

**"to make the stubborn Clod relent," or
Climate, Character, and Cultivation in Early Modern England**

by

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I shall not detain you longer from
entering ... another Earthly
Paradise, where every thing Smiles,
and looks Gay to the Imagination,
even in Reading. How much more
then will it exhilarate the Mind,
when by Practice it is enjoyed in its
Perfection, and flourishes to gratifie
the Sight, Taste, and Smell of the
Beholder, with a fair Prospect,
pleasant Fruits, and fragrant
Flowers, wherein Nature is refined
by Art.

Leonard Meager
The New Art of Gardening
(1697)

ABSTRACT:

Sixteenth- and seventeenth-centuries English writers struggled with ancient medico-climatic philosophies that cast northern climates as deficient and their nature as substandard. Their peoples were believed to be barbarous, violent, and dull of wits. They were lacking in culture and political stability and knew nothing about agriculture. England's northern status was established by the classical division of the known world into three main latitudinal bands. This tripartite world served to accentuate the "natural" superiority of the Mediterranean littoral, the temperate golden mean between the deficient climatic conditions of northern and southern regions. Early modern English natural historians, including geographers, herbalists, medical practitioners, and agriculturists, used a range of ideologies and practices to re-interpret their country's climate, geography, and natural phenomena. As the character of a region's people and plants were both determined by their climate, such constructions of England's environmental conditions and nature sought to cast off England's more uncivil characteristics. Although they do not coalesce into a unified discourse, the constructions of English nature produced by various sub-disciplines of natural history formulate a philosophy that the English character could unshackle itself from its environment, and through ingenuity and industry reshape England as an abode of temperateness, control, and hard work. This transformation in character from non-agricultural barbarian to disciplined, domesticated landowner was made evident in the form of productive gardens and well-tilled fields. The English enclosure, cultivating both nature and character, developed as an expedient of imperialism, exporting England's newly established modes and means of civility to the less "temperate" regions of the empire.

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TABLE OF CONTENTS:

Abstract	iii
Acknowledgements	iv
Table of Contents	vi
INTRODUCTION	.....	1
CHAPTER I :	.....	20
English Names for Ancient Herbs: William Turner and Renaissance Botanical Science		
CHAPTER II:	.....	58
Writing the Land: Chorography, Authorship, and Territorial Possession		
CHAPTER III:	.....	95
Geographies of Health, Race, and Nation		
CHAPTER IV:	.....	131
English Herbs for English Bodies: Popular Herbals and Paracelsian Medicine		
CHAPTER V:	.....	171
<i>"Idleness never wants an Excuse":</i> Ingenuity, Industry, and Agricultural Reform		
CONCLUSION:	.....	208
ENDNOTES	.....	217
BIBLIOGRAPHY	.....	228

Introduction:

On the morning of December 23rd, 1835, Charles Darwin sets off with Mr. Bushby, the British Resident in New Zealand, and two New Zealand chiefs as guides to visit Waimate, located about fifteen miles inland from the Bay of Islands, where three missionaries and their families had purchased some land to farm.¹ The landscape he passes through on the way and the indigenous people he encounters inspire little positive commentary from Darwin. The land although fertile is uniformly clothed with a dense forest of ferns, the sight of which “impresses the mind with an idea of sterility,” and “the scenery is nowhere beautiful.” Darwin is equally dismayed by the inhabitants: “their persons and houses are filthily dirty and offensive: the idea of washing either their bodies or their clothes never seems to enter their heads.” “All the hovels have nearly the same form and dimensions, and all agree in being filthily dirty” (505-6). At length, Darwin reaches Waimate:

After having passed over so many miles of an uninhabited useless country, the sudden appearance of an English farm-house, and its well-dressed fields, placed there as if by an enchanter’s wand, was exceedingly pleasant. [...] [F]ine crops of barley and wheat were standing in full ear; and, in another part, fields of potatoes and clover. But I cannot attempt to describe all that I saw there; there were large gardens, with every fruit and vegetable which England produces; and many belonging to a warmer clime. I may instance asparagus, kidney beans, cucumbers, rhubarb, apples, pears, figs, peaches, apricots, grapes, olives, gooseberries, currants, hops, gorse for fences, and English oaks; also many kinds of flowers. (507)

Remarkably, this England transplanted had been created by a New Zealander: “native workmanship, taught by missionaries, has effected this change. [...] [T]he fields ploughed, and even the trees grafted, by a New Zealander” (507). But for Darwin, a New Zealand native cannot build an *English* farm or sow *English* crops without some greater transformations having first been effected and without subsequent consequences – transformations and consequences, that is, not in the landscape but in the New Zealander himself. The cultivation of English nature is an activity intimately bound up with the cultivation of English character.

The instruments at work in fabricating Darwin’s vision of an enclosed English farm – literally an English island surrounded by seas of barbarous nature – are Christianity, English industry, English plants and agricultural technology. Together, these four agents of civilisation have effected a change so complete over the “desolate” forests of ferns and “filthy” habits of New Zealanders, that the whole scene “might well have been mistaken” for England itself. “At the mill, a New Zealander,” Darwin is pleased to note, “was seen powdered white with flour, like his brother miller in England.” Likewise, the “savages” have become Englishized by tending barley fields and cultivating English apples: the young farm hands present a “respectable appearance,” wearing shirts, jackets, and trousers and playing cricket in the evening sun. “A more decided and pleasing change” was wrought in the young women: “their clean, tidy, and healthy appearance, like that of the dairy-maids in England, formed a wonderful contrast with the women of the filthy hovels” (508-9).

English industry and English agriculture harvested pretty milkmaids and boys in cricket whites as capably as cucumbers, apples, and pears. By means of agricultural development, the miraculous change of moral improvement had been wrought: “the lesson of

the missionary is the enchanter's wand," the wand which caused an English farm to appear amid "so many miles of an uninhabited useless country." After having observed such pleasing changes in the New Zealand farm workers and the soil, Darwin pauses to reflect on the significance of Waimate:

When I looked at this whole scene, I thought it admirable. It was not merely that England was brought vividly before my mind; yet, as evening drew to a close, the domestic sounds, the fields of corn, the distant undulating country with its trees might well have been mistaken for our fatherland: nor was it the triumphant feeling at seeing what Englishmen could effect; but rather the high hope thus inspired for the future progress of this fine island. (507-8)

Darwin's New Zealand oasis serves to introduce the subject of this thesis: the preoccupations with and interrelations between cultivating English nature and cultivating English character. From Darwin's stance in the nineteenth-century, the two activities are so thoroughly entwined, so naturalised that they have become an exportable package, as serviceable for shaping and extracting behaviours and resources in England as on the other side of the world. But what does cultivating pears or clover have to do with being English? Part of the answer to the question lies in a silent and all-important third term connecting nature and character: climate. Climate, that is, understood as an ideological construct capable of generating a hierarchy of natural and human potential.

The philosophy that a people's disposition mirrors the peculiarity of their surrounding nature and that the characteristics of both people and nature are determined by and can be "read" from their climatic conditions has enjoyed a remarkable longevity. Climatic determinism prevailed from at least the time of Hippocrates (460 – 377 BC), and, although ancient climatic theories were rationalised by classical humoral medicine, the broad notion that particular airs and regions distinctly shaped inhabitants influenced millennia of

environmental theories, medical doctrines, and racial stereotyping long after the physiological doctrine of the humours was abandoned. Ostensibly climate was shorthand for explaining human and environmental variation. Yet the theory was far from impartial. Climatic determinism was a mechanism for constructing and projecting difference by those occupying regions that were simultaneously constructed as the norm. Hippocrates and ancient Greek and Roman authors imagined themselves as ideally positioned to bask in the ripest material conditions the world had to offer. All classical writers at one time or another ascribe the distinctive character of their civilisation to their “superior” Mediterranean geography and climate. By the nineteenth century, as Darwin’s observations highlight, the ideal latitudes have shifted north. For Darwin, England is the “natural” abode of the desirable human and environmental characteristics.

Two aspects of climatic determinism and its history are important to accentuate: the concept of the “norm” and the norm’s geographic situation. First, climatic theory stresses the interdependence of “the best” and “the rest.” The very idea of a superior climate necessitates the imaginative construction of other regions as deficient. This perceived inferiority of certain climatic zones was used to legitimate colonial applications of cultural and environmental “improvement” in forms that mimicked the attributes of the superior latitudes. And indeed, the use of climate as an expedient of European imperialism for imagining and constructing cultural and racial difference has become a familiar topic of post-colonial discussion. As David Livingstone has recently stated, climate was a means of mapping the boundaries of possibility, possibility, that is, of the colonies to achieve the superior cultural forms of their colonisers (“Moral Climatology” 161). Imitation and invention were deemed two separate mental activities, Anthony Pagden states in European Encounters with the New

World, and while the former might be achieved “by the races who lived on the edges of the temperate zones ... the latter was only possible to those who lived firmly within it” (147). Darwin’s admiration of New Zealanders for their ability to replicate an English farm is exemplary of this prejudice.

The second element of climatic determinism focuses on the geographic situation of the superior latitudes. From the eighteenth through to the early twentieth century, European writers and travellers generally maintained a sharp division between the cultural capacities of “northern” and “southern” regions.² While the temperate airs of the north were conducive to reason, industry, and temperance, the heat and humidity of southern regions stood as almost insurmountable challenges to the development of civilisation. As Nancy Stepan explains in her work, Picturing Tropical Nature, the divide between north and south was widened and accentuated by eighteenth-century writers including Alexander von Humboldt, Georges-Louis Leclerc de Buffon, Denis Diderot, and Immanuel Kant as “part of the formation of Europe’s identity as a place of temperateness, control, hard work and thriftiness as opposed to the humidity, heat, extravagance and superfluity of the Torrid zone” (34). Similarly, Livingstone describes the “bi-polar taxonomy of virtue and vice, master and servant, enlightened and benighted” (“Tropical Hermeneutics” 49). The tropics were viewed as the extreme example of southern characteristics: the tropics unleashed excess passion, induced sloth, moral degradation and precocious sexuality, and the density of superabundant vegetation hampered human activity. North versus south; temperance versus excess: the formula was applicable to all aspects of human behaviour and environmental conditions, equally serviceable for characterising a people’s political and social structures, arts, culture, languages and sciences, vegetation, and agricultural potential.

Scholarship on the use of climatic determinism by eighteenth- and nineteenth-century philosophers and travellers has highlighted their debt to classical theories of climatic variation. Yet critics have failed to register a radical alteration in a basic tenet of the philosophy. Classical authors imagined themselves as ideally positioned in the *middle* of the world, the golden mean, perfectly balancing the best possible environmental features of globe. Enlightenment and later thinkers constructed northern climates as the temperate and superior half of a binary, but ancient Mediterranean authors imagined that lands both to the south *and* to the north suffered under injurious climatic conditions.

Classification of peoples in the seventeenth century still conformed to classical divisions of the world into three main bands of latitude – northern, southern, and the temperate mean. “Whiteness” and “blackness” did not themselves form a binary, but both were marginalised in the tripartite world, both existing on the northern geographic periphery of an ideal middle zone inhabited by people of “middling” skin colour. England was routinely located in the northern band of latitudes, and while the negative opinion of blackness in the early modern period is familiar, “literary history has failed to acknowledge that (to a lesser extent) sixteenth- and early seventeenth-century Continental writings marginalize and denigrate white complexions as well” (Floyd-Wilson, “Temperature” 184-5). Mary Floyd-Wilson outlines the connection between skin colour, character, and latitude:

Following classical and medieval sources, early modern climate theory conventionally associated blackness with physical weakness, wisdom, and political subtlety, and whiteness with physical strength, barbarousness and dull wits. Medium complexions suggest a balance of mental and physical attributes. It is important to recognize that within climate theory’s tripartite hierarchy, characteristically northern “whiteness” does not yet metonymize the dominant identity of European culture in the early seventeenth century. (“Temperature” 185)

As this link between “white” skin and northern cultural characteristics suggests, the barbarism engendered by cold climates could not simply be written away. The inadequacies that the early modern English associated with their northern complexion were embedded in physiological and humoral theories which not only explained an individual’s health and illness but also defined how the bodies of entire populations interacted and adapted to their environment. In the early modern period, England bore as much the brunt of climatic prejudice as the tropics did in the eighteenth and nineteenth century.

Through the sixteenth and seventeenth centuries, English writers and scholars battled against the prevalent prejudice of their southern neighbours that as northerners the English were a race of rude, non-agricultural, lawless barbarians who had contributed nothing to the enlightenment and refinement of the civil world: “people inhabiting the north parts are white of colour, blockish, uncivil, fierce, and warlike, which qualities increase as they come nearer unto the pole” (Harrison 446). England’s natural environment mirrored its people. The ancient Roman image of England as a dank, cold, wasteland blanketed in dangerous fogs persisted well into the seventeenth century. What seemed such a natural connection to Darwin in the nineteenth century between an industrious English character and an abundantly fertile English farm would have been all but nonsensical two centuries earlier. In the mid-sixteenth century, the question was not “what does cultivating pears or clover have to do with being English?” but rather “what would it mean for the English character if pears and clover could be cultivated in England?” Hovering just below the surface of the second question is a deep-seated insecurity: the question implicitly suggests that England was incapable of such activities.

Yet, blindness to or disinterest in the fact that northern geographies have not always been conceived as the superior half of a binary has left a hole in the genealogy of European's climatic imagination, and climatic theory remains a surprisingly unexplored area in early modern scholarship. Some critical attention has been paid to the influence of climatic theory in early modern Europe, but most of this research merely serves to highlight the insecurities plaguing northern nations.³ There has been some research into early modern English attempts to rethink the negative northern stereotype. Floyd-Wilson investigates climatic theory against the backdrop of a proposed union between the England and Scotland in early seventeenth-century English literature as a means of ascribing, and distinguishing, between the racial attributes of the two nations. Karen Kupperman and Joyce Chaplin have focused on the cultural influence of climate theory in colonial experiences in the New World. However, no work has attempted to explain how the shift northwards of the "superior" latitudes, which in England occurred during the sixteenth and seventeenth centuries, was effected or rationalised.⁴

The rationales for linking particular types of knowledge, activities, and natures as particularly English arise from the very means by which early modern English writers attempted to undermine, complicate, and reinterpret the associations between character and England's climatic regime. In other words, the fears of inadequacy underlying the question "what would it mean for the English character if pears and clover could be cultivated in England?" was a driving force shaping England's self-fashioning in the sixteenth and seventeenth centuries. Appreciating the origins, philosophies, and longevity of that insecurity will explain how the link between English character and English nature became naturalised. It will also illuminate the rationale for exporting that link as an effective tool of

imperialism. These two elements of England's reinterpretation of the English character – the latter's entanglement with the natural environment and the use of that entanglement for colonisation – are reflected in a publication and an event that, together, bracket the time period covered in this thesis. The five chapters progress in a roughly chronological order from the publication of William Turner's A New Herball in 1551, the first work on English botanicals, to the Act of Union passed in 1707, which linked Scotland with England and Wales, produced new parameters of nationhood, and made the notion of Great Britain possible.

