformist passions.

Yet it must be pointed out that attention to local plants did indeed come to be a key feature of the researches that went into producing sixteenth-century botanical works, including many herbals, and that some efforts in this direction had already begun by the time of Paracelsus’s writing. There are several reasons why this was the case. Most importantly, those humanists who undertook the task of editing ancient botanical texts had found startling discrepancies between the plants described there, and the confusingly different set of plants they found around them. This problem was especially obvious for northern humanists in the German territories, England, the Netherlands, and Scandinavia, who, despite their best efforts, often could find little correspondence between Mediterranean floras and their own. Attempts to resolve these discrepancies through recourse to the time-honored method of scholarly conciliation – seeking to show that apparently discrepant phenomena were, in fact, one and the same – required research not only into the classical texts, but into the particulars of the modern plants themselves.<sup>15</sup> The critical attention paid by humanist botanists to their texts thus inspired an

<sup>14</sup> See Agnes Arber, *Herbals: Their Origin and Evolution: A Chapter in the History of Botany 1470–1670*, 3rd ed. (Cambridge: Cambridge University Press, 1986), 13–37. Arber, 20–22, does note one exception, the so-called *Latin Herbarius* (1484) which contained primarily plants native to or naturalized in the German territories; she believes it too, though, to be a medieval compilation.

<sup>15</sup> Karen Meier Reeds, “Renaissance Humanism and Botany,” *Annals of Science* 33 (1976): 519–542; Karen Meier Reeds, *Botany in Medieval and Renaissance Universities* (New York: Garland, 1991); and Brian W. Ogilvie, *The Science of Describing: Natural History in Renaissance Europe, 1490–1620* (Chicago, IL: University of Chicago Press, 2006). On the relationship between humanism and science more generally, see Anthony Grafton, *Defenders of the Text: The Traditions of Scholarship in an Age of Science, 1450–1800* (Cambridge, MA: Harvard University Press, 1991); Ann Blair, *The Theater of Nature: Jean Bodin and Renaissance Science* (Princeton, NJ: Princeton University Press, 1997); and Gianna Pomata and Nancy Siraisi, eds., *Historia: Empiricism and Erudition in Early Modern Europe* (Cambridge, MA: The MIT Press, 2005).

equal attention to the examination and identification of the natural world around them, as revealed in the many local plants they uncovered.<sup>16</sup> Discarding the Dioscoridean tradition of medieval plant illustration, entrepreneurial botanists from the 1530s onwards took care to have new illustrations drawn from “life,” often using local plants as models. And indeed it is the realism and accuracy of these oft-reproduced illustrations for which their volumes are today best known.<sup>17</sup> The challenge northern botany presented to classical traditions of botany stemmed in great part from these “learned empiricist” habits of local investigation, ones which would come to form a model more generally for later naturalists.

Paracelsus’s blanket condemnation of botanical authors, however, was not confined to those who in his view had ignored true “German medicine.” To trace his argument, it will again be necessary to quote at length:

Moreover, there are in Germany so many more and better medicines than are to be found in Arabia, Chaldaeia, Persia, and Greece that it would be more reasonable for the peoples of such places to get their medicines from us Germans, than for us to receive medicines from them. Indeed, these medicines are so good, that neither Italy, France, nor any other realm can boast of better ones. That this has not come to light for such a long time is the fault of Italy, the mother of ignorance and inexperience. For the Italians saw to it that the Germans thought nothing of their own plants, but rather took everything from Italy itself or from beyond the sea . . .<sup>18</sup>

Here we see Paracelsus again drawing a number of conceptual oppositions: this time not merely between “German” plants and “foreign” ones, but more broadly between Germany and Italy, between northern and southern Europe, between Protestant and Catholic, and between Europe and the Islamic world. As we have seen above, several of these oppositions may be traced to the arguments of the northern humanists, while others (the contrast between Germany and “Arabia, Chaldaeia, Persia, and Greece,” for example) were clearly far more deeply rooted in a lengthy tradition of Old World encounters than in any New World ones.<sup>19</sup> What is most important to note here, however, amidst this proliferation of polarities, is Paracelsus’s very reliance

<sup>16</sup> Paula Findlen, *Possessing Nature: Museums, Collecting, and Scientific Culture in Early Modern Italy* (Berkeley: University of California Press, 1994), 163–170, 179–184.

<sup>17</sup> Elizabeth Eisenstein, *The Printing Press as an Agent of Change: Communication and Cultural Transformations in Early Modern Europe* (Cambridge: Cambridge University Press, 1979), 265–267, 484–488; William Ivins, *Prints and Visual Communication* (Cambridge, MA: The MIT Press, 1967), 40–46; and Sachiko Kusukawa, “Leonhart Fuchs on the Importance of Pictures,” *Journal of the History of Ideas* 58 (1997): 403–427.

<sup>18</sup> Moran, 104; Sudhoff, ed., II, 3.

<sup>19</sup> For the gradual formation of distinctions between European and non-European worlds, see Denys Hay, *Europe: The Emergence of an Idea* (Edinburgh: Edinburgh University Press, 1957); Kevin Wilson and Jan van der Dussen, eds., *The History of the Idea of Europe* (London: Routledge, 1995); and Anthony Pagden, ed., *The Idea of Europe from Antiquity to the European Union* (Cambridge: Cambridge University Press, 2002). As is evident from

on such polarities as a source of explanation. In the intellectual landscape of the early sixteenth century, unsettled by new continents and new ideas (such as the disturbing new divide between Catholic and Protestant Europe), such polarities served as a tool for unraveling identity, for attempting to define where one stood in relation to the rest of a world that had grown larger. Paracelsus used them to explain the course of medical and botanical history, and to justify his interest in one specific part thereof; others during the same period were to use similar constructs as frameworks for the writing of local histories or topographies, for example, or for the consolidation of power within increasingly confessionalized and territorial states. Later naturalists would frequently simplify Paracelsus's varied and multiple phrasings into a somewhat more consistent and homogeneous opposition between the "indigenous" and the "exotic"; Paracelsus himself, though, seems to have revealed in the opportunity here to let fly at a wide range of potential targets.

But Paracelsus's advocacy of "German" medicaments, and the venom he hurled at exotic remedies in his diatribes, must also be seen as borrowing from – as well as helping to regenerate – a specifically *medical* set of polemics. These drew on a lengthy tradition of debate over hierarchies within the healing professions. One of the main sources of conflict was the precarious relationship between university-educated physicians and guild-based apothecaries, over whom physicians frequently claimed supervisory authority. Tensions between the two groups often erupted in the context of debates about the authenticity and efficacy of particular remedies. Physicians, for example, often accused apothecaries of adulterating expensive foreign ingredients with cheaper local ones, the better to make an easy profit.<sup>20</sup> During the Middle Ages, apothecaries had frequently doubled as "spicers" and "pepperers," selling a wide variety of substances – often from abroad – for both medicinal and culinary uses. Druggists' continuing associations with expensive but easily-counterfeited foreign wares, and their frequent willingness to help patients evade doctors' fees by performing their own diagnoses and recommending their own remedies, made them an easy target for physicians' wrath. Commercial and economic concerns had thus long joined with professional ones to create tensions over the sale of exotic ingredients.<sup>21</sup>

the example above, although the term "Europe" did exist at the time, many other concepts were far more important in shaping identity.

<sup>20</sup> Edward Kremers and George Urdang, *History of Pharmacy*, 4th ed. (Madison, WI: American Institute of the History of Pharmacy, 1976), 20, 27–28, 33–34, and 69–72.

<sup>21</sup> See R. S. Roberts, "The Early History of the Import of Drugs into Britain," in *The Evolution of Pharmacy in Britain*, ed. F. N. L. Poynter (London: Pitman Medical Publishing Company Ltd., 1965), 165–185; Nancy G. Siraisi, *Medieval and Early Renaissance Medicine: An Introduction to Knowledge and Practice* (Chicago, IL: University of Chicago Press, 1990), 146–147; and Mary Lindemann, *Medicine and Society in Early Modern Europe* (Cambridge: Cambridge University Press, 1999), 89, 216. Just as sixteenth-century astronomers were reluctant to "deal in novelties," then – see Jean Dietz Moss, *Novelties in the Heavens: Rhetoric*

In the early sixteenth century, however, the advent of medical humanism worsened relations between physicians and apothecaries even further. In the aftermath of the Byzantine Empire's collapse and the arrival of a flood of Greek-speaking refugees in Italy, humanist physicians lauded newly-received Greek editions of ancient medical authors. Simultaneously, though, they mounted harsh attacks on the medieval medicine of their predecessors, which they saw as having been corrupted by its extensive borrowings from the Arabic medical tradition. This corruption, medical humanists believed, had occurred in two main ways. First, they charged, Arabic writings had encouraged widespread medieval reliance on polypharmacy, the use of "compound" medicines made from multiple ingredients; in their stead, medical humanists advocated a return to the "simples" (remedies derived from just one plant, animal, or mineral) supposedly favored by the ancients.<sup>22</sup> Secondly, humanists complained, Arabic medical compendia had introduced into European practice a wide range of substances which, originating in the deserts of Arabia or even further afield, were far too "hot" and "spicy" for cooler European bodies accustomed to more northern climes; this, they warned, could lead to medically-dangerous overheating.<sup>23</sup> Ignoring the fact that such classical authorities as Galen and Dioscorides had themselves frequently recommended both compound medicines *and* Eastern spices in their own works,<sup>24</sup> humanist physicians condemned not only Arabic authors but also European pharmacists as degrading the classical legacy, as well as public health, through their continued advocacy of expensive and exotic drugs.

Far from taking sides in the quarrel between physicians and apothecaries, Paracelsus attacked both – indeed, all – parties. Not only did he decry the physicians who themselves prescribed questionable medicines from afar, he also denounced all of those who made the drugs in question available,

*and Science in the Copernican Controversy* (Chicago, IL: Chicago University Press, 1993) – so too learned medical practitioners felt they had every right to be suspicious of "exotics" which, growing far away, they could not examine for themselves in their places of origin. I am grateful to Jean Dietz Moss for this point; see also Ogilvie, 229–258.

<sup>22</sup> Owsei Temkin, *Galenism: Rise and Decline of a Medical Philosophy* (Ithaca, NY: Cornell University Press, 1973), 126–128.

<sup>23</sup> Heinrich Schipperges, "Der Anti-Arabismus in Humanismus und Renaissance," in *Ideologie und Historiographie des Arabismus* (Wiesbaden: Steiner, 1961), 14–25; see also Nancy G. Siraisi, *Avicenna in Renaissance Italy: The Canon and Medical Teaching in Italian Universities after 1500* (Princeton, NJ: Princeton University Press, 1987), 66–76.

<sup>24</sup> Vivian Nutton, "The Drug Trade in Antiquity," *Journal of the Royal Society of Medicine* 78 (1985): 142–143; John Scarborough, "Roman Pharmacy and the Eastern Drug Trade: Some Problems as Illustrated by the Example of Aloe," *Pharmacy in History* 24 (1982): 135. On the recovery of Dioscorides more generally, see John M. Riddle, *Dioscorides on Pharmacy and Medicine* (Austin: University of Texas Press, 1985) and Richard Palmer, "Medical Botany in Northern Italy in the Renaissance," *Journal of the Royal Society of Medicine*, 78 (1985): 149–157.

from pharmacists to shippers and other intermediaries. He complained, for example, about “the deception of merchants, shopkeepers, and sellers of medicine, for these bring nothing pure to us from foreign shores. The same is also true of those middlemen who store up medicines and then resell them. . . . Those who carry medicines into German lands and seek their own profit from unsuspecting buyers are just as bad, and thus this stale merchant’s treasure has gone bad and is altogether worthless by the time one delivers it to the person who is sick.”<sup>25</sup> Paracelsus’s attacks were thus not limited to any one group, such as physicians or apothecaries, but rather included all those who trafficked in the exotic in any way. The only medical practitioners whom Paracelsus exempted from his blanket condemnation were those who relied on “experience and personal practice,” the method through which he claimed to have attained his own insights.<sup>26</sup> Paracelsus touted the experience gained by peasants and other inhabitants of the land, who, unencumbered by book-learning, often discovered local herbs of genuine efficacy.<sup>27</sup> His promotion of “German” herbs and rejection of their exotic counterparts thus bore strong links to his stance on authority in medicine, as well as within early modern society more generally.

One further strand of medical polemic in which Paracelsus engaged remains to be teased out. This has to do with his conception of the environment and its role in illness. For Paracelsus, as for Hippocrates many centuries before, and for the majority of early modern physicians, it was common knowledge that there was an intimate connection between geography and the diseases of the inhabitants of a given area.<sup>28</sup> Hippocrates and his early followers had focused their attention on individual Greek cities, and on colonial sites in the Mediterranean where Greek cities might potentially be founded, noting the correlations between low, swampy land and various fevers, and, on the other hand, higher, drier lands and relative health. Paracelsus, however, drew on an expanded notion of medical geography popular during the early modern period, one based not only on the correlation of place and illness, but of illness and cure. He held that local diseases had their

<sup>25</sup> Moran, 105; Sudhoff, ed., II, 4.      <sup>26</sup> Moran, 105; Sudhoff, ed., II, 5.

<sup>27</sup> Charles Webster, “Paracelsus: Medicine as Popular Protest,” in *Medicine and the Reformation*, ed. Ole Peter Grell and Andrew Cunningham (London: Routledge, 1993), 70. Paracelsus also acknowledged the role of “old women” in providing herbals on a village level, though his assessment of them was more mixed. See Andrew Wear, *Knowledge and Practice in English Medicine, 1550–1680* (Cambridge: Cambridge University Press, 2000), 57, footnote 28.

<sup>28</sup> See Wesley D. Smith, *The Hippocratic Tradition* (Ithaca, NY: Cornell University Press, 1979); Caroline Hannaway, “Environment and Miasmata,” in *Companion Encyclopedia of the History of Medicine*, ed. W. F. Bynum and Roy Porter (London: Routledge, 1993), 292–308; Genevieve Müller, “Airs, Waters, and Places” in History,” *Journal of the History of Medicine and Allied Sciences* 8 (1962): 129–140; and Conevery Bolton Valenčius, “Histories of Medical Geography,” in *Medical Geography in Historical Perspective*, ed. Nicolaas A. Rupke (London: Wellcome Trust Centre for the History of Medicine at UCL, 2000), 3–28.

own local remedies: “Each land, to be sure, gives birth to its own special kind of sickness, its own medicine, and its own physician.”<sup>29</sup> His system thus had no place for “exotic” remedies for local problems. Even chemicals, after all, could be synthesized at home, in the basement laboratories he urged all adepts and seekers-after-knowledge to build. In this view, his admiration of indigenous plants thus conflicted not at all with his often-repeated advocacy of chemical medicines; both approaches represented ways for knowledge to be taken out of the hands of physicians and entrusted to those who, pursuing the path of “experience,” might genuinely turn the light of nature to the human good.

This section has focused on Paracelsus not so much because of his general notoriety, but rather because of the frank and explicit manner in which he set forth his opinions on the moral economy of the natural world. These offer clues to the attraction of local nature for Paracelsus. In the *Herbarius*, he articulated an antipathy toward foreign medicines, together with a strong approval of what he called “German” ones, in a way that prefigured later polarizations of the “indigenous” and the “exotic” in the natural world. Though in the *Herbarius* these categories are not explicitly labeled, they are nonetheless invested with the emotional intensity characteristic of the Reformation era in general. While Paracelsus’s commitment to indigenous remedies is consistent with his other writings, he did not set down in any greater detail his thoughts on native nature. Nor can the scope of his polemical ambition in this treatise, the entirety of the “Native Land and Realm of Germany,” be said to have been a realistic target for comprehensive coverage at the time; even though some later authors were to try writing explicitly German, French, or English herbals, they came nowhere close to making complete surveys of their respective territories. When local floras began to be written early in the seventeenth century, their authors were to choose much more limited areas of inquiry, such as the area around a single city or town. Such severely restricted outlooks were alien to Paracelsus. In the *Herbarius* itself, he declared that the ideal physician would have to travel broadly, as he himself had: “I would think that German doctors, in so far as they might wish to be highly regarded as widely experienced, would have considered that one should become a wanderer (*ein perambulanus*) so as to learn and experience things first hand.”<sup>30</sup> For despite what he claimed in this treatise, Paracelsus was in fact *not* comfortable with any truly “localist” outlook. In his writings, he repeatedly urged the physician to read the “book of nature,” with each country visited representing one more page turned.<sup>31</sup> And

<sup>29</sup> Moran, 104; Sudhoff, ed., II, 4.      <sup>30</sup> Moran, 104–5; Sudhoff, ed., II, 4.

<sup>31</sup> See “The Fourth Defense: Concerning My Journeys” in Paracelsus’s *Sieben Defensiones, Verantwortung über etliche Verunglimpfungen seiner Missgönner*, translated into English in *Paracelsus: Four Treatises*, ed. Henry E. Sigerist (Baltimore, MD: Johns Hopkins University Press, 1941), 29; see also Sudhoff, ed., XI, 145–146.

Paracelsus's *Herbarius*, at least in its published version, ended up including an extended version of the medical merits of coral, neither a plant *nor* local in any way to the Germanies, but possessing, he claimed, astonishing virtues in the treatment of a wide range of medical conditions.<sup>32</sup> For Paracelsus, as for other sixteenth-century writers, however much they might come to praise local nature, it did not suffice to satisfy their ultimate ambitions.