Climatic determinism was impressive in its breadth of application. In an attempt to address this ideological scope, I will discuss natural history, geography, race, medicine, and agriculture, all affected by climatic theories. The chapters focus on particular textual communities and the limitations and capacities of particular genres for defining, imagining, and possessing the land and its contents. By "textual community" I mean simply the arena for communication produced through the circulation and interaction of a set of texts. Composed of both audience and authors, such communities determine and are themselves constituted through their choice of genre, patterns of textual exchange, and forms and fictions of sociability. At a time when the natural world was actively and consciously reinterpreted and created, the image each community presents of English nature is shaped by its different motivations and strategies. Nature is not just "natural" but is created as natural by human desires and intentions. As Simon Schaffer has said, the "natural and the social are hard to tease apart" (124). The natural world is always historically constituted and always viewed through perceptual codes, beliefs about reality, and representational conventions. To become meaningful, nature travels through a complex network of social negotiations. And it is

important to highlight that nature in turns shapes and defines the community who seeks to define it. “Texts, nations, individual authors, particular discursive communities,” and, I will add, nature, “all are both produced and productive, productive of that by which they are produced” (Helgerson, Forms 13).

All writers who will be discussed wrote in English and, with the exception of Turner who wrote for an international academic community, for an English audience. It should be noted that the rise of vernacular language in England is not necessarily an indication of national sentiment. In her analysis of the use of English in Patriotism, Power, and Print, Gillian Brennan criticises some contemporary scholars who, mistaking early forms of patriotism “for nascent nationalism,” have assumed that sixteenth-century writers’ “attitude to language would mirror that of the nineteenth and twentieth century nationalist” (54). Following Benedict Anderson’s claim that vernacularisation does not indicate necessarily a nationalist impulse, Brennan has persuasively shown the separation between patriotism and pride in national languages in sixteenth-century England. Nevertheless, while print vernaculars do not necessarily establish the basis for a national consciousness, the textual communities examined in this thesis all used English conscious of its national force through their creation of a unified domain of exchange and communication.

However, to write in a common language, as Claire McEachern states in The Poetics of Nationhood, produces both consensus and division: “England, English, and Englishness are spoken in many ways at this moment, by many persons and in many places. [...] To write in a common language is to animate a medium where meanings must be both mobilized and eschewed, agreed upon and recreated anew, received but also transformed” (3). Similarly, the different textual communities in no way produce a cohesive image of English nature and

English character. Sixteenth- and seventeenth-century English naturalists, herbalists, geographers, and agriculturists all shared the same anxiety regarding the innate capacities of their climate, yet each group of authors produced a nature particularly formed by the philosophies, insecurities, desires, convictions, and practices that shape and define the community itself.

The first two chapters investigate how England's geography and natural phenomena were perceived and constructed in two genres previously unexplored by sixteenth-century English writers: the herbal and a descriptive geography known as chorography. The early stages of empirical natural history in the late sixteenth century were stimulated by a vast and exceptional intellectual shift distinguished by new scholarly interests, technological innovations, and an unprecedented expansion of the known world. Both herbals and chorographies were stimulated by new methods of empirical inquiry and the new culture of facts. However, the communities within which and for whom Turner and chorographers were writing determined the production of two very different pictures of English nature. The potential for wider dissemination of texts enabled by the printing press invited articulations of inclusiveness, and as a result academic communities were released from constraints of geographic proximity (O'Callaghan 3-4). In particular, the humanist scholarly culture to which Turner belonged encouraged fictions of an intellectual community based on an idealised universality of knowledge. While this universality was serviceable for much social, cultural, and political examination, it proved a hindrance for discovering and envisioning the difference between natural environments.

In chapter one, I investigate the geographic bias constructed by Renaissance herbalists' emphasis on recovering and standardising classical herbals – the primary genre for

botanical inquiry. Confident in their belief that ancient authors had detected and described the most efficacious plants, sixteenth-century herbalists attached more importance to determining ancient specimens than discovering new ones. The ancient hierarchical structure of latitudes, extolling the centre and condemning its peripheries, posed an obstacle for northern herbalists. Turner's herbal is typically lauded by historians of English science as an early and exemplary exploration of England's natural history. I argue, however, that the work is a product of the pervasive anxiety surrounding England's marginal geography: Turner is not motivated so much to discover unknown English herbs as to match English botanicals with classical plant types. The manoeuvre only serves to substantiate and further accentuate the innate "superiority" of southern latitudes. While Turner takes great pride in noting that the same plant grows in both English and Italian gardens, more often than not he is forced to admit that specimens he observed during his residence in Italy conform more precisely with ancient descriptions than those observed in the English countryside.

The first cohesive group of texts that exhibit a rising pride in England's geography and its natural phenomena are late sixteenth- and early seventeenth-century chorographies, an eclectic genre that seamlessly blends geographical, natural and historical facts. Geographical knowledge came to be understood as a principal means for constructing identity in early modern England. Land and its natural phenomena was defined, imagined, and possessed as English, and in turn came to define those who sought to define it. As a source of national pride, allegiance and identity, the land warranted new empirical inquiry. Collecting, enumerating, and naming England's natural phenomena in all its particularity made England known as natural entity. Chorographers present the land, however, in terms of possession: chorographies were written for and by landowners during a moment of unprecedented land

distribution. As such, chorographies are explicitly political texts that open a conceptual gap between the ruler and the land. As the monarchy attempted to extend and re-establish its control over the countryside, the gentry were articulating their own authority – both national and regional. While Turner understood English nature only as it compared to products of the Mediterranean, chorographers constructed English nature through possession of the land, particularly through the country estate. While chorographies make use of and create new geographic knowledge, they nevertheless retain strong ties to an older geographic tradition, cosmography. By framing the spatial and temporal dimensions of historical narratives within the ancient cosmographic imaginary, chorographies energise ancient rhetorical form of differentiation, which imagined geography as a theatre for human events.

Chapter three outlines the ancient philosophies that ascribe a character to geography, as well as surveying the persistence through the early modern period of medico-climatic explanations of national and racial difference. The connections between climate, nature, and people were based on Aristotelian and Galenic theory that constructed the world according to the four basic qualities – hot, wet, cold, dry. Ideologically, geography, race, and culture were intimately entwined: medicine could not be isolated from knowledge of the structure and operations of the world at large. In an effort to re-think England as occupying the middle “temperate” realm, English writers consistently distinguished their more northerly neighbours as the “very rude and unmanered [sic] & untaught” (Borde 137) and southerners as crafty and cunning. These designations remain fixed in traditional models for ascribing character to place, and stem more from insecurity and defiance than an assurance in national strength.

Discriminating between nations engages some notion of racial difference. Yet what constituted that difference is far from straightforward. As a highly unstable term in the early modern period, “race” was produced through several systems of meaning, frequently in competition. As Margo Hendricks explains,

“race” permitted the English to explain hierarchies of lineage, status, or typology without changing the language. In other words, a writer could describe the inferiority of the Irish “race” and the superiority of the aristocratic “race” in the same text with little concern for conflicting meanings, since the text’s audience would be expected to supply the requisite definition of the word “race.” (“Civility” 229)

In the sixteenth and early seventeenth centuries, the most consequential means of distinguishing between various “races” was culture not biology since Galenic physiology assumed the underlying similarity between all bodies. Physical as well as cultural, political, and religious differences were all ascribed to the effects of climate and geography: the ideal body inhabiting the ideal climate naturally exhibited exceptional modes of civility.

Ancient geographical explanations for national difference were first contested by the iconoclastic philosophies of the Swiss physician Philippus Theophrastus Bombastus von Hohenheim (1493/94-1541), commonly known as Paracelsus. Although Paracelsus is known best for his chemical philosophy, I want to highlight the role of environment in his thought, particularly in his theory of disease. Of course relating health and disease to environmental factors was nothing new. But Paracelsus destabilised Galenic understanding of the agents and dynamics of the relationship in a way that would be useful for undermining traditional characteristics of the inhabitants of northern environments.

Chapter four and five discuss the simultaneous shaping of English nature and of an English body and character in medical and agricultural literature. As ever, sixteenth- and seventeenth-century English natural historians, herbalists, and agriculturists were motivated

to remedy or disprove the host of negative characteristics describing northern peoples and the natural capacity of their soil. Both domestic and international concerns played an active role in shaping medical and agrarian images of England's nature. Herbal medicine and agriculture were tools for social and economic reformers who endeavoured to improve the health and wealth of both the population and the nation as a whole while reducing England's reliance on foreign imports.

Late sixteenth- and seventeenth-century medicine was characterised by factionalism, slander, greed, and vigorous calls for reform. Physicians denounced apothecaries, surgeons, and lay practitioners who trespassed beyond their authorised practice by prescribing internal remedies. Socially conscious medical reformers condemned physicians as motivated by personal status and wealth rather than concerns for national health and welfare. At a time when sickness and premature death were commonplace, when it has been estimated that half the population lived in or near poverty while another 30-35% maintained only a slightly better comfort of living, when 85 % faced chronic ill-health and frequent acute illnesses, when quackery was on the upswing and the medical market place flooded with dubious pharmaceuticals, providing easy access to safe, cheap, and effective cures was imperative.

English plants were constructed by a community of social and medical reformers as central to a patriotic and anti-elitist discourse, which sought to ameliorate national health through greater knowledge of local plants. Stimulated by Paracelsian medical philosophies, the Englishness of English herbs was elaborated into a national fact, wielded not only for social reform but also as a way of marking out England's geographic presence and constructing the distinction of English bodies. English botanicals were not mutations of Mediterranean varieties, bastardised by England's tepid summers and frosty winters. Nor

were such plants wayside weeds too common and coarse for physicians' attention. Rather, by God's providential wisdom and distribution of natural resources, *English* herbs were the fittest for *English* bodies.

Both the Galenic and Paracelsian bodies reacted to fluctuations in climatic conditions; unwary consumption or foreign travel provoked illness in both. The main difference between the two physiological models and the rationale for constructing the unique nature of the English body arose from Paracelsian pathology. Galen understood ill health as an internal fluid imbalance; for Paracelsus, illness was provoked by ontological, exogenous, and invasive entities. While traditional humoral theory had viewed all humans as essentially the same, Paracelsian national bodies were united by their susceptibility to disease. The theory facilitated a shift away from ancient hierarchical ordering of nations, yet the model was deeply xenophobic and favoured isolationism over expansionism.

English agriculture lagged behind that of most other European countries. Landowners showed little interest in cultivating their fields. Gardens and agriculture were reflections of a civilised and stable society. According to Francis Bacon, without gardens, even grand palaces are but "gross handyworks," and Bacon claims that "men come to build stately sooner than to garden finely; as if gardening were the greater perfection" (Francis Bacon 430). Of all the character traits ascribed to northern barbarians by classical authors, non-agrarianism seemed to present material evidence of an innate cultural deficiency.

Samuel Hartlib, the main figure in agricultural improvement from 1650s onwards, drew an ambitious plan for the development of English agriculture. Hartlib and his circle of agricultural reformers remained committed to practical solutions to everyday problems through organised collectives, publications, the creation of new institutions dedicated to

natural philosophical knowledge, and the application of new agricultural techniques.

Through this rigorous agenda of Baconian scientific reform, combined with the classical associations of agrarianism with cultural excellence and the biblical motif of Edenic fertility and moral purity, Hartlib proposed that the Garden might be made to grow again.

Cultivating the land was an exercise in civility, piety and patriotism: without an initial improvement in the character of English farmers and landowners, the fertility of England's fields could never be ameliorated and enhanced. Whether agriculturists were encouraged to imitate the civility of farming kings and philosophers or to model themselves on Adam and his dutiful husbandry of paradise, the underlying message centred on the potential of England's climate. Or rather, reformers claimed that the deficiencies of England's climate could be overcome by means of the moral and cultural improvement of English farmers. It was not the sun that England wanted, but ingenuity and industry. With these two virtues encouraged, England might yet regain a dominion over nature as well as cultivate the moral, cultural, and civic virtues that had characterised the inhabitants of Eden and the ancient Mediterranean, those ever-vernal lands.

This narrative of heroic triumph over natural insufficiencies implicitly suggests that the English character was not shaped by England's climatic regime, or, if climate did have an influence, its effects did not rule the English disposition. This ability to manage climatic and natural factors marks a dramatic departure for the construction of the English character. The notion is unsubstantiated by any climatic or physiological theory, which is exactly its power: something indefinable about the English culture assuaged the deleterious effects of climate. The idea is still inchoate in the seventeenth century, but in the hands of colonists in the following centuries the rhetoric emboldened racial differentiation. With this packaging of

English character, culture, and nature in the seventeenth century, the hazy outlines of Darwin's New Zealand oasis begin to take shape.

The naturalisation of this connection between Englishness and husbandry mirrors and even underpins the particularly English association between nation-building and the soil. In addition, the form and language of the late seventeenth-century agricultural revolution are inherently imperialistic. The commodification of the land and labour with the expansion of enclosures in England established the model for colonisation:

Before England began to colonize open, wild, and uncultivated land and subjects abroad, it created an apparatus for colonizing its open land and subjects at home – an apparatus that could be readily transplanted to distant territories. Enabling the British subject to establish a sovereign sense of identity, enclosures precipitate and prepare the way for England's relocation in the expanding circle of the colonial map. It was in the enclosure act that the ideology of imperialism became a material reality. (Marzec 131)

With the notions of enclosures as an apparatus for transplanting and cultivating English values abroad, we have returned again to Darwin's English oasis in New Zealand. And with this return, one final comment on linearity. Although I discuss these communities and genres in a roughly chronological order, I do not want to suggest that together they build a progressive narrative. The simple reason for this lack of linearity is that English natural historians, geographers, herbalists, and agriculturists writing in the sixteenth and seventeenth centuries were unaware that their various works would coalesce into a unified discourse under imperialism. As Nancy Stepan notes, there is never "a single map or picture of the natural world that increasing knowledge progressively fills in, but rather many different maps and representations, articulated and shaped by numerous factors of politics, culture and

aesthetics” (14). The production of English nature and English character was through forms often contradicting, undermining or at odds with each other.