### "GARLIC AND ONIONS"

In his advocacy of local remedies, and in his decision to locate these in opposition to those from "foreign" lands, Paracelsus was far from unique. Over the course of the sixteenth century, the kinds of contrasts he made between "German" and "foreign" natural products were expressed by numerous other writers and incorporated into a more general polarity: one most frequently expressed as that of the "indigenous" versus the "exotic." This development may be seen clearly, for example, in the herbals and other botanical works published during the remainder of the sixteenth century. Numerous universalist compendia continued to be printed, showcasing their breadth and comprehensiveness in their inclusion of a rapidly increasing number of species, from New World and Old. But they came more and more over the course of the century to divide their subject conceptually into the two distinct and opposed components, one domestic, the other foreign. The exact labels used differed from region to region and language to language – those writing in the scholarly language of Latin overwhelmingly referred to the "indigenous" and "exotic," for example, while Germans usually contrasted the *einheimisch* with the *ausländisch*, and the English preferred to speak of the "native" vis-à-vis the "alien," "outlandish," "exotick," or simply "strange"<sup>33</sup> – but the basic dichotomy remained the same. Thus the title of a book might promise to supply "not only the indigenous, but also the exotic," or vice versa, with the two categories presented as complementary; or, alternatively, a book might be advertised as focusing just on one or the other. And when the first local floras and similar localist inventories of nature came to be written, early in the seventeenth century, it was this category of the "indigenous," also referred to as the "domestic" – and almost always used to refer to the *European* – that would come to define their subject matter, in opposition to the category of the "exotic." The "indigenous" thus arose as

<sup>32</sup> Moran, 119–123; Sudhoff, ed., II, 40–46.

<sup>33</sup> See the entries on these and similar terms, for example, in J. A. Simpson and E. S. C. Weiner, eds., *The Oxford English Dictionary* (Oxford: Oxford University Press, 1989), I, 314–6; IV, 944–945; V, 551–552; VI, 51–52; VII, 867; X, 235–238 & 1020–1021; XVI, 841–845; and Jacob and Wilhelm Grimm, eds., *Deutsches Wörterbuch* (Leipzig: S. Hirzel, 1854–1971), I, cols. 900–1; III, cols. 197–198; IV, cols. 125–129.

one half of a matching pair, through which European natural objects were directly linked to and contrasted with those elsewhere.

None of these various labels or patterns of thought was, of course, entirely new to early modern Europe. The cultures of the ancient Mediterranean had, for example, developed over time a rich and colorful vocabulary with which to make distinctions between different kinds of people and things. The Greeks had famously drawn the line between those who spoke their language and those who did not, dismissing the latter as *barbaroi* or barbarians. The expansion and consolidation of the Roman Empire, meanwhile, with its accompanying far-flung trade networks, had seen the emergence of discourses criticizing "foreign luxuries" and advocating revivals of "aboriginal" Romans' traditional moral virtues. The Roman encyclopedist Pliny, for example, made liberal mention in his gigantic *Natural History* of the origins of natural objects, declaring some "peculiar and vernacular to Italy," while denigrating others as "foreign" and "exotic" luxuries: "so tired do mortals get of things that are their own, and so covetous are they of what belongs to others . . ." <sup>34</sup> Pliny was, of course, widely read during the humanist revival of the Renaissance, as were countless other Greek and Roman authors. But even more fundamentally, oppositions between things and people seen as belonging "inside" a polity and those seen as somehow "outside" it – exactly the original Greek derivation of "exotic"<sup>35</sup> – seem to have already become commonplaces in many European cultures centuries before the Renaissance, frequently used in a wide range of contexts. It should thus be no surprise that in the mid-fifteenth century, for example, we find the anonymous English author of the lengthy poem *The Libelle of Englyshe Polycye* drawing on these kinds of contrasts to deplore his country's reliance for remedies on the Venetian spice trade: "a man may voyde infirmyte / Wythoute drugges set fro beyond the sea," he insisted.<sup>36</sup> Early modern Europeans thus had a wide-ranging vocabulary of words and concepts about matters near and far to draw on, each with its own array of implications and cultural resonances.

And draw on this vocabulary they certainly did as, over the course of the sixteenth century, commentators came to debate the merits and demerits of those "foreign" natural objects that landed, during this period, on European shores. In the wake of the Columbian Encounter, as existing Mediterranean

<sup>34</sup> Pliny, *Natural History*, edited and translated by T. E. Page *et al.* (Cambridge, MA: Harvard University Press, 1938–52), XIV, 200–201; IV, 58–59; and *passim*. See also John Sekora, *Luxury: The Concept in Western Thought* (Baltimore, MD: Johns Hopkins University Press, 1977), 29–38, and Christopher J. Berry, *The Idea of Luxury: A Conceptual and Historical Investigation* (Cambridge: Cambridge University Press, 1994), 45–86.

<sup>35</sup> Henry George Liddell and Robert Scott, eds., *A Greek-English Lexicon*, 9th ed. (Oxford: Clarendon Press, 1951), I, 601.

<sup>36</sup> *The Libelle of Englyshe Polycye: A Poem on the Use of Sea-Power, 1436*, ed. George Warner (Oxford: Clarendon Press, 1926), 19.

trade networks yielded to Iberian competition and new oceanic routes were forged, controversy arose time and time again over imported goods. As has recently been shown, for example, even the traditional spices of the East came under fire, as debates over the shifting structure and control of long-distance trade in the German territories erupted in fierce condemnations of new mercantile companies and of the pepper, cinnamon, cloves, and other spices they conveyed from Asia.<sup>37</sup> Over the course of the century, substances completely new to Europe also began to trickle in from across the globe,<sup>38</sup> and to attract a wide variety of claims and counter-claims concerning their possible uses and effects. One of the earliest of these, guaiac wood from the Andes, was reputed to cure the new “French pox” and thus easily attracted swarms of buyers and sellers, wheelers and dealers. The resulting pamphlet wars between its boosters and its detractors revealed what would be one of the most consistent responses to such new imports: the assertion by physicians that they, and only they, had the necessary qualifications to evaluate the true “nature” of such imports and their possible effects on European bodies.<sup>39</sup> With each new arrival, physicians rushed to pronounce judgment on it, whether urging its prescription in massive doses or condemning its use by Europeans as highly dangerous. The public debate on such tempting new intoxicants and stimulants as tobacco and chocolate, as well as on the numerous other substances that flowed with increasing speed into European ports, thus took on a simultaneously medical and moral tone.<sup>40</sup>

Not all physicians were content to assess the qualities of incoming natural objects on such a case-by-case basis, though. Some began to issue calls for the rejection of all “foreign” or “exotic” substances more generally. Simultaneously, they began to argue for the thorough investigation of their areas’

<sup>37</sup> Christine Johnson, “Bringing the World Home: Germany and the Age of Discovery,” Ph.D. dissertation, Johns Hopkins University, 2001, 187–247.

<sup>38</sup> The pioneering work of Alfred W. Crosby, Jr. has shown the impacts of biological exchanges, particularly on the Americas and other non-Eurasian areas, both in the Columbian Encounter in particular and throughout world history more generally: see his *The Columbian Exchange: Biological and Cultural Consequences of 1492* (Westport, CT: Greenwood Press, 1972) and his later *Ecological Imperialism: The Biological Expansion of Europe, 900–1900* (Cambridge: Cambridge University Press, 1986). The focus here, however, will be on the flow of species in the opposite direction, namely into Europe.

<sup>39</sup> Claude Quétel, *History of Syphilis*, trans. Judith Braddock and Brian Pike (Baltimore, MD: Johns Hopkins University Press, 1990), 29–31.

<sup>40</sup> Wolfgang Schivelbusch, *Tastes of Paradise: A Social History of Spices, Stimulants, and Intoxicants*, trans. David Jacobson (New York: Vintage Books, 1992); Rudi Mathee, “Exotic Substances: The Introduction and Global Spread of Tobacco, Coffee, Cocoa, Tea, and Distilled Liquor, Sixteenth to Eighteenth Centuries,” in *Drugs and Narcotics in History*, ed. Roy Porter and Mikuláš Teich (Cambridge: Cambridge University Press, 1995), 24–51. On tobacco and chocolate in particular as two extremely influential New World imports, see Marcy Norton, *Sacred Gifts, Profane Pleasures: A History of Tobacco and Chocolate* (Ithaca, NY: Cornell University Press, forthcoming).

own natural kinds. These apologists for local European nature were not all, like Paracelsus, medical radicals or eccentrics.<sup>41</sup> Nor were they even necessarily among Paracelsus’s scattered troop of followers.<sup>42</sup> Rather, they held a wide spectrum of medical opinions, including strict adherence to the Galenic orthodoxy Paracelsus so vehemently opposed. The schoolteacher-turned-herbalist Otto Brunfels, for example, devoted a major portion of the preface to his famous *Herbarum vivae eicones* (Living Images of Herbs, 1530), one of the first great herbals illustrated “from life,” to explaining his strong dislike for “alien medicines,” and his consequent focus in his tome on “our own herbs.”<sup>43</sup> Yet he himself was a thoroughgoing medical humanist, who dedicated much of his career to the translation and editing of works by Galen and Dioscorides, among other classical authors. Likewise, Hieronymus Bock, the author of 1539 *New Kreütter Buch von Underscheydt, Würckung und Namen der Kreütter so in Teutschen Lande wachsen* (New Herbal on the Difference, Effects, and Names of the Herbs that Grow in German Lands), which carefully separated out German plants from foreign (*Welschen*) varieties, was also a careful medical humanist, whose first work had been on Greek and Latin nomenclature.<sup>44</sup> Sixteenth-century compilers of herbals, most (though not all) of whom did indeed strongly favor the rediscovery of local “herbs” over exotic “spices,” were a mixed lot. While some, like Brunfels and Bock, were deeply committed medical humanists, others were in fact far more interested in a more prosaic repackaging of existing texts and illustrations for new audiences. Still others drew on already-existing medieval traditions that recognized that often substitutes, or *succedanea* – the term *quid pro quo* was often used – would be needed for unavailable or unaffordable

<sup>41</sup> Arber, 255–256, briefly notes their existence, but places them in the context of her discussion on the occult theory of signatures, suggesting her puzzlement with their position.