Although naturalists, herbalists, geographers, and agriculturists all shared the same anxiety regarding the capacities of their climate, each rethought the relation between England’s climate, character, and nature differently. In chorographies, herbals, and agricultural tracts, enumeration and description of natural phenomena were mobilised to flesh out England as a natural entity. But where chorographers presented the land in terms of individual ownership, popular herbals formed a democratic discourse of widespread accessibility to England’s natural resources. The English body articulated in popular herbals is localised and geographically bound, informed by Paracelsian pathology. While agriculturists aspired to reduce importation of produce, they also advocated the introduction of foreign seeds, technologies, and agricultural theories to achieve this end. In doing so, they acted in contrast to herbalists’ xenophobic discourse of self-sufficiency. In opposition to the self-protectionism of Paracelsian medicine, agricultural reform literature produced an incipient rationale for unhinging the English character from environmental determinism. Yet the identity of the English character was created within rather than despite these particular incongruities.

Chapter One.
English Names for Ancient Herbs:
William Turner and Renaissance Botanical Science

Of Wormwode
 Of Sothernwod
 Of Branke ursine
 Of Aconitum
 Of Acorus
 Of Venus heyre
 Of the right affodyll
 Of Alopecurus
 Of Garleke
 William Turner A New Herball (1551)

The first nine entries of A New Herball (1551) by William Turner (1508-1568) are in fact in alphabetical order. Although the headwords are printed in a bold oversized font introducing each plant by its English name, Turner ordered his herbal alphabetically according to ancient Latin botanical nomenclature, in this case from *absinthium* (wormwood) to *allium* (garlic).¹ Turner did include an English index at the end of his herbal perhaps for the benefit of those readers not fluent in Latin; nevertheless some detective work is needed to find an item amongst the 147 simples between wormwood and beans (or *faba* in Latin), the last entry. A second volume was published in 1562, in which Turner continues with another 179 plants from *fagus*, the beech tree, to an ill-defined plant known to the ancients as *xyris* and variously called *spatula fetida* or spourgewurt by Turner's contemporaries. What might

seem a muddled system of ordering and naming to the modern reader is paradigmatic of the tension underlying the entire construction of Turner's herbal which can only be fully understood if it is seen as a product of Turner's two identities, as an Englishman and as a member of an international circle of humanist scholars.

In the preface to his first volume, Turner laments that although England had given birth to "certain learned men: whych have as mucche knowledge in herbes, yea, and more, than divers Italiane and Germanes," their studies have taken them to the continent and away from the English countryside, and none has "set furth any thyng, ether to the generall profit of hole Christendome in latin, & to the honor of thys realme, nether in Englysh to the proper profit of their naturall countre" (1:26). Yet, despite Turner's ardent desire to study English flora, A New Herball is not a collection of English plants. His foremost goal was to interpret and translate into English the true meaning of classical botanical authors such as Pliny, Galen, Dioscorides, and Theophrastus. Turner was a scholar embedded in scholastic pedagogical procedure, for whom learning denoted critically reading the proper authorities both ancient and contemporary, so as to compare, contrast, and assimilate passages with the purpose to clarify and reaffirm ancient wisdom.

Ancient herbals focused almost exclusively on herbs found within their authors' local Mediterranean environment. Pliny and Dioscorides rarely mention herbs from outlying regions and do not weigh the relative merits of plants from various geographic locations. Yet the initial emphasis of Renaissance scholars on textual restoration rather than botanical discovery gave new energy to the ancient geographic bias privileging southern latitudes. The academic importance ascribed to scouring ancient texts for medicinal and morphological characteristics of plants enforced the primacy of ancient plant types and restricted herbalists'

interest and vision to plants of a certain prestige. In other words, this vegetal prejudice, the belief that herbs native to certain regions were superior to others, was not inherent in ancient texts. Rather it arose as a by-product of Renaissance scholars' endeavours to revive ancient botanical knowledge and re-connect lost links between plants and classical descriptions.

Turner and his herbal will frame the following discussion of the practices and philosophies in sixteenth-century natural history that served to construct the innate inferiority of northern natural phenomena. In the course of his unprecedented exploration of herbs growing in England, Turner manipulated the scholarly skills he acquired during his medical training in Bologna not to discover English plants unknown to ancient and contemporary herbalists but rather to prove the compatibility of Mediterranean plant types with the English climate. Making a distinction between the two activities is perhaps unfair to Turner, who was most probably unaware that any actual difference existed between English and Mediterranean plants: the Englishness of English plants was yet to be constructed. Yet, Turner's blindness (whether self-enforced or not) to the distinction of plants native to England's fields and meadows highlights the geographic insecurity motivating Turner's work. For Turner, England's northern geography could not be inferior if those venerated plant types so lauded by classical authors could be found flourishing in the English countryside.

An Introductory Debate: Turner's Carrot versus Mattioli's Parsnip

The principal genre for Renaissance botanical inquiry was the pharmaceutical herbal. No plant or part of a plant from oak trees to clover flowers was thought to be devoid of at

least some human use. The European Renaissance pharmacopoeia borrows heavily from ancient sources, particularly Galen, Dioscorides, Theophrastus, and Pliny the Elder. For each entry, the etymology of the plant's Latin or Greek name is discussed and all known vernacular names are listed. Next, the plant's physical appearance, smell, taste, and natural habitat are described, followed by a discussion of any known remedial qualities, culinary virtues, and useful products obtained from a plant's roots, gums, leaves, seeds and flowers. Herbals exemplify what William Ashworth calls Renaissance "emblematic" natural history. Items of nature were treated to an approach that composed a web of associations including but not limited to physical descriptions, allegories and symbolism, etymologies, fables and legends, medicinal properties, with each statement typically supported by a named authority, usually classical but often contemporary (see Ashworth). As Michel Foucault outlines in Les mots et les choses; une archéologie des sciences humaines, the Renaissance episteme is characterised by an infinite, plethoric accumulation of knowledge highlighting the primacy of language. Scholarly texts present a sweeping vision that encompasses knowledge from all times and places, seeking to interpret the universal essence of natural phenomena with no distinction between what was seen and what was read. The proper academic activity is not seeing or demonstrating but interpreting.

For example, Turner gleans from a selection of venerated botanical authorities that the herb known in Latin as *pastinaca* provokes urination when taken in wine. Such a concoction is also helpful for the dropsy and the pleurisy and for soothing serpent bites and stings.² The root was thought to be an aphrodisiac and "provoketh men to the work of veneri." It also assists "to bryng furth the childe that sticketh in the birthe." The green leaves have a certain scouring nature and, when crushed with honey, clean "fretyng sores."

There are two varieties, wild or *sylvestris* and the garden kind, *hortensis* or *domestica*, which is milder but much more fit to be used in culinary dishes (A New Herball 2:183-4).

But what was the *pastinaca*? Proper identification of living herbs from classical sources was far from straightforward. Since ancient authors assumed a high degree of familiarity with botanicals amongst their readers, textual descriptions were frequently so concise as to be enigmatic. Sometimes they weren't provided at all or they compared one plant to another as the sole – and rather cryptic – basis of description. Of *aron*, for example, Dioscorides states it “doth send out leaves like to those of *Dracontium*, yet lesse, & lesse spotted” (208). This description is of little help if both *aron* and *dracontium* are unknown. Adding still further difficulty for herbalists, ancient writers did not always agree amongst themselves as to the physical attributes of the same plant. Turner's negotiation through Pliny's and Dioscorides' descriptions of hemlock, known in Latin as *cicuta*, is enough to make any reader's head spin:

Cicuta, as Dioscorides writeth, hath a stalk full of joints or knees, as fenel hath. [...] The leaves are like unto fenel gyant or herbe sapapene called ferula but narrower and stinking. There groweth out of the top both branches, and also a spoky top and seed whiter than anise, but Pliny sayeth grosser and thicker. [...] [T]he herb which we call homlocke hath leaves not very well agreeing unto the description of Dioscorides, for Dioscorides writeth that cicuta hath leaves like unto ferula, which hath leaves like unto fenel, saving that they are sharper and broader, but our homlocke hath leaves like unto persely, and in all pints unlike unto fenel [...]. Howbeit the description of cicuta in Pliny agreeth in all points with our homlocke, for Pliny maketh the leaves of cicuta like unto coriander, but smaller and thinner which are a great deal bigger than the leaves of ferula. (1:140)

In the case of the *pastinaca sylvestris*, Turner was lucky. Dioscorides supplied a relatively complete and simple description, which Turner quotes. It “hath leaves of gingidii, but broder & somethyng bitter, a streyght stalke, roughe, a spoky or beamy top lyke unto dill,

where in ar whyt floures, & in the myddes is a certayn purple thyng almoste resemblyng saffron. The root is a fingre thick & a span long, having a good smell, which useth to be eaten” (2:182-3). While Turner found nobody to refute that what the ancients knew as *pastinaca sylvestris* was the wild carrot, determining the true identity of the domestic sort generated conflict in the absence of any ancient description. Fortunately, like so many naturalists of his intellectual disposition and generation, Turner was never one to shy away from a botanical fracas. In his own words Turner strove to confute “the errorrs of them whiche have writen of late and have notably erred, and stifly have defended their errorrs” (2:21). As the editors of a recent re-edition of Turner’s herbal claim, few things satisfied “the contentious Turner as much as confuting the bogus scholarship of others, or what he vehemently suspected of being bogus” (Introduction A New Herball 2:8). And it seems even fewer things satisfied Turner as much as finding cause to revile Pietro Andrea Mattioli (1501-77), a close contemporary and fellow student of Turner’s own teacher, the great Luca Ghini (c. 1490-1556), professor at the University of Bologna.³

Mattioli pronounces the parsnip and not the carrot as the right *pastinaca hortensis*, notwithstanding his agreement with the general opinion that the wild carrot was the true *pastinaca sylvestris*, and despite there being no likeness at all between the leaves of wild carrots and those of common parsnips. Turner admits that classical authors sometimes allowed wide morphological divergence between wild and domestic varieties of the same plant but as no such expressed difference is made by any classical author, Turner concludes that the general rule is maintained: “As the wild carot is found abroade in the felds lyke unto the gardin carot in leves, taste & smell, even so is there found a wilde kynde of persnepe like unto the gardin persnepe, both in leves, sede, rote [root], smell, & taste” (2:183-4). As

further proof Turner provides the precise locations in which he had observed the plant.

Turner notes that “thys wild persnepe groweth plentuously besyde Cambrydge in a lane not far from Newnam Milles” and also in Germany around Worms, and probably equally abundantly in Italy, though Mattioli claims never to have seen it, “which if he had sene & well consydered he wold not have erred as he hath in *pastinaca hortensi*” (2:184).

Ocular demonstration was useful, but textual analysis was conclusive. Mattioli’s confusion seems to have arisen from his failure to find anywhere in either Greek, Latin, or Arabic sources that the *pastinaca domestica* should have “such a rede or sanguin color as the carottes have.” But, Turner claims, “I thynk he hath red that althoughe he hath forgotten it” (2:184). Turner then quotes a passage in Latin from Theodore Gaza’s (1398-1478) renowned translation of Theophrastus’ De historia plantarum, which states carrot roots to be either black or have a saffron colour, “colore croci.” Continuing his attack, Turner claims that “Simeon Sethi also a Grecian, as he is translated makethe one kynde of pastinaca to have blak or rede rootes, & an other kynde with yellow rootes.” And if “any man suspect the translator,” Turner provides the Greek as added evidence against Mattioli (2:183-4).⁴

Turner’s criticisms of Mattioli’s philological capabilities are often more precise, and he revels in any opportunity to flaunt not only the superiority of his own reading skills but the accuracy of his editions of ancient authors. Of the iris, Turner claims “Matthiolus redeth επιχαυλα where as my Greke Dioscorides hath επιχαυλω” (2:68). While discussing wall barley, Turner snidely marvels that Mattioli confuses *lolium murinum* for *hordeum murinum* in his reading of Pliny, “when as mi Plini [sic],” Turner remarks, “corrected by Erasmus and prynted by Frobenius” the proper name for the plant is clearly stated as *hordeum* (2:57).

Turner's confidence in his citation of the *true* words of ancient botanical authorities was predicated on his certainty in the accuracy of his editions of their texts. Yet even if Turner was satisfied with his access to ancient wisdom, how useful were the words of Pliny or Dioscorides for elucidating the qualities and particularities of English plants? Carrots and parsnips grown in England differ little in the twenty-first century from Mediterranean varieties. We cannot be certain whether this similarity was evident in sixteenth century species or has arisen from standardising pressures of an international marketplace and selective breeding. We can be certain, however, that Turner would not have been able to find all plants described by classical herbals in England. Ancient authors mainly examined and described their local plants found in the Mediterranean littoral and the pharmaceutical properties of plants naturally flourishing under a southern sun. The breadth of ancient botanical knowledge did not extend very far north; the plants of northern latitudes had in great part been unknown. Nevertheless, at least until the end of the sixteenth century, naturalists of northern Europe such as Turner generally assumed that their local flora and fauna "could be exhaustively apportioned among the Mediterranean plants and animal types depicted in ancient sources" (Atran 2).

The weight of ancient authority pervades Turner's herbal as each detail of each specimen, the shape of its roots, its preference for shady lanes or open meadows, the heat of the sun or mountain sides, is examined through the lens of classical botanical knowledge. Of *astragalus*, Turner observes all the properties Dioscorides mentions, but "yet when as I had found the roote in certaine moyst places very lytle astryngent: I began to dowt, but after that I found that in drye places, & that it had a manyfest astryngent, I doutd no more: but that thys herbe was the ryght astragalus" (1:84). The right *astragalus* is Dioscorides'

astragalus, a product of the Mediterranean basin. Could figgwurt be Galen's *selendine* despite its distinct lack of heat? Was langdebefe the same plant Pliny called *cirsion* but without purple flowers? Of *apios* which "seemeth to me to be called in englishe, an ernut, or an erthnut," Turner writes:

The wordes of Dioscorides made me to doubt whether, our erthnut were apios or no, seyng that many eat the hole root of erthnut: ye som time v. or vi. & yet nether go to stoule nor vomite by the eating theref: wheter erthnut have these forsaid properties in grece or no & not here: I can not surely tell [...]. I wold exhorte studentes to prove: if this ernut [sic] of oures have in any other place of england, wher I have not bene, have the properties that Dioscorides giveth unto apios or no. (1:68)

Turner's herbal is, then, not so much a collection of English plants in English places, but a presentation of Mediterranean plants found on English soil. This geographical bias favouring Mediterranean plants and geography was in part a product of the textual community within which and for which Turner was writing. In this respect the herbal genre was both a structure and an agent for the production of knowledge. The genre enforced certain academic standards of which by far the most consequential was scholarly engagement with ancient wisdom through, more often than not, debates with one's contemporaries. The importance of academic discussion, textual restoration, and even the emphasis on etymology assumed and sustained the universal applicability of botanical knowledge. Participation in the genre could only serve to cement the reputation of the Mediterranean climate, geography, and plants.

The following section investigates the culture within which an interest in textual standardisation first arose. Although the intellectual climate, educational centres, and technologies available to humanist scholars resuscitated the botanical sciences, it was these same scholarly "tools" that initially hindered the advancement of botanical inquiry in regions

distant from the Mediterranean. Turner was the first Englishman to consider a parsnip in “Cambridge in a lane not far from Newnam Mills” an item worthy of observation and its humble location sufficient to validate his dispute with a continental academic. Nevertheless, it was because Turner concluded that his Cambridgeshire parsnip conformed to an ancient description that he was able to engage with an international community of scholars. Which is to say, the prestige ascribed to classical texts arose in part from a veneration of geographic location.

**“best kind of *Hiacinthus* that ever I saw”
Reputation and Geography**

A century before the first volume of Turner’s herbal was published, a standard edition of almost any ancient text was an elusive dream, if anyone dared to dream it at all. The art of multiplying manuscripts had contributed little to preserving a clear link between plant names and living specimens, and perhaps the greatest source of confusion for Renaissance herbalists arose from inaccuracies in the works themselves perpetuated by generations of copyists. Moreover, medieval scholars had tended to use classical texts as storehouses of facts and anecdotes, mining them for specific purposes, copying excerpts and gluing together fragmented portions (Nauert 74). The vocabulary and meaning of many Greek texts had become cryptic or the texts themselves had been lost to Western circles of knowledge. Carrots and parsnips were just two of a multitude of plants that had been well known to ancient authors but whose identities were obscure to academic botanists.

The words “rebirth” and “revival,” so central to Renaissance humanist scholarship, are generally applied to the intellectual fever provoked by the sudden recovery of ancient Greek literature. Yet what constituted the real revival, Charles Nauert states, was a shift in scholars’ interest in both Greek and Latin studies rather than the mere discovery of ancient texts (73). It was this transformation in purpose that made “well-known classical authors interesting in new ways and also made the discovery of ‘new’ ancient authors seem worth the rigors of extended travel and the toil of learning a new language (Greek) and of reshaping an old one (Latin)” (73). As a written monument of the past, every document of the Greco-Roman world was worthy of recuperation and imitation (Gouwens 66). A broad and dynamic program of cultural restoration and renewal was initiated by humanists who approached all ancient texts including works on natural history with a fresh enthusiasm. Which is to say, Renaissance botanical inquiry was valid because it was a textual exercise, and not initially for any practical uses that a more thorough knowledge of botany might provide. Texts that dealt with natural history were classical texts and therefore warranted the same assiduous attention to decipher their true meaning as any other classical work.

By painstaking philological and editorial labour, scholars applied their knowledge of manuscripts and classical languages to eliminate errors and restore corrupt passages. The importance of print technology for the establishment of standard editions of ancient texts cannot be overestimated. Medieval scholarship had been restricted by limited access to a small number of texts of uncertain accuracy. Such a thing as a manuscript copy of the Historia naturalis, Edward Greene states

would not be looked for but in the library of a pope, a prince, or some rich monastery; and the readers of the work must have been few, and that few perhaps reading in such a spirit of wondering veneration as never to look for errors. What was not

intelligible, the pious reader would charge to his own ignorance or incompetency. The great Pliny must be right, whatever he might say. (2:535)

With the advent of the printing press new editions, reprints and translations of all ancient works of natural history proliferated. Pliny's encyclopaedic work was a favourite of humanist scholars, and was revised and reprinted often despite its size and attendant printing costs. In 1469 Johannes de Spira brought out the first printed edition in Venice. His rival, Nicolas Jenson, completed a more famous edition in the following year. As evidence of the work's enormous popularity, no fewer than eighteen incunabula editions (fifteen in Latin and three in Italian) were issued by no less than fourteen different Italian presses, and at least forty-three Latin editions were in circulation by the end of the sixteenth century (Sarton 80-1). Gaza's translation of Theophrastus first appeared in print in 1497 published by Aldo Manuzio in Venice. The Aldine press also published the first edition of Dioscorides' Materia medica in Greek in 1499, and a Latin alphabetical version compiled from various medieval manuscripts had been printed at Colle in 1478 and reprinted in 1512. Beside a continued issue of Greek editions, four different Latin translations of Dioscorides were printed in the sixteenth-century alone. By the 1520s the first new Latin and Greek editions of Galen's works appeared in print with subtitles that indicate the on-going importance of fastidious editing: "freed from almost innumerable errors," "emended and restored according to the word of many and very ancient copies," "faithfully emended in nearly innumerable places by comparison to Greek exemplars and restored to their original integrity" (qtd. in Reeds 526).

The unprecedented proliferation of texts initially served to highlight the irregularities and discrepancies inherent in manuscripts. With numerous editions in circulation based on

different original manuscripts or aggregated from various fragments, scholars were able to peruse and compare passages deciphered by rival naturalists. Although the wider circulation of multiple editions highlighted textual errors and helped shake the pious Plinian reader out of a wondering stupor, the advent of print itself did not establish veracious knowledge: “Far from fixing certainty and truth, print dissolved them. It exacerbated the ephemerality of knowledge” (Johns, Nature of the Book 172). Texts are not inherently trustworthy, and fixity is not an innate quality in print but “exists only inasmuch as it recognized and acted upon by people - and not otherwise” (Nature of the Book 19). Despite the textual stabilisation promised by the advent of print,

[p]iracy and plagiarism occupied readers’ minds just as prominently as fixity and enlightenment. Unauthorized translations, epitomes, imitations, and other varieties of ‘impropriety’ were, they believed, routine hazards. Very few noteworthy publications seemed to escape altogether from such practices, and none at all could safely be regarded as immune a priori. (Nature of the Book 30)

Print was rapidly becoming the primary vehicle to establish one’s eminence and canonise a body of knowledge, and the work of textual restoration proved increasingly contentious. The reputation of scholars as well as editors rested on the final product, the text itself, the integrity of which was frequently at the mercy of careless and greedy printers (Nauert 76-77). With printers and publishers controlling the production of books, “scientific texts in particular did not fare well when careful authorial or editorial control gave way to the inclinations of printers free to do as they wished” (Lowood 309). The character of printers and printing houses, the exactitude of typesetters, the propriety of booksellers, the reputation of editors and, of course, the erudition of authors, were all integral to establishing the reliability and accuracy of texts.⁵

With a wider public reached than ever before, for the first time critical feedback became a serious factor for writers, as well as for editors and publishers (McArthur 73). In her discussion of the great naturalist Ulisse Aldrovandi (1522-1607), Paula Findlen states that “a new Aristotle could only shakily lay claim to this title if he did not create a body of knowledge made canonical by its appearance in print” (Possessing Nature 25). As the printing press provided a condition of possibility for the acceleration and breadth of knowledge distribution, it gave birth to a scholarly culture fraught with perpetual debate, confrontation, and outright hostility. Scholars sought out and ridiculed the errors of their intellectual competitors and eagerly discredited each other’s editing or linguistic skills, a competitive practice which Turner’s attack on Mattioli exemplified. In his Castigationes plinianae (1493), for example, Ermolao Barbaro (1454-1493) proclaimed to have eradicated some five thousands errors detected in two earlier editions of Pliny’s work on which he based his corrections. Editions garnered support from some and scorn from others as Turner illustrates by using his edition of Pliny “corrected by Erasmus” to castigate Mattioli’s scholarship. Turner himself acknowledges the risk of publishing in the preface to his first volume:

some beyng wyse men, thought it more wysdome to be a iudge of all mennys writinges and labores, then by writing to come under the iudgement and correction of al men: to answer to all whatsoever shuld be laid unto their charges, namely: When there commeth no profit but the ieopardy of a mannys estimation, by such writing and setting out herballes, or of any other bookes be they never so learned or profitable. [...] Yet it be ever so learned or profytable ... there wyll some envyous ydle unsent for overseers, homelearned clerkes, stert up and dispraise thys my laboures, whych for lack of learnyng cannot do so muche their selves, or for shepish fear dare not, or for envious unkindnes, thought they can, wyll not. (1:26-27)

In such an animated intellectual climate – sustained and indeed dependent on vigorous debate – it is hardly surprising that northern scholars initially focused on those Mediterranean plants described in ancient sources. Reputation was established by reading ancient texts and engaging in an international discussion and not through lonely contemplation in the corner of the world, that is, England. As Charles Withers aptly writes: “Wandering in the fields alone was of little wider value unless one’s results could be understood by others elsewhere” (“Reporting” 503). Turner’s bitterness towards Mattioli arose in part from the latter’s ability to play the game, to publish a translation of Dioscorides in Italian, rather than take Turner’s more uncertain course and publish works ostensibly pertaining to a limited geography in the academically substandard language of English. The broad public discussions and communal context of textual production served to restrict the range of “important” topics to those that engaged an international community. In the case of botanical science, that range was a geographical restriction.

In addition, the enthusiasm of early print communities partly derived from print’s capacity to loosen academic interactions from geographic bonds – authors and readers widely separated in space could engage in debate. The wider circulation of printed texts permitted by their reproducibility enabled “abstract concepts of community – imagined communities – whereby individuals were able to relate to others outside their immediate social environment” (O’Callaghan 3-4). Likewise the energy driving humanist culture partly arose from a belief in the universality of knowledge. Neither of these forces was particularly encouraging for geographically specific botanical study. More value was attached to accurately identifying a plant cryptically described by ancients than to a new botanical discovery (Sarton 49-51).

The botanical bias instilled by Renaissance veneration of ancient works was further accentuated by social, educational, and material practices of Italian centres of learning. The revival of natural history had much to do with new links between academies and courtly culture. By the mid-fifteenth century, natural history was seen as a noble and useful subject and one worthy of patronage from the highest powers. Centres of learning competed to woo the greatest minds by promising new chairs in natural history and establishing botanical gardens. Nicolò Leoniceo was stationed at the University of Ferrara as a professor of medicine from 1464 to 1524 by the patronage of the d'Este princes. In 1513, the Medici Pope Leo X appointed Guiliano da Foligno to the first professorship in natural history. Two decades later the Senate of the Republic of Venice appointed Francesco Bounafede to a lectureship on medicinal plants. In 1543 Giuseppe Gabrieli (1494-1553) was appointed the first chair in "medicinal simples," as natural history was often called, at the University of Ferrara by Ercole II d'Este (A. Cunningham 59). In the same year Cosimo I de' Medici succeeded in luring the eminent naturalist Luca Ghini from Bologna to Pisa (Reeds 535). Such centres greatly contributed to the advancement of natural history by financing publications, professorships, and research facilities capable of accumulating a great number of plants in one place for close and repeated observation. Within the perimeter of institutionalised botanical gardens and under the careful tutelage of distinguished herbalists, students felt assured that they were accurately matching up living plants with ancient descriptions.

The reputation of Italian academic institutions derived not only from a number of cultural and intellectual associations but also from the historical prestige of their geographic situation, which ensured a continual attendance of students from northern countries seeking a

clearer understanding of ancient texts by observing first-hand the plants that Dioscorides and Galen had described in their “original” southern habitat. For example, after years of intensive study during his medical training in Augsburg, Leonhard Rauwolff (1535-1596) was “enflamed with a vehement desire to search out, and view such Plants growing spontaneously in their Native places,” to see for himself “those fine Outlandish Plants, whereof Authors so often make mention, growing in their native Soil, and so gain a more clear and perfect Knowledge of them” (100). On several occasions Turner alludes to his outdoor experiences with his teacher, Luca Ghini. While obtaining his doctorate at Bologna, guided by the careful eye of Ghini, Turner observed the “best kind of Hiacinthus that ever I saw ... hard by the mount Apennine,” as well as a fistick nut tree, and many “strange herbs which I never saw since I came out of Italy” (2:58, 205, 186). Other botanically minded travellers included François Rabelais (1494 -1553), Guillaume Rondelet (1507-1566), and Bishop Guillaume Pellicier (c. 1490—1568), Valerius Cordus (1515-1544), Caspar Bauhin (1560–1624) and his elder brother Jean (1541–1613).

The establishment of botanical gardens and the new interest in observing living plants voiced by Rauwolff and Turner mark the epistemic shift beginning in late Renaissance science from the bookish scholastic practices of an emblematic worldview towards new methodologies of natural inquiry based on empirical study. Within the traditional Aristotelian school of thought, “experience” signified an understanding of how things happened. The new paradigm focused instead on specific accounts of particular phenomena. Although the story is well known, it bears repeating in order to highlight the role geography played in the new culture of botanical “facts.” New observational strategies greatly accelerated botanical science and precipitated the general awareness among herbalists that the ancients had not

enjoyed a comprehensive botanical knowledge. But *where* such observations were made significantly contributed to or detracted from the reliability and interest of reports.

Geographical Boundaries for Botanical Facts

The Renaissance scholastic tradition had privileged a small group of natural philosophers and students with the task of elucidating truths transmitted through institutionally sanctioned texts and lecturers. Natural philosophers aspired to *scientia*, certain knowledge of universal and necessary truths, with causal analysis as its goal. In contrast, natural history had description as its end, and was understood as an aid to knowledge rather than knowledge itself. Aristotle had emphasised the regularity of the natural order, habitually following a common course, and natural philosophers spurned particulars unless they led to generalisation and the discovery of universals. Although Aristotle had seen descriptive natural history as the indispensable foundation for building universal and necessary principles, to serve up particulars “without an explanatory sauce” would have demoted natural philosophy to mere natural history (Daston 110). Thus natural philosophers had marginalised particulars – debased by inherent variability and irregularity – as capable of yielding only probable or contingent knowledge. Naturalists who attempted to study wonders and marvels of the world unmentioned in ancient texts and beyond traditional philosophical paradigms, were obliged to wade through the “muddy waters of sensory experience and probable opinion” (Daston and Park 141).

Traditionally physicians left the base activities of herb gathering to apothecaries and lesser educated health practitioners, occupying themselves instead with philosophical

disputations and the *scientia* of anatomy and natural philosophy. Reliant on data acquired by the senses and, therefore, probabilistic, particular observations of natural phenomena could never achieve mathematical certainty. However, the vital importance and practical application of herbal knowledge coupled with the new scholarly interest in textual restoration and botanical identification fuelled a sort of empiricism with students of nature increasingly seeking living herbs. Desiderius Erasmus (1433-1536) joked that the medical faculty at Paris physicians were barely able to point out a sprig of parsley (R. Drayton 6). The great German botanist Leonard Fuchs (1501-1566) claimed that scarcely one medic in a hundred could be found with sound knowledge of even a few plants at most.⁶ Agrippa von Nettesheim went so far as to condemn the “Art of Physicks” as not only unnecessary but “destructive.”