<sup>42</sup> Andrew Wear, in his thought-provoking article on “The Early Modern Debate about Foreign Drugs: Localism versus Universalism in Medicine,” *The Lancet* 354 (July 10, 1999), 150, states that the “argument that local drugs were best was used mainly by the Paracelsian opponents of the establishment medicine based on the teachings of Galen”; however, this may have been the case more in England than in other countries, and more in the sixteenth century than in the seventeenth, by which time numerous quite orthodox physicians had come to use this rhetoric regularly in their local floras. On the English situation, see Ch. 2, “Remedies,” in Wear, *Knowledge and Practice*, 46–103.

<sup>43</sup> Otto Brunfels, *Herbarum vivae eicones* (Strasbourg: apud Ioannem Schottum, 1530), 16. He expanded on the topic even further in the preface to the book’s subsequent German translation, *Contrafayt Kreütterbüch* (Strasbourg: bey Hans Schotten, 1532), where he devoted an entire section to defending the “usefulness of familiar native (*heymischen*) herbs and medicines.” “For what reason,” he posed the rhetorical question, “should our herbs not be as good as those from Asia and Africa?” (sig. bii<sup>v</sup>).

<sup>44</sup> For some examples of Bock’s segregation of German and foreign plants, see Hieronymus Bock, *New Kreütter Buch von Underscheydt, Würckung und Namen der Kreütter so in Teutschen Lande wachsen* (Strasbourg: Wendel Rihel, 1539), sigs. ix<sup>v</sup>–x<sup>v</sup>, xxi<sup>v</sup>, and xxxiii<sup>v</sup>. For a fuller discussion of Brunfels’s & Bock’s attitudes towards foreign plants, see Johnson, 223–239.

exotic remedies, especially in the case of the poor, who had long been forced to make use of local herbs simply for reasons of cost.<sup>45</sup> Regardless of their affiliations or intentions, however, many sixteenth-century herbalists seem to have found the language of the revived indigenous-exotic debate compelling, and compilers continued to place a prominent stress on the benefits of local herbs well into the seventeenth century and beyond.

Nor did concerns about the potential negative effects of exotic remedies, and the need to seek out local alternatives for them, remain confined to the German territories, or any other particular area within Europe. This can be seen, for example, in the combative title as well as contents of a 1533 book that renowned French medical humanist Symphorien Champier published in Paris: his *Hortus Gallicus, pro Gallis in Gallia scriptus* (French Garden, Written for the French in France). In this book, Champier declared on his very title page, he would teach “the French to find remedies for all their illnesses in France, not to bring over medicines from foreign sources. . . .”<sup>46</sup> Setting forth a series of rational arguments, many of them plagiarized from Brunfels,<sup>47</sup> as to why medicaments from outside the country were undesirable, he cited various drugs known to be “pernicious and venomous” to Europeans, but perfectly appropriate for those from other regions, explaining the phenomenon by pointing out that since human bodies were influenced by climate, and since climates varied greatly across the world, it made perfect sense that medicines would have different effects on people from different areas.<sup>48</sup> Champier thus clothed his humanist rejection of Arabic medicine in the more genteel garb of a geographical relativism, acknowledging climatic difference and assigning it a key role in medical decision-making. Medieval Western physicians, he argued, had foolishly drifted away from the knowledge of their own environments, adopting foreign medical systems and the drugs they used. Following Brunfels (though, of course, referring to France rather than the German territories), he enjoined his readers to recognize their true identity – “We’re in Celtic France, amidst Christians” – and advised his readers that since they were “Christians, not Muslims; French,

<sup>45</sup> Siraisi, *Medieval and Early Renaissance Medicine*, 143–147. For an example of learned doctors’ attempts to cater to the poor, see Jean Prevost, *Medicina pauperum* (Frankfurt: sumptibus Johannis Beyeri, 1641).

<sup>46</sup> Symphorien Champier, *Hortus gallicus, pro Gallis in Gallia scriptus* (Lyon: in aedibus Melchioris et Gasparis Trechsel fratrum, 1533).

<sup>47</sup> Champier was a notorious plagiarist, although copying passages from other sources had indeed been an accepted medieval practice, from which Champier in the early sixteenth century was still not too chronologically distant. On Champier’s tendencies to borrow liberally (and often word-for-word) from others, see Paul Allut, *Étude biographique et bibliographique sur Symphorien Champier* (Lyon: Scheuring, 1859), and Brian Copenhaver, *Symphorien Champier and the Reception of the Occultist Tradition in Renaissance France* (The Hague: Mouton, 1979).

<sup>48</sup> Champier, 4.

not Arabs, or Egyptians, or those born in India, or Palestine,” what they really needed to preserve their health were locally-grown medicinals. For Champier, this meant the Mediterranean herbs of the south of France, already part of his French readers’ cultural and geographic heritage. Such aromatic herbs as lavender, sage, mint, and thyme were, he opined, the “true spices of Europe.”<sup>49</sup> Champier’s use, in France, of German rhetoric attacking exotics shows just how flexible appeals to the indigenous-exotic debate could be.<sup>50</sup> Highly malleable, the controversy could be adapted to suit the needs of a wide geographical range of commentators on the natural world, and on its social and cultural implications for the human world.

Over the course of the sixteenth century, then, the distinction between the “indigenous” and the “exotic” became firmly rooted in early modern European discussions about natural objects. In the process, it took on yet further symbolic dimensions. An example may be seen in the herbal of Bartholomäus Carrichter, with the title *Horn des Heyls menschlicher Blödigkeit. Oder, Kreutterbuch*. (Horn of Salvation for Human Stupidity. Or, Herbal, 1576).<sup>51</sup> Although this particular work displays a strong Paracelsian influence (Paracelsus himself is thanked in the foreword), it is not atypical of other popular vernacular works, often dealing with astrological themes or the “signatures of things,” published in the later sixteenth century. The book’s foreword exhibits a concern with many of the themes we have explored: from the politics of the medical profession to a strong interest in the origins of natural objects. More to the point, however, it develops a theme implicit in other such works but not as fully articulated there, namely the religious implications of exploring local nature. Carrichter praised the benevolence of God in establishing a geographical order such that each region would be granted sufficient indigenous medicines to cope with every need. His reliance on the indigenous thus reflected a religious sense of trust: “that God the Lord in this land indeed permits no lack of anything, but rather overflowing plenty of medicines, and that one really would not have any reason to go out of the garden, and to send for medicines in foreign lands. . . .”<sup>52</sup> Furthermore, he

<sup>49</sup> Champier, 7, 8.

<sup>50</sup> Ultimately, for example, this rhetoric reached England as well, and was then adapted to the claims of *English* patriotism and geography in turn: see for example Timothie Bright, *A Treatise wherein is declared the Sufficiencie of English Medicines, for cure of all diseases, cured with Medicine* (London: printed by Henrie Middleton for Thomas Man, 1580), discussed in Wear and in Jonathan Gil Harris, *Foreign Bodies and the Body Politic: Discourses of Social Pathology in Early Modern England* (Cambridge: Cambridge University Press, 1998). For another French example, see the discussion of Jean Fernel in James Bono, *The Word of God and the Languages of Man: Interpreting Nature in Early Modern Science and Medicine* (Madison: University of Wisconsin Press, 1995), 89.

<sup>51</sup> Bartholomäus Carrichter, *Horn des Heyls menschlicher Blödigkeit. Oder, Kreutterbuch Darinn die Kreutter des Teutschen lands, ausz dem Liecht der Natur, nach rechter Art der himmelischen Einflussungen beschriben* (Strasbourg: bey Christian Müller, 1576).

<sup>52</sup> Carrichter, sig. aiiii<sup>r</sup>.



argued that anyone who was to scorn the medicines that the Lord dropped “before his door, before the windows and on the ground in front of him” would have to be “a blasphemer.”<sup>53</sup> This last remark, with its strong language and implicit accusations of atheism (or worse), suggests a relation between the development of a concern for the local and Reformation natural theology’s sympathies for science, in the form of a reverence for the common and familiar things created by God:

... in this book only the herbs of the German land, and of no other country, will be recorded, which is the case for this sole reason, that God the Lord set forth his medicine chests in the entire world, in every single kingdom, principality, region, and parish and therefore for every single man; he has planted them on the mountains, in the valleys, on the plains . . . behind the fences, and even right before one’s door, and thereby built a pharmacy, so that every man on his own land, throughout the year and also every month, could find his own fresh medicines, would not need to buy anything distant, rotten, or spoilt or full of worms, and even less would he need to send at great expense into foreign lands over the mountains or even over the sea for foreign medicines. For the medicines which grow under the stars, beneath which each person himself is born and brought up, are for him (just like bread and meat and drink and everything else that grows up around him) the most customary and useful.<sup>54</sup>

In this vivid vernacular rendering of an argument for the self-sufficiency of the local, we see the emergence of an interest in local nature even more deeply rooted, in its invocation of religion and of the rhythms of everyday life, than that of Paracelsus.