Physicians relied on “screw’d and forc’d Maximes” rather than “any sincere and real Medicines: and being employed in Scholastick Syllogisms, unacquainted with Woods and Fields, becomes altogether ignorant of Herbs and good remedies” (282). If earlier humanists engaged in correcting ancient texts had been primarily philologists, subsequent generations were first and foremost distinguished herbalists. “Experience now played a greater role in the constitution of scientific authority,” Paula Findlen has stated, “and the naturalists who claimed the greatest level of ‘experience’ subsequently came to possess the highest degree of knowledge” (Possessing Nature 157). The shift towards empirical study and demonstrable evidence altered natural history from the study of universal Nature to the investigation of specific nature. It was this new emphasis on firsthand observations, limited to a particular time and place, and capable – hypothetically if not actually – of being verified, that “brought natural phenomena into the orbit of ‘fact’” (Shapiro 111).

Sixteenth-century physicians came to believe that without personal experience of herbs, ancient texts were of little practical use. Beginning in the 1520s and 1530s, medical faculties throughout Europe remodelled their curriculum not only to incorporate newly edited copies of ancient works but also to emphasise *simplicium exactam notitiam* - exact knowledge of simples. Lectures on Galen and Dioscorides increasingly emphasised “ocular demonstrations” of plants, inciting medical students to develop a greater familiarity with botanicals in all stages of growth (Reeds 534). In the spring of 1545, the Senate of the Republic of Venice founded the first *orto botanico* at the University of Venice in Padua at the behest of Francesco Bounafede. Padua was pioneering with the foundation of a second botanical chair in 1561, this time in practical botany with an *ostensor simplicium* hired to demonstrate to students the living plants described in their textbooks. Ghini established a garden in Pisa in 1547. By the end of the sixteenth century, every university that aspired to an excellent reputation in medical instruction had established a botanical garden, while many physicians and herbalists had their own private gardens.⁷

The great Venetian botanist, Barbaro was an innovator and instigator of out-of-door observation. He was “the very first in the history of the revival of botany to have added anything at all of his own to that which had been handed down through the long ages” (Greene 2:562). In the spirit of investigation, Barbaro was known to spend his evenings wandering in his garden in Venice or through the neighbourhood, scrutinising and contemplating plants. Aldrovandi, who established a botanical garden for the medical school in Bologna in 1568, claimed to have described only those things he had seen with his own eyes, smelt with his own nose, or touched with his own hands (Findlen, Possessing Nature

156). Fuchs scorns physicians who consider practical knowledge of plants too ordinary and undignified, the “menial” business of druggists and old wives:

Merito itaque reprehensionem & obiurgationem nostram multorumque aliorum bonorum virorum incurrunt medici, qui hanc cognoscendarum stirpium curam funditus repudiant, aspernantur, & pro nihilo putant. [...] Nam nemo illorum morbis recte mederi potest, aut medicamenta componere, aut antea inventis commode & opportune uti, nisi simplicium exactam habeat notitiam. (n.p.)⁸

Ancient authors had advocated the importance of botanising expeditions, and their accounts of long journeys became the model for herbalists keen to advance their botanical knowledge. Field-trips were prescribed by university statutes: professors would take their students on guided tours about the countryside observing various herbs and roots in their native habitats. Fuchs urges students of nature to examine plants not once or twice but often and to travel widely in the manner of ancient philosophers who “magnam orbis partem peragrarunt” – wandered through a large part of the earth, so that they might not only consider every kind of plant with their own eyes, but touch and taste them as well (n.p.). Rauwolff desired to travel throughout the Mediterranean and also into the Near East in the manner of Galen, who “sailed to *Lemnos*, *Cyprus*, and *Palestina* of *Syria*, on the purpose to see foreign Plants” (100).

“Facts” or “matters of fact,” which have remained central to the natural sciences, did not originate, however, with natural phenomena. Natural philosophers accepted “facts” and the epistemologies that produced them only after they had become well-established norms for evidentiary proof in other disciplines. Barbara Shapiro argues that the “emphasis on truth, an insistence on fact over fiction and imagination, a preference for firsthand and credible witnessing, and a rhetoric of impartiality” all associated with “matters of facts” first arose in the legal arena (5). Etymologically derived from the Latin *factum* meaning a deed done, an

event or feat accomplished, “facts” referred to an act performed by a human agent (34). In the context of law, believable statements were understood to be “different from the truths of logic and were by their very nature incapable of achieving mathematical certainty or metaphysical truth” (46). Facts were erected on an “epistemology characterized by faith in the ability of persons to arrive at a reasonable degree of certainty about past events combined with an awareness of human fallibility” (46).

The plain style associated with facts, ideally devoid of rhetoric and partiality, was gradually absorbed into travel literature⁹ and chorographies. Although travel accounts typically pertain to adventures abroad and chorographies describe local matters, both organise cultural and religious practices, commodities, political organisation, topographic particularities, natural phenomena, and marvellous objects into a synthetic discourse. Such geographic genres, which combine human and natural events and things, played an important role in the expansion of the concept of “fact” from human deeds to natural phenomena (Shapiro 68). As with facts in the arena of law, the credibility of matters of fact in travel reporting and chorographies hinged on the trustworthiness and impartiality of the writer and observer.¹⁰

In addition to the testimony of honest, unprejudiced witnesses, facts were warranted by the location where they were observed. Since “facts” implied not something already confirmed as true but a matter capable of proof, travellers and naturalists strove to pinpoint as precisely as possible the exact location of their observations. Facts, then, were firsthand, carefully noted details literally rooted in time and place. In other words, “facts of nature” – especially in early botanical science – were “facts of geography.” Of course, the social and institutional rigours of such venues as botanical gardens, academies, and libraries served to

warrant the reliability of knowledge (see Shapin and Schaffer): “The physical and the symbolic siting of experimental work was a way of bounding and disciplining the community of practitioners; it was a way of policing experimental discourse, and it was a way of publicly warranting that the knowledge produced in such places was reliable and authentic” (Shapin 373-4). As David Livingstone states simply, “space matters in the conduct of scientific inquiry” (“Knowledge” 8). However, most botanising expeditions took herbalists far beyond the rigours of such “spaces of discipline.”

During his travels, Rauwolff strove to validate the importance of his observations through his use of classical texts to script his journey, by providing precise details as to where he found certain botanicals, and, what might seem obvious, by limiting his commentaries for the most part to those specimens described in ancient texts. Rauwolff composes his botanical observations into a narrative, which follows his journey from Augsburg down to the Holy Lands of both Christianity and botany. “Behind the Custom-house, near the Harbour” in Tripoli, for example, Rauwolff found “in the Ruines of the old Wall that are left of that City, *Hyoscyamus*, and hard by it in the Sand an Herb not unlike unto *Cantabrica secunda Carolis Clusii*, saving only the Stocks and Leaves are wolly [sic]. [...] If you turn from thence to the High-way towards your Right-hand, you see *Tythimalus Paralius*, and also a kind of *Conyzia Dioscorides*” (47-8). We can imagine Rauwolff with his text in hand, rambling through the countryside, and his delight at recognising here a plant described by the great Carolus Clusius (1526-1609) and there one mentioned by Dioscorides. Continuing his way through the city, Rauwolff records several notable plants growing “by the way as you go to St. James Church,” oleander flowering along the riverbanks, and other remarkable botanicals “if you go to the Gardens” including a parasitical vine “whereof *Pliny*

maketh mention in the 7th chapter of his 26th Book” (48-50). On the highlands outside of town, he discovers a plant which he judges to be the “true *Thyme of Diosco*” due to its “beautiful Purple-coloured Flowers” and small leaves (52). Such geographic specificity – behind the customhouse, on the right bank of a highway, by St. James Church – not only limited the range and therefore the fallibility of his reports, but also provided directions for potential witnesses able to corroborate his observations.

Using Mediterranean geographies in order to ground and in some degree warrant the facts of botanists’ reports, was not a great leap of faith. After all, Rauwolff’s thyme was found growing in a similar region to that in which Dioscorides had first described the plant. The geography itself through which Rauwolff travels authenticated his research. In a similar way, the novelty of unfamiliar geographies incited intense study of exotic natural phenomena. Herbalists increasingly appreciated that new geographies propagated flora and fauna yet unrecorded in European herbals. Plants, seeds, nuts, and spices were tagged with geographic markers: nutmeg from the Spice Islands; barbado seeds from Barbados; maldiva nuts from India. However, while both the cultural ancestry of the Mediterranean and the novelty of unexplored territories validated investigation, northern geographies had neither prestige nor unfamiliarity. In fact northern geographies and their attendant climatic conditions were blamed as the main reasons why local specimens did not conform to ancient descriptions. The reasoning derived from a climatically biased theory, which focused on climate’s capacity to alter species. This theory initially arose from Aristotelian notions of variation among plant and animal types.

The “*herbae nuda*” of Northern Latitudes

For Aristotelians, a species denotes a homogeneous group of like beings who have in common a certain number of characteristics that distinguish them from other species. Since all sublunar life is perishable, continuance is but renewal; species only enjoy perpetuity generationally (Louis 39). Such renewal depends on three conditions: the availability of the proper sort of matter, the existence of necessary material conditions (sun, moisture, climate, nutrients) and the presence of form-potential (sperm, seed). The form-*potential*, as the name suggests, is an ideal dependent on an ideal constellation of material circumstances, which may never be obtained (Atran, “Species Concept” 17). Environmental and climatic factors for Aristotelians have no real formative role to play, as Scott Atran writes, “but facilitate or hinder the only natural, preordained sort of development possible, namely, that of an underlying nature of a specific kind into the mature form of a specific kind” (18).

Such a commonsensical observation – that plants are only able to achieve their full growth potential in suitable climates – is made crystal clear by Aristotle’s student Theophrastus in De causis plantarum: “For our climate is too cold to allow some trees to grow at all, and allows others only to reach that of the stage of sprouting, and a few to reach that of bearing. Only a proper environment will enable plants to achieve their full character” (1:221). Theophrastus contrasts the temperature requirements of an olive tree which “cannot grow in cold regions because of the shallowness of its roots, since it freezes” with the wild pear, which “cannot sprout in very hot regions, such as Egypt, where the cultivated pear and [wild] pear too are poor and rare” (1:221). But such apparently innocent observations on ecological diversity developed into a platform for a vegetal prejudice that elevated the capacities of certain climates far above others, a philosophy that bode badly for northern

herbs. As will be explained at length in a following chapter, ancient authors constructed their geographic situation as the median and ideal latitude, the norm from which all else deviated. Geographies to the north and those to the south bore the brunt of discrimination equally.

Since early modern herbalists in northern regions insisted on using ancient botanical and pharmaceutical works as authoritative sources espousing universal ideals for natural history, they began to ask themselves disquieting questions when northern plants did not conform to textual descriptions. Were northern plants degenerated varieties of Mediterranean species, ill affected by the cold and damp? Did such unfortunate deviation from ancient models signify inferiority and bastardisation? Northern varieties of some herbs described by ancient texts often provoked unexpected physical reactions, which herbalists chalked up to deficient soil and climate conditions. Some herbs could not be found at all while plants unmentioned by the ancients burgeoned profusely in local fields and forests. Herbalists wasted little time observing such common weeds: they must be pharmaceutical dregs or else ancient writers would have mentioned them.

The more diligent the search to find correspondents in a dissimilar ecological environment, the more entrenched herbalists' philosophy that plants only exhibited their "proper" pharmaceutical virtues in their "native" Mediterranean soil, where, as Leonard Rauwolff endlessly repeats, "rare Plants of great use in Physick, do naturally grow." Plants seemed to provide material evidence that northern regions, especially England on the margin of Europe, were climatically deficient, a fear that had substantial ramifications not just for plants but, as will be explained in a subsequent chapter, the culture and character of northern people. The potential increase in botanical knowledge offered by the shift towards experience

and empirical evidence from textual authority was conditioned, then, by traditional geographic prejudices.

Although ancient authors limited their study to Mediterranean plants, this exclusivity was not at root a prejudice against botanicals from other geographies. Yet the very philosophies and practices manipulated by sixteenth-century herbalists to recover ancient knowledge also condemned other botanicals to an inferior status. The wider circulation of texts, the energy dedicated to textual standardisation, and the humanist philological debates enabled by the printing press, the rising dynamism of empirical inquiry, the establishment of botanical gardens, and a new culture of natural facts, all these forces colluded with the ancient geographic stigma to fabricate and substantiate a botanical hierarchy. It was not until the meaning of ancient texts was deciphered and standardised, and northern herbalists began using those texts as authoritative botanical guides, that the discrepancy between local and ancient plant types became discernible.

It was the discovery of new lands that first brought an unprecedented challenge to ancient taxonomy and philosophy. William Ashworth points to the introduction of natural phenomena from the New World as a key ingredient to the demise of the Renaissance emblematic view of universal knowledge. The impact of new phenomena, Ashworth claims, “derived from one simple fact: The animals of the New World had no known similitudes. [...] They came to the Old World naked, without emblematic significance” (318). New specimens appeared bereft of association, without the arsenal of classical commentary, biblical symbolism, and fables enveloping Old World nature. When it came to describing a previously unknown plant or animal, all naturalists could provide for readers was a physical

description, perhaps an image, and a short note on where the specimen was found: “the entire emblematic world fell apart” (322).

The explosion of quantitative botanical information highlighted the importance of geography for reading, or rather, required early modern herbalists to acknowledge that reading ancient botanical texts demanded an awareness of geographical difference. The discovery of climates and environments far different from the Mediterranean and north-western Europe fortified ideas of the God-given diversity and fullness in nature (Glacken 358). Such unexpected richness revealed new peoples, animals, plants and climates: “If astronomers found reasons in the sky to break free of ancient cosmology, it was the experience of empire, and the local knowledge of East and West Indies, which helped botanists to shake the influence of the schools” (R. Drayton 13). The world was far greater and its contents far more plentiful and diverse than previously imagined. Naturalists could no longer trust that classical descriptions of the natural world were complete or even sufficient. As Reijer Hooykaas has put it,

When the Portuguese seafarers discovered that the tropical regions were habitable and inhabited, that there was much land south of the equator, that there was more dry land on the globe than had been taught them ... all this gave a severe shock not only to them but the learned world as well... [T]heir own *experience* taught the sailors that those glorified and quasi-infallible Ancients were as fallible and as human as their contemporaries ... experience has overcome aprioristic reasoning. (459 Emphasis in text)

Slowly northern herbalists came to realise that some of their local plants were similarly “new” and without the weight of emblematic history, and they detected the limitations of the ancient botanical corpus and asserted the particularity of northern specimens. Euricius Cordus (1484-1535) and the so-called “German Fathers of Botany,” Otto Brunfels (1489-1534), Jerome Bock (1498-1554), and Leonard Fuchs (1501-1566) were

first to claim that plants described by Greek and Arabic authors were not likely to be identical with those known in Central Europe. As one author states, “they loyally tried to cram all the plants they collected into the Old Greeks’ formula. But reason as well as their age made them rebels” (Whittle 23). And another declares that the “total failure of their best endeavors to identify certain German species by ancient descriptive texts, concluded that those old authors had not known these plants, whereupon these men of a new generation proceeded to name and describe some of their discoveries as new” (Greene 2:590). While Dioscorides’ reputation continued unabated well into the seventeenth century and his text continues to provide insight to this day within its own geographical range, herbalists increasingly came to believe that he and other classical authors had not know a hundredth part of world’s flora (Arber 11).