Yet the positing of local nature as an affair of the peasant, as comparable to a concern with “bread and meat and drink and everything else,” reveals some of the aspects of local nature study that were to seem less attractive, even potentially threatening, to sixteenth- and seventeenth-century physicians. In the work of many sixteenth-century herbalists, the indigenous came to represent the domain of the peasant, not just the scholar; indeed, scholars were unnecessary in the worldview Carrichter presented, since each individual could learn to identify herbs on his own, just as God had presented them to him. Numerous other examples tell the same story: though a strong interest in the “native” could be found in both popular and learned writings about nature, it remained controversial and potentially divisive. It is thus that, when medical professors began to compile the earliest local floras in the early seventeenth-century university, they would find it necessary to defend their very attention to the indigenous, to the “common” and “familiar.” A tone of uneasiness is marked in many of the early local floras, as their

<sup>53</sup> Carrichter, sig. aiiif.

<sup>54</sup> Carrichter, sig. aiiif. On religious language in vernacular natural-historical works, see Kathleen Crowther-Heyck, “Marvellous Secrets of Nature: Natural Knowledge and Religious Piety in Reformation Germany,” *Isis* 94 (2003): 253–273.

authors argued that studying the local was in no way incompatible with learned medicine.

In short, by the eighteenth century, the quarrel between the “indigenous” and the “exotic” had become a commonplace within early modern European culture, perhaps in some ways even as familiar a theme as that of the battle between the ancients and the moderns.<sup>55</sup> When books appeared on “exotic” themes, for example, their authors often found it necessary to allude to the controversy. One author even indexed the topic.<sup>56</sup> The English vicar Robert Burton included a lengthy excursus on it in his famous *Anatomy of Melancholy*.<sup>57</sup> It reappeared quite frequently as a dissertation topic for medical students.<sup>58</sup> Writers of numerous treatises on the fashionable new beverages of coffee, tea, and chocolate referred to it repeatedly.<sup>59</sup> Even Voltaire, the doyen of the French Enlightenment, turned it to his purposes in his entry on “China” in his notoriously satirical *Philosophical Dictionary*: “We go to China for china-clay as if we had none of our own; for fabrics as if we lack fabrics; for a little herb to absorb water as if we had no simples in our climes.”<sup>60</sup> Voltaire, of course, had relatively little interest in medicine or botany per se. Poking fun at tea, though – “a little herb to absorb water” – offered him an enjoyable and witty way to criticize his contemporaries’ predilection for the exotic. The debate between the exotic and the indigenous had become a

<sup>55</sup> For several reassessments of this classic debate, which preoccupied scholars for centuries, see Joseph Levine, “Ancients and Moderns Reconsidered,” *Eighteenth-Century Studies* 15 (1981): 72–89, and Joan DeJean, *Ancients Against Moderns: Culture Wars and the Making of a Fin de Siècle* (Chicago, IL: University of Chicago Press, 1998).

<sup>56</sup> See for example Michael Bernhard Valentini, *Polychresta exotica* (Frankfurt: sumptibus Johannis Davidis Zunneri, 1700), a collection of various dissertations on exotic substances of all sorts. In the “Index Rerum & Verborum” at the back of the book, he specifically called attention to his discussion of the controversy in his preface, including entries on “Exotica an rejicienda?” (“Should exotic things be rejected?”) and “Domestica remedia an sufficient?” (“Are domestic remedies sufficient?”).

<sup>57</sup> Robert Burton, *The Anatomy of Melancholy* (Oxford: Printed by John Lichfield and James Short, 1621), 430–437.

<sup>58</sup> See for example Olaus Borrichius, *De usu plantarum indigenarum in medicina* (Copenhagen: literis & impensis Joh. Phil. Bockenhoffer, 1688); J. M. Hengstmann, *Dissertatio medica inauguralis de medicamentis Germaniae indigenis sufficientibus* (Helmstadt: litteris Pauli Dieterici Schnorrii, 1730); Benjamin Gottlieb Albrecht, *Dissertatio inauguralis medica de aromatum exotico et nostratium praestantia* (Erfurt: typis Heringii, 1740). These may always, of course, have been written by the professors presiding over the dissertation defense, as was common at the time; see Gertrud Schubart-Fikentscher, *Untersuchungen zur Autorschaft von Dissertationen im Zeitalter der Aufklärung* (Berlin: Akademie-Verlag, 1970).

<sup>59</sup> See Piero Camporesi, *Exotic Brew: The Art of Living in the Age of Enlightenment*, trans. Christopher Woodall (Cambridge: Polity Press, 1994), and Jordan Goodman, “Excitantia: Or, How Enlightenment Europe Took to Soft Drugs,” in *Consuming Habits: Drugs in History and Anthropology*, eds. Jordan Goodman, Paul E. Lovejoy, and Andrew Sherratt (London: Routledge, 1995), 126–147.

<sup>60</sup> Voltaire, *Philosophical Dictionary*, edited and translated by Theodore Besterman (Harmondsworth, UK: Penguin, 1971), 112.

familiar enough trope that even those far removed from active engagement in natural inquiry could deploy it almost effortlessly.

It is worthwhile, though, to look closely at yet one more example of the use of this rhetoric. The compiler of one abridged book of foreign travels, a Dutchman by the name of Olfert Dapper, employed coarse metaphor to evoke the debate, much as Carrichter had done a century and a half earlier. In one passage, he made fun of anyone who, he claimed, was “merely content with garlic and onions, the kind that grow before his own door, and does not look around, to see whether there are also people living on the other side of the mountain, who enjoy cinnamon and sugar. . . .”<sup>61</sup> This usage of the language of contrast between local and exotic products shows not only the persistence, and compelling interest, of the metaphor into the seventeenth and eighteenth centuries, but also its versatility. Here this author, a popularizer of the exotic and compiler of numerous works on foreign voyages, employed the vernacular not to defend the use of things “that grow before his own door,” but rather to reject them as insufficiently cosmopolitan. Here garlic and onions appear as emblematic of the “low” status of local natural history, of its connections to peasant worlds.<sup>62</sup> Spurred by “curiosity” and “fiery desire”, the traveler in Dapper’s vision leaves his native land and happily travels throughout the world, collecting everything about “cities, animals, herbs, trees, minerals and those kinds of things.”<sup>63</sup> Yet even Dapper’s celebration of travelling, and of exotic nature, displays more than a hint of defensiveness, since he notes the existence of, and feels compelled to respond to “those who really want to throw out the baby with the bath water, i.e. those who reproach all travels. . . .”<sup>64</sup> The persistence of these kinds of anxieties, and this kind of rhetoric, must be seen as helping to pave the way for the outbreak, later in the eighteenth century, of the famous “Dispute of the New World,” which saw the famous French naturalist Buffon quarreling

<sup>61</sup> Olfert Dapper, *Exoticus Curiosus* (Frankfurt & Leipzig: bey Michael Rohrlachs seel. Wittib und Erben in Liegnitz, 1717), sig.(3r-)(3v. Though Dapper himself was Dutch, his works, with their evocations of wonders abroad, were translated into numerous languages and were thus in fact quite typical of the kinds of books available to audiences throughout Europe by this point, in no small part owing to the role played by the Amsterdam printing presses. On early eighteenth-century Dutch exoticism, see Benjamin Schmidt, “Inventing Exoticism: The Project of Dutch Geography and the Marketing of the World, circa 1700,” in *Merchants and Marvels: Commerce, Science, and Art in Early Modern Europe*, ed. Pamela H. Smith and Paula Findlen (New York: Routledge, 2002), 347–369.

<sup>62</sup> Allen J. Grieco, “The Social Politics of Pre-Linnaean Botanical Classification,” *I Tatti Studies: Essays in the Renaissance* 4 (1991): 131–132, 135, 140.

<sup>63</sup> Dapper, sig.(4v-)(5r. On curiosity and travel, see Neil Kenny, *Curiosity in Early Modern Europe: Word Histories* (Wiesbaden: Harrassowitz, 1998) and Justin Stagl, *A History of Curiosity: The Theory of Travel, 1550–1800* (Chur, Switzerland: Harwood Academic Publishers, 1995).

<sup>64</sup> Dapper, sig.(3r.

with American founding father Thomas Jefferson over the size and putative “degeneracy” of New World species versus those of the Old.<sup>65</sup> By that point, the polemics we have traced had become so much a part of both learned and popular discourse on natural variety that their long trajectory had effectively become invisible.

Over the course of the sixteenth and seventeenth centuries, then, the debate over the “indigenous” versus the “exotic” became firmly entrenched in European culture in general, and in disputes over the natural world in particular. While some who drew on the debate used it to promote the reach of foreign trade throughout the world, with the wealth of potentially useful commodities that trade made available, others reacted severely against the perceived influx of “exotic” substances in Europe and called instead for the reassertion of local resources. What might have remained a simple rhetorical dualism became instead a matter of serious practical import, and the topic of sharp controversy, in which a wide range of individuals were summoned to take sides. In this charged atmosphere, the study of natural objects took on particular tensions. As early modern natural inquirers, then, sought to define their own objects of study, they found themselves caught in the midst of a complex and shifting set of concerns over natural origins.

### “INDIGENOUS MEDICINE”

Beginning in the late sixteenth century and proceeding into the seventeenth, several authors went so far as to compose lengthy treatises dedicated solely to the mission of defending their countries’ natural worlds – and, in the process, the European “indigenous” itself – as a serious topic of discourse. Whereas most other chroniclers of local nature had entrusted at most a few prefatory pages to the topic of the indigenous–exotic debate, each of these new authors devoted the full contents of an entire book to the claims of the “indigenous” and the systematic rebuttal of the exotic’s counterclaims. Though such works came to appear in a number of northern European locations, two that were published over the course of several decades in the seventeenth-century Netherlands – Jan van Beverwyck’s *Autarkeia Bataviae, sive introductio ad medicinam indigenam* (Batavian Autarky, or, an Introduction to Indigenous Medicine, 1644), and Lambert Bidloo’s *Dissertatio de re herbaria* (Dissertation on Botanical Matters, 1683) – are especially revealing of these efforts to establish a full scholarly viability for the European “indigenous.” With their self-conscious theorizing about nature and the native, these two treatises offer the modern reader particular insight into

<sup>65</sup> Antonello Gerbi, *The Dispute of the New World: The History of a Polemic, 1750–1900*, trans. Jeremy Moyle (Pittsburgh, PA: University of Pittsburgh Press, 1973).



how, and why, “indigenous” nature came to be viewed as a topic worthy of study in its own right.

In 1644, Jan van Beverwyck, a physician and town councillor in the Dutch port of Dordrecht, published his *Autarkeia Bataviae*.<sup>66</sup> The title of this book deserves a word of explanation. Like other Dutch intellectuals of his day, van Beverwyck was fascinated by tales of the ancient Batavi, the Germanic tribe said to have originally inhabited the region of the Low Countries before the arrival of the Romans. Earlier humanist writers, in the throes of the Dutch Revolt against the Spanish and Austrian Hapsburgs, had seized on the Batavi, who were reported to have fiercely resisted the Romans, as symbols of Dutch national pride and hoped-for independence.<sup>67</sup> By the mid-seventeenth-century it became standard scholarly practice to use the term “Batavian” as, for all practical purposes, synonymous with “Dutch.” The label’s earlier patriotic resonances, however, continued to echo for readers. With the use of the term thus came a sense not only of Dutch distinctiveness – by the middle of the seventeenth century, with the merchant republic’s unparalleled success in international commerce, that could no longer be in doubt – but of the autochthonous nature of the region’s inhabitants, who had lived on the land before the Romans’ (or the Hapsburgs’) arrival. The term thus summoned up strong images of prior presence, together with resistance to empire.<sup>68</sup>

Van Beverwyck’s use of the term “autarky” was likewise freighted with meaning. What the word literally meant, in its original ancient Greek usage, was a situation of utter economic self-sufficiency, usually encountered only in wartime, in which trade with other nations had ceased completely. Central European cameralists, like those of the various tiny German territories, cut off from direct access to the new colonial trades, would come to embrace this concept over the next century, turning necessity into a virtue.<sup>69</sup> Hence

<sup>66</sup> Johan van Beverwyck, *Autarkeia Bataviae, sive introductio ad medicinam indigenam* (Leiden: ap. Joh. Maire, 1644). This book was actually a reworking of a book he had published two years earlier in Dutch, his *Inleydinge tot de hollandse geneesmiddelen* (Dordrecht: voor Jasper Gorissz., 1642); however, the Latin version became – for obvious reasons of linguistic accessibility to an audience outside the United Provinces – more popular across Europe. It was cited by numerous compilers of local floras, especially German and French ones, and continued to be cited well into the eighteenth century. On van Beverwyck’s career, see Christian Wilhelm Kestner, *Medicinisches Gelehrten-Lexicon* (Jena: bey Johann Meyers seel. Erben, 1740), 110.

<sup>67</sup> See Simon Schama, *The Embarrassment of Riches: An Interpretation of Dutch Culture in the Golden Age* (Berkeley: University of California Press, 1988), 75–80, and I. Schöffer, “The Batavian Myth during the Sixteenth and Seventeenth Centuries,” in *Britain and the Netherlands*, V, eds. J. S. Bromley and E. H. Kossmann (The Hague: Nijhoff, 1975), 78–101.

<sup>68</sup> Benjamin Schmidt, *Innocence Abroad: The Dutch Imagination and the New World, 1570–1670* (Cambridge: Cambridge University Press, 2001), 74–76.

<sup>69</sup> Edgar Schorer, “Der Autarkiebegriff im Wandel der Zeiten,” *Jahrbuch für Gesetzgebung, Verwaltung und Volkswirtschaft im Deutschen Reich* 65 (1941): 47–82, and D. C. Coleman, ed., *Revisions in Mercantilism* (London: Methuen, 1969). Concepts of autarky have generally

van Beverwyck’s use of the term, given his residence in a country that had recently come to profit so greatly from international commerce, is indeed striking. What van Beverwyck seems to have intended to evoke through his book’s title was a sense of the patriotic necessity, which he urged upon his countrymen, to rush to the defense of that “indigenous medicine” he recommended in his subtitle. The Dutch, as he saw it, had been overwhelmed over the previous decades with “exotic” influences; the only way to restore balance and harmony would be to return to an earlier presumed state of self-sufficiency, in which the Dutch would again relearn to rely on their own “indigenous” or “domestic” resources.

Van Beverwyck’s approach to the debate between the “indigenous” and the “exotic” drew heavily on humanist ideals and methods. He cited one ancient author after another to support his claims that the perils of “foreign” substances had been recognized even in Greek and Roman times. He used the materials and environments of the ancient Mediterranean world as a primary point of reference, comparing and contrasting these with their northern European counterparts. And, he felt, the ancient Batavi would have agreed heartily with the classical authors whose strictures against exotics he cited. “Indeed I for my part could not believe that the ancient Batavians,” before entering into world trade “so that they might return burdened with the spoils of the Orient, would not have made use for preserving health, or recovering it, of their indigenous herbs.” Indeed, he observed, “they would otherwise have been more stupid than . . . cats and dogs, who know about domestic remedies, and do not set sail in search of grass or mint.”<sup>70</sup> Van Beverwyck traced the history of modern commerce back to the Venetians, who bought their “exotics” from Egypt, subsequently yielding their primacy in trade to the Spanish, and ultimately to the Dutch themselves.<sup>71</sup> Putting the controversy over exotics into historical perspective, Beverwyck thus felt free to cite a wide range of authors, from the ancients to contemporaneous raconteurs of Dutch voyages to both the East and West Indies, to support his case for repudiating “exotic” in favor of “indigenous” or “domestic” nature.

Why did van Beverwyck so strongly condemn the use of exotics? He gave numerous reasons. God would, he felt, “never have forced miserable mortals to fetch things from distant lands,” “lands warmed by another sun.”<sup>72</sup> Exotics had only become popular in his day because Europeans, curious and gullible, had let themselves be deceived by the glamor attached to exotic imports, mistaking high prices for true value. Referring to “exotic medications” in particular, van Beverwyck sourly followed Pliny in observing that they were “more helpful for enriching pharmacists, than for curing sick

flourished during times of war, and Europe was at this point still in the throes of the Thirty Years’ War; as we shall see, however, the way in which van Beverwyck developed this concept went beyond any wartime setting.

<sup>70</sup> van Beverwyck, 53–4. <sup>71</sup> van Beverwyck, 54. <sup>72</sup> van Beverwyck, 39–40.

people.”<sup>73</sup> People who bought exotic remedies such as balsam or tamarind were, he felt, all too commonly sold a bill of goods; the herbs and roots they purchased were often adulterated with other substances, or had simply gone stale from too much transit time. As a result, not only were these exotic substances unnecessary, but they could, even worse, be positively damaging to health.<sup>74</sup>

In contrast to exotics, van Beverwyck argued, “indigenous” natural objects were safer, more reliable, and generally superior for all purposes. “On the contrary [i.e. to exotics], nothing can be more certain than indigenous plants, which we see every day.”<sup>75</sup> Like Paracelsus, van Beverwyck seems to have seen living beings as existing in a close relationship or “sympathy” with their surrounding natural environments, which affected them in ways more deeply than human beings could ever hope to understand. Each region, in particular, had its own specific endemic diseases, which only native medicines could cure. European plants and animals, insisted van Beverwyck, thus shared a special bond with European people, “since they live under the same sky with us, and in the same soil, and they consume the same food, known to us, and they assume a nature harmonious to our nature.”<sup>76</sup> This harmonious relationship ensured, for example, that a food, drink, or medicine could be consumed and would not injure, or be violently rejected by, the body of the person or creature who ate it. More generally, this material harmony of influences and ingredients spoke to a deeper sense of natural and divine order, in which living beings and indeed nonliving objects as well “fit” their environments in a perfect match.