But while specimens from overseas were always exotic and exciting discoveries, northern herbalists who did dedicate serious attention to their local herbs were obliged to justify their interest in what were commonly thought of as weeds. For example, Fuchs was among the first to claim that plants described by Greek and Arabic authors were not likely to be identical with those in his native German. In the preface to his celebrated herbal, De historia stirpium commentarii insignes (Notable Commentaries on the History of Plants) published in 1542, Fuchs strongly chastised herbalists who endeavoured to find a corresponding plant to each described by Dioscorides since “constet quamvis propemodum terram suas privatim ferre herbas.”¹¹ Yet Fuchs felt compelled to defend his inclusion of the more common plants or “vulgares” and those plants “quae iuxta sepes ac dumeta passim proveniunt” – those voluntaries (that is, non-cultivated) which spring up in humble sites such

as hedgerows and ditches. Perhaps exaggerating their innate value, Fuchs claims that the commonest, most contemptible of local herbs can outperform anything from foreign shores:

Et quare notas & vulgares admodum stirpes contemneremus, cum sæpius maior illis vis insit, quam iis quæ a remotissimis extremisque orbis partibus, non sine maximis sumptibus conquisita, importantur? Nam quid Polygono magis vulgare? quid contemptius? omnium siquidem conculcatur pedibus: quod si tamen vim eius quam in sistendo sanguine obtinet experiri volueris, nihil eo præstantius dices? (n.p.)¹²

Otto Brunfels of Mainz (1489-1534) adds an additional Protestant rationale for his inclusion of “the very commonest of plants” in his herbal, *Herbarum vivae eicones*: “being both lowly and also singularly useful, they are most apt to recall to the mind the thought of God, whose way it is to work wonders through means that are usually accounted insignificant” (qtd. in Greene 1:251). A further example from Brunfels will serve to qualify his interest in local plants and reveal the tenacity with which scholar herbalists clung to ancient textual tradition in the face of new empirical evidence.

Celebrated as the first printed botanical work with figures relying firmly on observation of living plants, *Herbarum vivae eicones* marks a watershed in early modern botanical inquiry. The herbal itself is attributed to Brunfels, but the clear outline drawings of Hans Weiditz, an artist from the same school as Albrecht Dürer, deserve no small praise. True to its title, translated as “Living pictures of plants,” *Herbarum vivae eicones* depicts what Weiditz was able to observe growing, a practice which necessarily determined local plants being abundantly represented. In fact, a greater number of wild specimens are represented than domestic, and the first three plates of 135 beautifully worked wood engravings – expanded to 238 in later editions – represent three of the commonest plants found about Strasbourg and neighbouring regions. Both the artist and Brunfels agreed that no common herb was too lowly to be represented, yet all plants unmentioned by ancients,

without Latin names, and/or not used by apothecaries are dismissed with the unfortunate label “herbae nudaе” (Arber 55). For example, the elegant image of a wood anemone, unknown to the ancients and represented for the first time in print, is labelled by its common German name, Grauchbluem, with a small caption underneath stating: “A wildwood herb, the name of which is unknown”(qtd. in Greene 1:265). German vernacular nomenclature as used by common folk necessarily held a lower status and could not figure among lists of Latin names. And so, although plants not mentioned in classical texts are represented, they nevertheless retained a tacit mark of inferiority, which was often accentuated by attaching the labels of *vulgaris* or *adulterinus*.

English Names for Ancient Plants

Turner is venerated as the father of British botany, a “pioneer” in the exploration of England’s flora and fauna, and his herbal is celebrated as the only original work on botany by any Englishman in his own language in the sixteenth century (Raven 134; Rohde 82). His reputation is due mostly to his exposition of Renaissance natural history in English. Turner’s first book on plants, the Libellus de re herbaria novus, was published in 1538, after which all of his botanical works were in English, a choice for which he was much criticised. The lack of acclaim that his works received on the continent may well have been due to their being in English (A New Herball 1:14). Lamenting his fellow herbalists’ disregard of plants found growing in England, Turner cast himself as a fearless champion of English natural history, knowingly and thus selflessly embarking on a project that would provoke criticism from botanical scholars:

the soldier is more frendly unto the commonwelth, which adventurously runneth among the myddes of hys enemyes both gyvyng and takyng blowes, then he that whilse other men feight, standeth in the top of a tre, iudging: how other men do, he beynge without the danger of gonne shot [gun-shot] him self. And so is there no man, that hath bene hyther to so good unto hys countre as to adventure or take the paynes to set out any herball. I therefore ... for the love I beare unto my countre ... have set one part of a great herball more boldly than wysely, and with more ieopardy of my name than with profite to my purse. (1:26-27)

Turner's unwise boldness stemmed from his choice of English over Latin. It also anticipates accusations from physicians of injudicious distribution of "so muche knowledge of Physick in Englyshe" (1:28). While physicians were extensively trained in the liberal arts and classic languages, surgeons and apothecaries were not, and since physicians "committ not that knowledge of herbes unto the pothecaries," how many patients' lives are jeopardised "when as by havynge an herball in English all these evelles myght be avoyded." Galen and Dioscorides wrote in their native Greek tongue, Turner continues, and if "they were no hynderers from the study of lyberall sciences, then am I no hynderer wryting unto the English my countremen an Englysh herball"(1:215-6).¹³

Yet the animosity towards English vernacular names and terminology derived more from scholastic snobbery and information control. English itself was deemed too coarse and too limited for scientific discourse. When compared with other vernaculars, English was found wanting. It was judged base, unpleasant, and uncultivated. William Lombarde (1536-1601) deplored the English habit of abbreviating names, which has not "corrupted the names of townes and places onely, but infected (as it were with a certaine contagion) almost our whole language ... so that our speech consisteth of wordes of one sillable." Lombarde claimed Erasmus compared "the English toong to a Dogs barking, that soundeth nothing else, but Baw, waw, waw, in *Monosillable*" (256). No other sixteenth-century vernacular met

with such enmity from its native speakers (Mullaney 56). In his analysis of Elizabethan verse, Richard Helgerson asks how “could the taint of cultural inferiority be removed from rime in the face of its undoubted medieval origin? How for that matter, could the taint be removed from the identity of England itself, since its language seemed irradicably bound to a barbarous and ‘artificial’ mode of literary expression?” (Forms 35)

The animosity towards English vernacular was such that even the staunchest patriots in the sixteenth-century mark a clear divide between England and its language. For example, the pride implied in Roger Ascham’s claim to write “This English matter, in English, for Englishmen,” is misleading when taken out of context. As Gillian Brennan argues, Ascham’s patriotism “is combined with a distaste for the vernacular language which he condescended to use for the benefit of the unlearned” (55). Most sixteenth-century educators saw English as merely a necessary prerequisite for higher education in classical languages. In his Scholemaster (1570), Ascham pronounces English “rude” compared to Italian, which, next to Greek and Latin, he claimed to “like and love aboue all other” (71).¹⁴ Andrew Borde’s The Fyrst Booke of the Introduction of Knowledge, first published in 1547, similarly separates national pride from any regard for his native language. Borde lavishly praises England’s forests, cloth and wool industry, gold and silver production, ports, fish, and cattle. His excessive praise turns downright ludicrous when he turns his attention to the “temperat heate” of the ocean, which is so warm, in the “wynter the poore people doth go into the water to kepe themselves warme, and to get them a heate” (120). Yet, despite his patriotic fervour, Borde has little positive to say about the English language. “The speche of Englande is a base speche to other noble speches, as Italion, Castylion, and Frenche” although Borde admits “the speche of Englande of late dayes is amended” (122).

While many European vernaculars had already developed and extended a botanical lexicon, English was found wanting, being both rudimentary and incomplete, and Turner repeatedly laments that “I have not heard the englyshe name of this herbe” (A New Herball 1:97). For example, Turner is able to list the vernacular name of *astragalus* as known in Cologne and the Netherlands, but he is “compelled for lacke of an other name, to call it peese earthnutt: because it has leves lyke a lytle peese ... and rootes lyke an erthnut” (1:84). With *acanthium*, Turner claims “as yet I coulede never learne any Englysh name of it, I for a shyft therefore am compelled to name it Ote thystell or cotton thystell, because the sedes of the herbe are lyke Otes [oats] and the leves brokene resemble cotton” (1:34). And again with *securidaca*, a herb “most fit for all the inward bowelles,” Turner states “I could never learne any English name of it; but lest it should be wout [without] name, I call it Axsede or Axwurt, or Axfich, because Dioscorides saith the seed of securidaca is lyke unto a two edged axe” (2:287). Turner names (or at least commits a name in print for the first time) the goats-beard, stone parley, hawkweed, and ground pine, names which are still in common usage.

The transformations Turner effected in botanical nomenclature follow his sensibilities as a Protestant Englishman. Staunch Protestants such as Turner renamed plants whose traditional names had Popish associations with the Virgin or saints. In addition, sixteenth- and seventeenth-century herbalists also attempted to eradicate the more coarse and downright obscene names from the English language.¹⁵ According to Keith Thomas

in the seventeenth century countryside there grew black maidenhair, naked ladies, pissabed (or shitabed), mares fart and priest's ballocks. In the herb garden could be found horse pistle and prick madam; while in the orchard that open arse (or medlar) was a popular fruit. Even the black beetle was twitch-ballock and the long-tailed titmouse bum towel. (84-85)

While Turner didn't hesitate to coin English names for botanicals or to set forth common terms previously unknown in academic circles (some three hundred in all), it was often the contrary that caused him more problems: some plants simply had too many names. At least ten different species were known as cuckoo flower in different regions, and over twenty as bachelor's buttons, while skunk cabbage had at least fifteen different regional names, most of which referred to its phallic central column: jack-in-the -pulpit, lords-and-ladies, cuckoopint, cuckoopintel, priests pintle, wake-robin, aron, calves foot, rampe, and starchwort (as its root was thought to provide a superior white starch). Some plant names varied from region to region: Northumbrians called the *iris pseudocarpus* "seg" while inhabitants around Ely named the same plant "lug" (Raven 63). An English herbal distributed widely could not have been understood: plant nomenclature was too regional and too varied. As Keith Thomas aptly states "vernacular names were hopelessly volatile, leaping from plant to plant according to local whim" (83).

Therefore, creating an English herbal for Englishmen and women, which could be understood across the nation, required collecting local terms and regional knowledge in order to advance *the* official vernacular name. Such collecting of competing regional terminology is symptomatic, Steven Mullaney has claimed, of a culture in a moment of questioning, extending, and reformulating its boundaries (59). Elizabethan English was not a "fixed linguistic system so much as a linguistic crossroads, a field where many languages – foreign tongues, local dialects, Latin and Greek – intersected" (55). The interest in the sixteenth century among a growing number of classically trained writers to use their mother tongue represents an important stage in the development of the English language and nation.

Richard Helgerson suggests that Spenser's lament in 1580 epitomises the impulse: "Why a

[sic] God's name may not we, as else the Greeks, have a kingdom of our own language?" (Forms 1). A few decades earlier, Helgerson remarks, "the sufficiency or insufficiency of the English language and of English cultural institutions generally would not have mattered so much. To men born in the 1550s and 1560s, things English came to matter with a special intensity both because England itself mattered more than it had and because other sources of identity and cultural authority mattered less" (3). Turner was from an older generation, but the energy he devotes to establishing an English vernacular botanical nomenclature can be seen as early evidence of what Helgerson terms a "concerted generational project" to write England, to "articulate a national community whose existence and eminence would then justify" English authors' desire to become England's literary spokesmen (1,2).

The patriotic sentiment evident in Turner's botanical naming also extended to his interest in local English customs surrounding plants. Of the hyacinth Turner writes: "The boyes in Northumberland scrape the roote of the herbe and glew theyr arrows and bokes wyth that slyme that they scrape of" (2:59). In Yorkshire *centunculus* is known as cudweede but in "Northumberland chafweek because it is thought to be good for chafyng of any man's fleshe wyth goynge or rydyng" (1:124). Turner notes that birch has no medicinal virtues but "it serveth for many good uses, and for none better than for betyng of stubborne boyes, that ether lye or wyll not learne" (1:96). Such activities of naming, renaming and enumerating national customs absorbed botanicals into an explicitly English and Protestant context.

Turner's contributions to English botany, then, was not minimal. And in all fairness, Turner did detect new specimens unmentioned in classical sources.¹⁶ In an earlier work, Turner had even affirmed the particularity of English plants – "to the grete honours of our countre what nombre of soveraine and strang herbes were in England, that were not in other

nations” (The Names of Herbes 81). Further, Turner evinces his interest in England topography by documenting the precise location of his botanical observations. We learn that lentils grow in great quantity in Cambridgeshire, Juniper most plenteously in Kent and also in Durham and Northumberland (2:73). Turner’s botanical facts are often far more topographically precise. The hawke weed, a reddish, prickly thistle could be found “in the meadow a little from Sheen” (2:51). Dittany grows abundantly “about the water-side that runneth through Morpeth in Northumberland” and berefoote “in the west park beside Morpeth a good stone cast from the water side, in the side of the hill” (2:92, 155). Flax grew in “Somersetshire within a mile of Wells” and “astralagus growth in England in Combe Park and on Richmond Heath” (2:92, 1:284).

Participating in the new culture of facts, Turner used topographical precision as a means of proof. Through his unprecedented attention to the specificities of the landscape, Turner endeavoured to endow England’s geography with a new prestige. However, while Turner’s aspiration to hoist English vernacular into academic parlance was a defiant and determined patriotic statement, his means of extolling England’s geography and natural phenomena undermine the entire project. The southern geographies Rauwolff visits justified and warranted his attention to their natural phenomena. In contrast, England’s topography does not legitimate Turner’s botanical observations. Rather the plants themselves, correlated with and understood *as* ancient plant types, bolster the worth of England’s geography. That is, Turner did not seek to discover English plants so much as to populate the English landscape with Mediterranean specimens. By stressing the similarity of English plants to classical types, Turner makes evident his hopeful conviction that England’s northern situation was not so different from southern geographies. A New Herball is a testament to

Turner's resolve to provide material, or rather vegetal, evidence that Mediterranean flora flourished in England, thereby proving that although England was on the peripheries of Europe, neither its climate nor its natural phenomena were marginal or deficient. Despite Turner's construction of English botanical nomenclature, despite his deep and sincere interest in herbs found growing in English soil, A New Herball constructs and accentuates the superiority of Mediterranean latitudes. A claim for the distinct nature of English plants could not be a positive statement while northern England's geographic position was understood as regrettable.

The following chapter investigates a rising interest in England's geography and nature during the late sixteenth and seventeenth centuries by looking at a new genre for gathering national knowledge, the chorography. Chorographers' professed aim was to construct a new historical narrative for the nation, one that was literally rooted in the land and did not appeal to foreign authority. Invigorated by new inductive philosophies of natural inquiry and the increasing sophistication of cartographic and surveying techniques, chorographies became repositories for the nation's knowledge of itself. The particularity of English nature was detected, displayed, and possessed by a community of authors and readers who, in the process, redefined their own relationship to the land and the nation.

Chapter Two.
Writing the Land:
Chorography, Authorship, and Territorial Possession

Nor must it go for nothing that by the distant voyages and travels which have become frequent in our times many things in nature have been laid open and discovered which may let new light upon philosophy. And surely it would be disgraceful if, while the regions of the material globe – that is, of the earth, of the sea, and of the stars – have been in our times laid widely open and revealed, the intellectual globe should remain shut up with the narrow limit of old discoveries.
Francis Bacon Novum Organum (1620)

Voyages of exploration yielded wonder on top of wonder; foreign plants, fruits, and roots unknown and unmentioned by ancient authorities were imported in increasing numbers, filling the cabinets of wealthy patricians, lining apothecaries' shelves, and blossoming in university and private botanical gardens. Such new and exotic imports, as Bacon suggests, were not only difficult to insert into old formulae but also seemed to render invalid the very foundations of traditional means and methods for understanding the world and its contents. If natural historians active in northern Europe were constrained by classical texts, unable to see the restricted geographic applicability of ancient botanical knowledge, the flora and fauna of lands entirely unknown to the ancient world increasingly highlighted those limitations.

In a similar although altogether different manner, it was a new geographic consciousness that legitimised and accelerated investigations of English nature. While new

geographies and their natural phenomena incited inquiry precisely because they were new to Europeans, attention to England's geography as first developed in a new genre of descriptive geography, known as chorography, initially arose in conjunction with a swelling national historical interest to "restore Britain to its Antiquities, and its Antiquities to Britain" (Camden n.p.). In contrast to Turner's scholastic ambition to make England's climate and plants conform to ancient models, chorographies constructed the land as the origin for England's identity and history.

This chapter looks at some consequences of this new emphasis on England's geography. The unprecedented visual and imaginative access to England and its natural phenomena was motivated by an antiquarian interest in artifactual evidence, which, by blurring geography and history into a synthetic discourse, incited a sense of territorial belonging. "The emergence of the country as a single, if variously significant, term for the focal point of allegiance," Richard Helgerson writes, "parallels the emergence of the description, survey, or chorography as an autonomous and widely practised genre" (Forms 133). The burgeoning sense of geographic allegiance centred on issues of ownership and prompted a reconsideration of individuals' relation to their land and monarch. It also raised questions as to traditional associations between groups of people and their geography, particularly of the cultural attributes ascribed to northern landscapes. Taking possession of the land and exalting it as the primary source of identity necessarily required rethinking and refashioning England's cultural and racial ancestry.

**“a hole worlde of thinges very memorable”
Enumeration and Description**

Sixteenth-century England witnesses a radical augmentation in the scope, depth, and dispersion of knowledge not only about the world beyond its borders but also contained within them. The study of geography developed interrelated but distinct branches of mathematical and descriptive geographies. Briefly put, the art of cosmographical geography superimposed a uniform rectilinear grid of longitude and latitude over a flat globe. Lacking cosmography’s mathematical rigour and aiming to promote useful knowledge, chorography proceeded by incremental fact gathering with a high value placed on thoroughness and classification giving emphasis to physical features of landscapes as well as the political, religious, and economic situation of regions, including local histories, genealogies, and descriptions of plants and animals. Dependent on new mathematics, a methodology of empirical inquiry, and a rising national sensibility, national geographic facts developed a central role in the English imagination from the late sixteenth century onwards.

“Geographical knowledge and national description were,” as Charles Withers states, “simultaneous, method and aim” (“Scotland” 374).

Appreciating England’s geography entailed distinguishing both its innate particularity and distinction from other places. “The site of this Iland,” John Speed explains, “is set by the *Mathematicks* in the eighth Climate for Latitude, and Longitude likewise placed betwixt the Parallels fourteene and twenty six.” The length of the island, measured from “*Lysard Point* Southwards in *Cornwall*, which lieth in the *Latitude* of 50 *degrees*, and 6 *minutes*, to the *Straithy head* in *Scotland* ... set in the degree 60 and 30 minutes containeth six hundred twenty foure miles,” and the breadth at its broadest point, from Landsend in

Cornwall to the East of Kent, 340 miles (155-6). The expansive vision of cosmography, grasping the quantity of England in a single glance, encouraged the English sensibility to define England as self-contained and separate from the continent. The tabulation and display of local places and natural phenomena composing chorography characterised England by its particularity. The utility of both geographical methods, as Lesley Cormack observes, lay in “the development of a definition of things and people English, one that would aid the nation in its imperial and national strivings”:

The Elizabethan world view encompassed an expanding globe and an enclosing nation. While more and more of the world lay within the grasp of those brave or foolhardy enough to venture forth, the English were increasingly defining themselves and their country as separate from the Continent and the rest of the terraqueous globe. This seemingly contradictory view of their world – at once expansive and exclusive – was developed by Englishmen in the sixteenth and early seventeenth centuries through the study of geography (640-41).

The first atlas of England was completed in 1579 at the behest of Queen Elizabeth’s government, a collection of 34 maps depicting 52 counties introduced by an overview of England and Wales now generally known as the work of Christopher Saxton, a thirty-year-old Yorkshire estate surveyor. Saxton’s county atlas was the most systematic and comprehensive mapping exercise of all European states to date. The maps are distinguished by Saxton’s use of systematic fieldwork, surveying, observation, and sketching. The achievement of his creation was enormous and its longevity remarkable: for over two hundred years nearly every English map derived from the Saxton Atlas (Helgerson, “Land” 55). New features and details were added by subsequent cartographers. For example, in the 1590s John Norden introduced a key to map signs, selected roadways, and a reference grid, and John Speed included city maps as inserts in his county plans. Yet, the image of England

that Saxton had generated with his large-scale county maps continued to dominate map production in England from the end of the sixteenth century until the eighteenth (Delano-Smith and Kain 104).

The atlas was truly national in scope, providing a coherent spatial image of the country, which acted as a frame of reference for the county maps. Saxton's atlas is more than simply an illustration of England's geography, "it is a description of the land's inherent 'Englishness,' the idealized emblem of a 'blessed plot,' cut off from the continent" (Klein 102). Not just coastlines and cities, but topographical features such as forests, hills, and rivers are represented in standardised shorthand for the first time. The atlas let English viewers see both the nation and county to which they belonged in a way never before possible, and viewers rapidly developed the expertise to construct the English landscape as a uniform group of topographic features and to project local knowledge across a national space.

The circulation of printed cartographic images increased rapidly during the Renaissance, and by the end of the sixteenth century they were "fast moving towards the ubiquity and widespread familiarity" they enjoy today, standing as symbols without need for further explanation: "Maps were alluded to in Renaissance plays and poetry. They were featured in portraits, on playcards, in news-sheets and in books" (Delano-Smith and Kain 49). They were printed in bibles, woven into tapestries, and painted onto screens. In the latter years of the sixteenth century, copperplate printing transformed topographic maps into a marketable commodity, a genre of its own, and "put the possibility of map ownership within the reach of an ever-increasing number of people from an very-widening social spectrum" (Delano-Smith and Kain 53). And, as the popularity and circulation of maps

flourished, they acquired an increasingly indispensable position in a national imagination, engaging questions of self-definition.

The growing interest in making England visible – both at a regional and national level – animated a new genre of local description. The Italian study of chorography was a late arrival in England towards the end of the sixteenth century, where it blended with an older chronicle tradition to create a uniquely English form of local history (Cormack 657). A native English tradition of chorography, perhaps more appropriately called topographical-historical writing, did exist, although it basically consisted of “prose works of varying quality, separated from each other by as much as several hundred years” with topography overshadowed by descriptions of political and religious events (Mendyck 460). Gildas’s De Excidio Britanniae from the sixth century marks the beginning of chorographical writing in the territory that would eventually be called England. Other early works include the “Venerable” Bede’s Ecclesiastical History of the English Nation, written two hundred years later, William of Malmesbury’s Gesta Pontificum Anglorum (1125), and Ranulf Higden’s Polychronicon from the mid-fourteenth century. These works describe major features of the landscape, generally opening with brief accounts of rivers, mountains, forests, castles, cities, antiquities, quarries, flora and fauna, but the summaries are mere preludes to dynastic chronicles that compose the main body of the work. Although medieval chorography especially Polychronicon, provided material that continued to be quoted by sixteenth- and seventeenth- century authors, such early works lack the coherent sense of purpose of early modern chorographies; that is, to display, enumerate, name, and take possession of one’s country.

The first influential English chorographer, John Leland (1506?-1552), was appointed King's Antiquarian in 1533 by Henry VIII. Under this auspicious title, Leland was authorised to have access to records and histories stored in libraries of cathedrals, abbeys, priories and any other places with the expressed aim of gathering and preserving England's ancient history. In this way he collected and transcribed many documents that almost certainly would have been lost as the dissolution of monasteries began in 1536 and their libraries were pillaged and dispersed. In Leland's own words, "I have conserved many good autors, the which other wise had beene like to have perischid" (1: xxxviii). The dissolution of English monasteries followed the Acts of Appeals in 1533, by which King Henry VIII renounced the foreign papal authority of Rome. Through archival research, scholars such as Leland and religious authorities sought to establish an early history of the church in England. These activities had a decidedly nationalistic intensity.

During his tireless six years of travelling, Leland's antiquarian interests shifted. He developed a deep curiosity not just in the history of the places he visited, but in the places themselves, becoming "totally enflammid," as he wrote to the king, "with a love to see thoroughly al those partes of this your opulente and ample reaulme" (1: xli). His interest in revealing England's history by textual discovery and analysis had led Leland across his country, but in the course of his peripatetic journey he discovered his country as a multifaceted physical entity:

I have so travelid yn yowr dominions booth by the se costes and the midle partes, sparing nother labor nor costes, by the space of these vi. yeres paste, that there is almost nother cape, nor baye, haven, creke or peere, river or confluence of rivers, breches, waschis, lakes, meres, fenny waters, mountaynes, valleis, mores, hethes, forestes, wooddes, cities, burges, castelles, principale manor placis, monasteries, and colleges, but I have seene them; and notid yn so doing a hole worlde of thinges very memorable. (1: xli)

In 1539 Leland began travelling again throughout England and Wales, this time for the purpose of researching his most famous work entitled The Laboryouse Journey and Serche of John Leylande, for Englande's Antiquaries, now more commonly known as Leland's Itinerary. Leland's scholarly ambitions were to rediscover the names, lives, and "monuments of learning" of all great English figures as well as England's antiquities, great families, architecture, and natural features. Through this display, Leland hoped to repudiate the derisive opinion of Italians "that counte, as the Grekes did ful arrogantly, al other nations to be barbarus and onletterid saving their owne" (1: xxxviii-ix). Both England's history and its landscape merited detailed attention.

Throughout the text, the people and events that compose England's history are entwined with England's topography. Woodlands and manors, rivers and genealogies, orchards and antiquities all coalesce. For example, Leland notes that from

Leicester to Brodegate by ground welle wooddid 3. miles. At Brodegate is a fair parke and a lodge lately builded there by the Lorde Thomas Gray, Marquise of Dorsete, father to Henry that is now marquise. [...] This parke was parte of the olde Erles of Leircester's landes, and sins by the heires generales it cam to the Lorde Ferrares of Groby, and so to the Grayes. [...] The parke of Brodegate is a vj. miles cumpace. From Brodegate to Groby a mile and an half by much woddenlande. There remayne few tokens of the olde castelle more then that, yet is the hille that the kepe of the castell stooede on very notable, but ther is now no stone work upon it. (1:17)

Natural and human facts are inseparable, or rather, natural features are planted in history and persons and antiquities seem to arise "naturally" from the land. Neither is backdrop for the other; both gain meaning and consequence by their intimate relation. Such a process of mutual definition accomplishes nothing so much as deeply embedding a new

sense of national identity within England's geography. This "naturalised" patriotism supplied the impetus for all subsequent early modern chorographies of England.

Leland's methodology radically altered the standards of both topographical and historical study, and all subsequent chorographers expressed their debt to his labours despite the fact that his vast collection of notes had been left in a jumble (he died in 1552 after a period of insanity) and his Itinerary wasn't printed until the eighteenth century. When composing his Description of England (1578), for example, William Harrison gained access to Leland's original manuscript, which proved "none of the smallest help" yet were "utterly mangled, defaced with wet and weather" (4). Rather playfully, Harrison viewed the poor material condition and disorganisation of Leland's notes as incentive to mimic the author's assiduous labours:

So motheaten, moldy, and rotten are those books of Leland which I have, and besides that, his annotations are such and so confounded, as no man can (in a manner) pick out any sense from them by a leaf together. Wherefore I suppose that he dispersed and made his notes intricate of set purpose, or else he was loath that any man should easily come to that knowledge by reading which he, with his great charge and no less travail, attained unto by experience. (63)

Perhaps the most important figure in the "collecting" of England was William Camden (1551-1623). Building from Leland's methodology, Camden's Britannia (1586) came to define and stabilise the eclectic genre of local history that embraced cartography, history, law, philology, and natural history, establishing a textual foundation for all chorographies. Camden studied antiquities such as ancient texts, burial urns, and Roman coins. He clarified the etymologies of place-names, described monuments, landscapes, and notable sites, included genealogies of prominent families and detailed reports of regional agricultural products and animals. Camden also inaugurated the tradition of introducing each

county with a map. In this Camden was influenced no doubt by his contact with the great European geographer Abraham Ortelius, who came to England in 1577. It was mainly Camden with whom Ortelius discussed English topography, and Ortelius encouraged the young Englishman to pursue his antiquarian studies and arrange his materials into a book. As Camden relates in his preface: "The great Restorer of the old Geography *Abraham Ortelius* ... did very earnestly sollicit me to acquaint the World with *Britain*" (n.p.). Nine years later, Britannia was published in Latin.