Travel, whether of men, beasts, or plants, was seen as disrupting this harmony. Van Beverwyck cited the well-known fact that tropical plants brought to Europe, like aloes, tended to do badly in their new surroundings. He attributed this not only to harsh European winters, but to a more fundamental imbalance. Transplanted species “fight with a hostile sky and soil,” he explained, “and they’re not able to enjoy their native and familiar food, and thus cheated out of their spirit, they gradually wither and eventually die.”<sup>77</sup> As with plants, so with people; Europeans too, van Beverwyck felt, tended to degenerate in their morals, customs, and general health when they travelled outside their native lands.<sup>78</sup>

It is in this context that van Beverwyck proposed a renewed attention to the “indigenous” natural products of the Netherlands. Holland, he maintained, was a virtual “storehouse of fertility,” blessed with “affluence” in its natural

<sup>73</sup> van Beverwyck, 68. On the keen interest of Dutch physicians in natural history, see Harold J. Cook, “The Cutting Edge of a Revolution? Medicine and Natural History near the Shores of the North Sea,” in *Renaissance and Revolution: Humanists, Scholars, Craftsmen, and Natural Philosophers in Early Modern Europe*, ed. J. V. Field and Frank A. J. L. James (Cambridge: Cambridge University Press, 1993), 45–61.

<sup>74</sup> van Beverwyck, 74–75, 72, 71, 91. <sup>75</sup> van Beverwyck, 71. <sup>76</sup> van Beverwyck, 76–77.

<sup>77</sup> van Beverwyck, 105–108, 43.

<sup>78</sup> van Beverwyck, 112; see also Schmidt, *Innocence Abroad*, 281–310.

endowments as well as its banking institutions.<sup>79</sup> Van Beverwyck admitted that Holland did, indeed, owing to its small size and geographical situation, conspicuously lack some of the natural resources enjoyed by neighboring countries, such as metal deposits to be mined, or adequate forest cover to burn for fuel; but he argued that if studied closely enough, the land would reveal sufficient “indigenous” resources to cover all of its needs. Take, for example, the case of fuel; even in the absence of sufficient quantities of wood, peat deposits amply sufficed to meet Dutch energy needs.<sup>80</sup> He argued against the excessive importation of colonial sugar, devoting an entire section of the book to the advantages of native honey as a substitute.<sup>81</sup> Similarly, he proposed that those tempted by exotic oils simply use butter, the product of the thriving Dutch dairy industry; he did acknowledge butter’s tendency to go rancid, but discussed possible preservatives.<sup>82</sup> He scorned the new foreign drinks, lauding Dutch beer instead.<sup>83</sup> And he pointed to Dutch herbs which were known to cure local diseases, arguing that if only physicians and other patriotic individuals turned their minds to the task, borrowing a leaf or two from wise rustics in the process, the Netherlands could be shown to possess a full complement of “indigenous” resources in this regard as well.

In short, van Beverwyck drew on the themes of the indigenous–exotic debate, drawing out the moral and social implications of “foreignness” for both plants and people, to articulate a strong defense of “indigenous” European nature. Though his focus was primarily on Dutch examples, the book proved much more widely influential; over the course of the next century, it was frequently cited by authors from both France and the German territories. In particular, naturalists cited the book as support for the compiling of local floras or “catalogues of indigenous plants” from a number of different European regions. Clearly, what they took from the book was not so much any conviction of the indispensability of Dutch nature in particular, as rather the broader point that van Beverwyck was making: namely, that the indigenous–exotic debate had raised crucial intellectual problems, which Europeans could best address by making a thorough study of their own “indigenous” natural productions.

<sup>79</sup> van Beverwyck, 5. <sup>80</sup> van Beverwyck, 30, 18–19.

<sup>81</sup> van Beverwyck, 99–103. Danish physician Thomas Bartholin similarly proposed honey as a substitute for sugar in his *De medicina Danorum domestica dissertationes* X (Copenhagen: typis Matthiae Godicchenii, 1666), a work similar to that of van Beverwyck in many ways; see Martha Baldwin, “Danish Medicines for the Danes and the Defense of Indigenous Medicines,” in *Reading the Book of Nature: The Other Side of the Scientific Revolution*, eds. Allen G. Debus and Michael T. Walton (Kirksville, MO: Sixteenth Century Journal Publications, 1998), 169. Bartholin seems to have understood the phrase “domestic medicine” not as referring solely to the use of household remedies (gendered female), but also of local ones as well, by physicians in addition to laypeople; for a contrast with a later period, see Charles E. Rosenberg, “Medical Text and Social Context: Explaining William Buchan’s *Domestic Medicine*,” in *Explaining Epidemics and Other Studies in the History of Medicine* (Cambridge: Cambridge University Press, 1992), 32–56.

<sup>82</sup> van Beverwyck, 103–105. <sup>83</sup> van Beverwyck, 25–27.

In 1683, several decades after the appearance of van Beverwyck's book, a new treatise on the topic was published. Its title – "Dissertation on Botanical Matters" – told very little about its contents.<sup>84</sup> But the way in which it was presented to its readership provides us with some clues as to why, despite its dry title, this treatise entered directly into the indigenous–exotic debates. For the treatise was bound together with, effectively as an (extremely extended) preface and introduction to, the first explicitly local flora of the Netherlands: the famous botanist Jan Commelin's *Catalogus plantarum indigenarum Hollandiae* (Catalogue of the Indigenous Plants of Holland).<sup>85</sup> Commelin, at first glance, might seem far from an obvious candidate for the authorship of such a book. A merchant and importer of exotic medicines by profession, who had done well enough for himself to be appointed to various posts in the Amsterdam city government, he had profited greatly from exactly the kind of enthusiasm for exotics van Beverwyck had so decried.<sup>86</sup> And in the same year his *Catalogus* was published, Commelin had just been selected as director of the new Amsterdam botanical garden, which would eventually under his leadership come to possess one of the widest selections of exotic species of any garden in Europe.<sup>87</sup> But for him as for van Beverwyck, his familiarity with exotics and with the indigenous–exotic debate had clearly only whetted his curiosity about "indigenous" nature. Basing his *Catalogus* on botanizing he'd done around his own country estate in Haarlem, Commelin recruited the Amsterdam apothecary Lambert Bidloo to introduce it to his readers. Far from supplying a brief and merely ornamental preface, though, Bidloo ended up contributing a full-fledged treatise, one that would engage many of the issues surrounding his own and Commelin's careers.

Bidloo's treatise directly addressed itself to the readers of Commelin's indigenous plant catalogue. "If you, dear reader, look at Commelin's . . . volume, you will see a tiny book, but given the amount of labor assembled for it, a work quite large enough. For [to produce it] indeed what a number of fields, forests, thickets, hills, and beaches had to be crawled through!"<sup>88</sup>

<sup>84</sup> Lambert Bidloo, *Dissertatio de re herbaria* (Amsterdam: apud H. & viduam T. Boom, 1683).

<sup>85</sup> Jan Commelin, *Catalogus plantarum indigenarum Hollandiae* (Amsterdam: apud H. & viduam T. Boom, 1683).

<sup>86</sup> F. W. T. Hunger, "Jan of Johannes Commelin," *Nederlandsch Kruidkundig Archief* (1924), 187–202. Commelin's fascination with plants from much warmer locales, for example, is evidenced in his *Nederlantze Hesperides, Dat is, Oeffening en Gebruik Van de Limoenen Oranje-Boomen; Gestelt na den Aardt, en Climaat der Nederlanden* (Amsterdam: by Marcus Doornik, 1676), which aimed to teach the Dutch how to plant and acclimatize citrus trees.

<sup>87</sup> D. O. Wijnands, *The Botany of the Commelins* (Amsterdam: A. A. Balkema, 1983).

<sup>88</sup> Bidloo, 3. On the trope of natural knowledge as a secret that has to be laboriously hunted after, see William Eamon, *Science and the Secrets of Nature: Books of Secrets in Medieval and Early Modern Culture* (Princeton, NJ: Princeton University Press, 1994), 269–300.

Praising Commelin's achievements in scrutinizing the "corners, valleys, and remote vaults" of their native land, and thereby finding "many indigenous plants hitherto unknown," the treatise moved on to explore a number of contemporary controversies in botany: most noteworthy among these, of course, the controversy over Commelin's chosen object of study in his catalogue, "indigenous plants." Though Bidloo occasionally left this topic to explore other botanical trains of thought, he always circled back to the indigenous–exotic debate; and it is worth seeing what he had to say.

Bidloo's stance on this topic was, on the whole, quite similar to van Beverwyck's. Indigenous species, he felt, had been unjustly ignored in the rush to study and consume all things exotic. He attributed the popularity of exotic substances to a craving for novelty ("for one kind of person, nothing will suffice unless it's new"), and compared changing tastes in food, drink, and medicines to those in the fashion world, referring contemptuously to girls' dresses as an example of this, adding the contemptuous remark "away with you Dutch herbs! family doctors are now prescribing tea, coffee, and chocolate."<sup>89</sup> Bidloo warned of excessive passion for exotics, ominously hinting, like van Beverwyck had, that this trend heralded decline: "due to the wares of foreigners, weakness, luxury, and gluttony are now stealing over our people, as happened to the Romans in their day. . . ."<sup>90</sup> To illustrate his point, he cited the case of tobacco: "Have men increased their longevity in our age, in which the use of nicotine has increased so greatly? On the contrary, as seen from examination of cadavers of the dead, as many anatomists have noted."<sup>91</sup>

Bidloo's analysis of the roots of the problem likewise mirrored van Beverwyck's. Objects and environments, he insisted, were linked in an intricate balance, which must not be disrupted. "The soil and the sky of every region mutually harmonize together and are connected, for men as for plants, in a universal relation on all sides."<sup>92</sup> Consuming foreign substances incurred the great risk of violating this natural order. Bidloo reported, for example, that plants from the Indies, if eaten by Europeans, commonly caused bloody diarrhea, vomiting, paralysis, "and other serious symptoms." For Bidloo, the same general rule held true in Europe, just to a lesser degree, since distances were shorter and environmental differences therefore less extreme; thus an Englishman would probably get sick on a diet of Norwegian fish.<sup>93</sup> Bidloo acknowledged that proponents of exotic medicines had begun to call these kinds of arguments based on affinities and "sympathies" between

<sup>89</sup> Bidloo, 34.

<sup>90</sup> Bidloo, 24. On specifically Dutch concerns over luxury and excess (*overvloed*), see Schama, *passim*; on early modern worries about luxury more generally, see Sekora; Berry; and Maxine Berg and Helen Clifford, eds., *Consumers and Luxury: Consumer Culture in Europe 1650–1850* (Manchester: Manchester University Press, 1999).

<sup>91</sup> Bidloo, 36. <sup>92</sup> Bidloo, 8. <sup>93</sup> Bidloo, 8–9.

“earth, water, and sky” in doubt, questioning them both as to their rational grounds and state of empirical proof. Admitting that indeed he could not “prove” the connections he saw with any kind of “mathematical” certainty, he nonetheless maintained that the overwhelming weight of the evidence, and of common sense itself, was on his side.<sup>94</sup> Here too, then, Bidloo chose to accept van Beverwyck’s basic theoretical model, arguing that it was the only one that made sense of the observations Europeans had accumulated about the historical interactions between objects and their environments.

If one examines Bidloo’s “dissertation” closely, though, signs can be seen that distinctions between “indigenous” and “exotic” were becoming increasingly difficult to uphold, for those involved in the serious pursuit of natural history or indeed for anyone else who had seriously thought the issue through. Bidloo observed, for example, that though many exotic plants grew only feebly if at all upon transplantation to the Netherlands, a few had in fact, after solicitous care from their gardeners, eventually succeeded in acclimatizing to their new environment, where they were now thriving quite nicely. “Many things from lands and skies quite unlike our climate are now growing here abundantly, as if in their own natural soil. Aren’t the Canadian chrysanthemum and the Peruvian potato . . . now grown in our fields?” In the case of the potato, what had once been a strange import had now become a staple, been given its own Dutch name (*Aard-Appel*) as if it had always been there, and become fully naturalized into Dutch life.<sup>95</sup> Bidloo reported that he could name at least 600 other such cases; however, he did not do so, but contented himself with referring to the notorious example of tobacco, of whose hazards he had earlier warned. As he pointed out, entrepreneurial Dutch farmers had begun to cultivate tobacco plants with surprising success. “What about *Nicotianum*, occupying vast fields of ours, and very happily springing forth?”<sup>96</sup> Nor were commercial crops the only neophytes to prosper; as Linnaeus would shortly thereafter remark, the introduced medicinal plant *Acorus calamus* now grew wild and “luxuriant along the Dutch canals.”<sup>97</sup> If foreign species could clearly not only find acceptance among Dutch people, but also thrive in Dutch soils, what did this say about the relationship between the indigenous and the exotic?

<sup>94</sup> Bidloo, 9.

<sup>95</sup> Bidloo, 73; cf. Redcliffe Salaman, *The History and Social Influence of the Potato*, revised ed. (Cambridge: Cambridge University Press, 1949).

<sup>96</sup> Bidloo, 73. On the origins of Dutch tobacco cultivation during this period, see H. K. Roessingh, “Tobacco Growing in Holland in the Seventeenth and Eighteenth Centuries: A Case Study of the Innovative Spirit of Dutch Peasants,” *Acta Historiae Neerlandicae* 11 (1978): 18–54.

<sup>97</sup> Cited in K. V. Sykora, “History of the Impact of Man on the Distribution of Plant Species,” in *Biological Invasions in Europe and the Mediterranean Basin*, ed. F. di Castri, A. J. Hansen, and M. Debussche (Dordrecht: Kluwer, 1990), 46.

These kinds of concerns can be seen as coming to the fore in the very way that Bidloo chose to define the “indigenous.” Whereas van Beverwyck had never fully stipulated what he meant by the term, establishing its parameters more through example and through stark contrast with the “exotic” than by explicit definition, Bidloo seems to have felt compelled to clarify how he understood the term. He did so quite early in the book, on its second page. By the term “indigenous,” he commented, he understood “not only these things, which originated here of their own accord since before the memory of men, but also those which, cast down here from other shores, owing to their frequent cultivation here, having grown accustomed to our sky and soil, have now been granted citizenship. . . .”<sup>98</sup> By explicitly including acclimatized exotics in this definition, to justify their inclusion in Commelin’s catalog, Bidloo thus framed a generously wide understanding of the scope of the “indigenous.” In the process, he highlighted the increasing difficulty of distinguishing between natural objects based on their geographical origin, in a world where species had come to be interchanged on an ever-more-frequent basis. “Many *exotica* are *indigena* by cultivation. . . . Indeed it would be a tough and unpropitious business without doubt, to determine which plants grow here and not elsewhere, whether of their own accord, or by seeds that have been brought here. . . .”<sup>99</sup> And indeed Commelin did go on in his inventory of Dutch plants to list not just *Acorus* by the canals, but tobacco itself, “lots of it, in the fields by Amersfoort.”<sup>100</sup> For Bidloo and Commelin, even though they made plentiful use of the indigenous–exotic debate as a way of justifying their efforts, distinctions between the “indigenous” and the “exotic” could not, in all honesty, actually be drawn so clearly. As they acknowledged, the categories were permeable, and travel between continents could, and did, change them.

As the case of Bidloo and Commelin thus shows, the desire to study the “local” and the “indigenous” natural phenomena of early modern Europe was thus by no means a self-evident process, but was rather embedded in a process of debate within early modern Europe. This debate, which came to be framed through the polarities of the “indigenous” and the “exotic”, but ultimately challenged them, kept coming to the fore again and again in early modern Europe. As rumors and reports filtered in, from far-off parts of the globe, of different people and creatures elsewhere, and as new material objects began to substantiate some of these rumors, Europeans struggled to make sense of the “exotic” phenomena they encountered. And while some

<sup>98</sup> Bidloo, 4. In recent years, a vast literature has sprung up on the concept of citizenship; however, much of it, in the early modern period at least, is devoted solely to the analysis of individual political theorists, rather than actual practices. See for example Derek Heater, *A Brief History of Citizenship* (New York: New York University Press, 2004), especially 50–64.

<sup>99</sup> Bidloo, 5. <sup>100</sup> Commelin, 2, 78.

reacted favorably to these phenomena, others seem to have reacted *against* the exotic in and of itself. In their reactions against the exotic, some went further, going so far as to elevate “indigenous” European natural objects to an importance they had not previously possessed. In Amsterdam, Jan Commelin compiled the first thorough inventory of the flora of Holland. And in London, Nicholas Culpeper, protesting against the “outlandish,” launched his spectacularly successful herbal. The reevaluation of the European “indigenous” had truly begun.

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## Field and Garden: The Making of the Local Flora

One morning in 1727, a procession assembled in Altdorf, a small German town. The *Rector Magnificus* of the university was there, as were assorted deans, “all wrapped in their new and splendid robes,” professors, doctors, masters, and many other “citizens of the Academy.” They marched from the Theologicum, the lecture-hall of the theologians, over to the Welserianum, an auditorium newly decked-out for the occasion. There, to the accompaniment of tubas and tympanies, they listened to a chanted ode and to an “Oration on the Origin, Progress and Destiny of the Medical Garden of the Altdorf Academy.” Then, after mutual congratulations, they all went home. This was not the end of the day’s festivities, though. Around noon, a more select group of professors met in the botanical garden’s greenhouse. Here, according to Johann Jakob Baier (the director of the Altdorf *hortus medicus* at the time and organizer of the festivities), they “did not scorn to be made partners in botanical gaiety,” but engaged their spirits in “licit joy” through music and conversation, “peacefully” (so Baier assured his readers) until late into the night (see Figure 3).<sup>1</sup>

The botanical garden of Altdorf, founded in 1626, had just celebrated its centennial (albeit a year late). And much had indeed happened during the past century. Over the course of the intervening period, the small walled town of Altdorf – about 20 km away from the thriving trading center of Nuremberg – had grown into a focal point for the new sciences. Simultaneously, tiny Altdorf’s plant world had come to be one of the most highly studied – and written about – in all of Europe, indeed in the entire world at the time. A hundred years had produced a lasting tradition devoted to the compilation and publication of what would later come to be called “local floras.” To create these documents, the countryside surrounding the town had been canvassed again and again for its diverse plant species. Altdorf was not the only early modern European town that had come to enjoy this curious privilege of having its local plants scrutinized in detail and recorded for posterity. During this period, many other municipalities (at first largely in the scattered territories of the Holy Roman Empire, then increasingly elsewhere

<sup>1</sup> Johann Jakob Baier, *Horti medici Acad. Altorf. historia curiose conquisita* (Altdorf: typis Iod. Guil. Kohlesii, 1727), sig.)(5v and)(6r.