The first English Britannia appeared in 1610, translated by Philemon Holland. Whereas the Latin texts (five enlarged editions had been published by 1610) were addressed to an international audience of scholars, the English version reflects a growing national interest in all things English both historic and contemporary, which Camden himself in part had stimulated with his previous publications. For Camden, natural affection for one's country was by far the strongest affection, and that tribute was expressed most properly in English for English citizens and not in the *lingua franca* of European scholarship. In the Epistle Dedicatory, Camden writes, "The Dress wherein she [England] appears, is true Native English. She has been a great Sufferer by foreign Modes and Fopperies; but now resolves to quit them all, and convince the World that she has every thing within her self and can live without borrowing" (n.p.). In Camden's work, then, the gap noted in the previous chapter between language, landscape, and patriotism was closed. Turner's patriotism impelled him to create an English botanical nomenclature, but he expressed his pride in his country by demonstrating the equivalence between England's geography and that of the "superior" Mediterranean. For Camden, the English vernacular was the medium to reveal the distinction of England. England, its language, history, and geography, Camden maintained,

needed cleansing from foreign influences. Other sources of authority dwindled in significance in light of Camden's "zealous affection I profess for my Native Country."

Chorographies proliferated over the following decades. Chorographers shared "an almost fanatical love of Tudor England" (Mendyck 464). They explored their country in intimate detail, zealously observing and recording, "delighting to produce ... a 'Speculum Britanniae,' a looking-glass of Britain in which every aspect of the nation should be faithfully reflected" (464). Two volumes of John Norden's (1548-1625) Speculum Britannia were published in 1593 and 1598 representing the counties of Middlesex and Hertfordshire, respectively. William Lambarde's (1536-1601) chorography of his local county of Kent, first published in 1576, continued to be quoted through the seventeenth century as was A View of Staffordshire compiled by Sampson Erdeswick from 1593 until his death in 1603. In 1602 The Survey of Cornwall was published by Richard Carew (1555-1620). John Speed's (1552-1629) Theatre of the Empire of Great Britain was published in 1611 and Michael Drayton's (1563-1631) Poly-Olbion the following year.

The structure of early modern chorography differs dramatically from that of medieval chronicles. Rather than serving as background material, the landscape provides the ordering principle for all observations and commentary. Leland had established the model: his rambling narrative follows his own itinerary through England. The reader encounters each natural feature or point of history in the same order in which it was encountered by Leland. "I rode from the bridg up a stony hille to a very fair and fruteful champain, and so passed forth a v. miles by little woode; at the 4. miles ende of this way I passed over a broke by a stone bridge, and so cam strayt to North-Cadbyre a village, and about a mile farther to South-Cadyri, and ther a little beyond be great crestes of hylles" (1:150). All chorographers used

the landscape as a sequencing structure, typically using such phrases as “from hence we come to,” “two miles from hence to the south,” “travelling northwards” to lead readers between towns and counties. And, as maps accompanied all chorographies, readers could imaginatively follow the journey. For example, Lambarde’s Perambulation of Kent presents the county as a textual map:

I will observe this order: first to begin at Tanet, and to peruse the East and South Shores, till I come to the limits betweene this Shyre and Sussex: then to ascend Northward, and to visit such places, as lie along the bounds of this Diocese and Rochester, returning by the mouth of the Medway to Tanet again, which is the whole circuit of this Bishopricke.

In a manner that would have been ideologically incomprehensible just a few decades before, chorographers wrote the English landscape as the foundation for all their scholarship. As England’s topography was developed as a focal point of national allegiance, it legitimised serious inquiry into England’s natural history. Chorographers distinguished their work by detail, both qualitative and quantitative. For example, Harrison names and locates some five thousand villages and over three hundred offshore islands. He dedicates entire chapters to “Parks and Warrens,” “Gardens and Orchards,” “Of Waters Generally,” “Of Woods and Marshes,” “Of Baths and Hot Wells,” as well as a chapter each to cattle, tame and wild fowl, fish, English dogs, saffron, venomous beasts, savage beasts and vermin, and hawks and other “ravenous” birds. Camden describes a selection of natural phenomena he encountered on a journey through Surrey:

Going along *Holmesdale* (which extends it self to the foot of that ledge of Mountains which stretch and link themselves from the utmost promontory of Kent to the Lands end), we have on the right hand *Whitedown*, where is a vast *Delf* of chalk. [...] Here are likewise dug up cockle-shells, and other *Lusus naturae*, with *pyrites*, bedded an incredible depth within the bowels of the mountains, upon which many Yew trees

grow spontaneously, tho' of late they are much diminish'd, and their places taken up with corn. (164)

How different is this process from William Turner's? Turner likewise ambled through the countryside, observing and detailing topography and natural history. Admittedly Turner strove for a greater degree of detail and accuracy in his natural observation, but in Turner's mind, the plants he encounters are those in his ancient texts. For Camden, the land and its contents need no other authority – they are themselves composing a new text. Or rather, Camden describes his perambulations through the landscape in such a way that it seems to reveal itself in its own “natural” sequence without comparison to any foreign archetype or standard.

Drayton's Poly-Olbion presents perhaps the consummate vision of topographical allegiance and identification. The course of the poem is structured around the travels of Drayton's Muse, beginning in the Southwest of England in Cornwall and Devon and continuing through Wales and throughout England to end in Westmoreland. The land's various natural features are personified – rivers dispute and wed; mountains and plains take on character; a love triangle develops between a hill, a river, and a forest. Hayle River boasts of her beauties. The Trent River catalogues her fish. The county maps accompanying each poem are transformed into stages, alive with dramatic personages: in Drayton's words, the maps delineate “every Mountain, Forrest, River, and Valley; expressing in their sundry postures; their loves, delights, and natural situations” (vi).

It is these topographical features that give voice to the nation's history and local legends, social customs and pastimes, farming, commerce, and natural history. In Song XV, the marriage between two rivers, Tame and Isis, gives Drayton the opportunity to display a

selection of England's plants, numbering no less than fifty-five flowers and herbs. The bridegroom, Tame, is bedecked with primroses, lilies, daffodils, and columbines amongst others that are "esteem'd but weeds" (307). Isis is dressed with "th' odoriferous Pink," lavender, rosemary, basil, bay, and marjoram, all "rare for smell," the "healthfull" balme and mint, hot muscado, strong tansey, cooling fennel, "as well of wholesome hearbs, as every pleasant flower,/ Which Nature here produc't" (308). In Kent, the muse catalogues the agricultural products, praising the counties "Conyes, Venson, Fruit; thy sorts of Fowle and Fish ... thy Hay, they Corne, they Wood." Kent is especially blessed with cherries (cherry orchards are depicted on the county map) and apples. Beside the Sweeting, the Wilding, Costard, and Pomwater, "and sundry other fruits, of good, yet severall taste,"

Whose golden Gardens seeme th'*Hesperides* to mock:
 Nor there the Danzon wants, nor daintie Abricock,
 Nor Pippin, which we hold of kernell-fruits the king,
 The Apple-Orendge; then the savory Russetting:
 The Peare-main, which to *France* long ere to us was knowne,
 Which careful Frut'ers now have denizend our owne.
 The Renat: which though first it from the Pippin came,
 Growne through his pureness nice, assumes that curious name. (380)

In sum, chorographers presented a radically new image of England revealed through the particularities of its features. They legitimated the English landscape as a subject worthy of investigation in its own right without requiring appeal to foreign authority or ancient tradition. Enumeration and description were endowed with a unifying capability: by accumulating and particularising English human and natural facts, chorographers would make visible the greatness of the nation as an integrated whole. The methodology of incremental fact-gathering fleshed out the entity of the England nation, and an understanding of England as a national space was, in some respects, a consequence of such inductive

research (Withers, "Scotland" 373). Interest in natural history arises from the veneration of the landscape, and nationalising natural history came to be seen as crucial for the articulation of the nation's distinctive qualities. This vision of England as a natural entity endowed with particular phenomena pushed the English to define themselves by their physical setting in a way that aided burgeoning national consciousness (Cormack 659).

Geographic practice in early modern England, as with any period, cannot be fully understood outside its social and intellectual context. As David Livingstone explains, in sixteenth and seventeenth-century England, geography engaged three branches of knowledge. The first was academic. The theoretical side of geography was firmly part of the new science. Cosmography in particular and its attendant emphasis on mathematics and astronomy were taught in universities. The second was practice. Geography was a practical, hands-on science, depended on the rigorous application of mathematical knowledge through surveying, cartography, and navigation. Geographers were craftsmen and travellers as well as scholars. Finally, geography was a political endeavour. Whether used for world exploration or national investigation, geography was always a motivated science, seeking to make lands visible for particular audiences for certain ends (Geography 367). In other words, the science of geography shaped and was shaped by social, intellectual, and political concerns.

Geography, as Livingstone summarises, was both text and context: "it makes little sense to speak of the science of geography and its social context as if these can be cleanly disengaged or tidily unpacked; to the contrary each is constituted by the other" (368). The following section discusses the interrelations between new modes of scientific inquiry and the political and social aims of chorography in the early decades of the seventeenth century.

Authorship and Territorial Possession

Leland defined himself as an “Antiquarian,” and this in combination with his emphasis on travel and eyewitness observation marked not only a clear break from monastic chroniclers but also brought into being a new scholarly status, one which legitimated his production of a new kind of scholarship. Inspired by Leland’s antiquarianism, in 1586, a group of like-minded scholars formed a Society of Antiquaries with the purpose of recovering and recording England’s history through material artefacts – both antiquarian and natural. All the chorographers discussed above counted among its members. The Society served as a frame and source of authority for most chorographic works during this period, meeting regularly until 1607 in order to share information. In total the Society produced some two hundred manuscripts.

Although chorographers worked independently of one another, often in different counties, the chorographic tradition developed as a collective enterprise. Camden regularly acknowledges the contributions of various correspondents who sent him information from various parts of England. He was a close friend of Lambarde, and in his chapter on Kent, Camden duly acknowledges his debt:

I am now come to *Kent*; a country, indeed, which *William Lambard*, a person eminent for Learning and piety, has describ’d so much to the life in a just Volume ... that he has left but very little for those that come after him. Yet in pursuit of my intended method, I will run this over among the rest, and lest ... any one should suspect me to be a pilferer, I here gratefully acknowledge, that he was my *Foundation* and *Fountain*. (186)

Authors piled descriptions onto description, quoting large sections of each other’s works before supplementing borrowed material with fresh research. For example, Harrison based his extensive account of England’s rivers – a total of six chapters are dedicated

exclusively to rivers – on Leland’s notes, augmenting his predecessor’s work with substantial material drawn from his own observations written during his travels (Newdigate 165). Drayton in turn found inspiration in Harrison’s account, making rivers the main feature of his text. New maps likewise built upon and augmented previous productions. Speed acknowledges the original authorship of certain county maps and makes the self-deprecating comment, “I have put my sickle into other men’s corn.” Of Sussex, for example, is noted, “Described by John Norden, augmented by John Speed.” And Cheshire, as “Performed by John Speed, assisted by William Smith.”¹ This model of collective production generated not so much discrete texts but sequels in an ongoing process of national accumulation. This authorial cohesion distinctly marked the emerging genre.

The twenty-one years from the inception of the Society to its dissolution mark a definite shift in the relation between chorographers and the monarch. Where antiquarian research, such as that conducted by Saxton and Leland, had traditionally been funded by royal patronage, later chorographers did not enjoy such favour. Both Camden and Speed paid for the publication of their own works. After the death of Lord Burghley, a keen supporter of cartographic production, John Norden appealed to Elizabeth in 1598 to finance his Speculum Britianniae, but she refused. Elizabeth also denied the Society official recognition in 1601 as did James, who accelerated the demise of the Society by insisting that their private meeting be abandoned in 1607 (Brink 86). This hostility raises questions as to what sort of representations of the land antiquarians were producing, for whom and for what purpose.

The members of the Society of Antiquarians were mostly individuals of certain social and political position. The Society itself, notably the record-keeper Henry Spelman, laid stress on the standing of its members, which suggests antiquarians sought to legitimise their

works by reason of that status. Among the members, Spelman notes “Sir James Ley Knight, then Attorney of the Court of Wards, since the Earl of Marleborough and Lord Treasurer of England, Sir Robert Cotton Knight and Baronet, Sir John Davies his Majesty’s Attorney for Ireland; Sir Richard St. George Knt, then Norrey, Mr Hackwell the Queen’s Solicitor, Mr Camden, then clarencieux” (qtd in Hansen 90-1). Like the new culture of facts, chorography was a new science, and both required authors to establish the veracity of their observations. The reliability of experiential facts and eye-witness reports, as Steven Shapin and others have shown, hinged on the credibility of who reported them, preferably a sincere eyewitness of good character. Shapin points out that “[c]redibility as an attribute ascribed to people was not, therefore, independent of theories of what the world was like,” as, roughly speaking, credibility followed to the contours of society (Shapin 375-6).

There were further reasons for the Society’s emphasis on the status of its members. As Melanie Hansen explains, the incentive for authorising antiquarianism by its membership was to assert the independence of the Society from universities, thereby establishing itself as a forum for the production of very different kinds of scholarship (91). The standing of the Society’s members was such that many, although not all, owned manorial rights and therefore were concerned with questions of land ownership and the status of land tenure in England. Furthermore, the audience for chorographies was also largely members of the gentry, which is reflected in the importance given to genealogies, heraldry, and etymologies of place in chorographies. In other words, chorographies were primarily written by the gentry and for the gentry. The preface to Lambarde’s Perambulation is addressed to his “Countriemen, the Gentlemen of the Countie of Kent.” For such an audience, Lambarde’s text would be a source of “great pleasure” and “great delight” as well as instruction, since

there is nothing either for our instruction more profitable, or to our minds more delectable, or within the compasse of common understanding more easie or facile, then the studie of histories: nor that studie for none estate more meet, then for the estate of Gentlemen: nor for the Gentlemen of England, no Historie so meete, as the Historie of England. (A4)

The nobility as well as middling gentry and newly landed merchant families were deeply interested in establishing ancient and respectable roots identifying their families with their geographic area (Cormack 656). Chorographers' representations of the land were thus implicated in the self-representation of landowners. Without official financial support and therefore driven to recoup his expenses, John Speed introduced town-plans in his county maps and marked the names and boundaries of notable estates. He also decorated the maps with various coats of arms of significant county officials and families. Such spatial and visual politics appealed greatly to Speed's potential audience, as it both naturalised and privileged the interests of the propertied and local elites. In his Survey of Dorsetshire, John Coker describes a country estate:

Walterston Piddel, the more ancient house of the noble family of Martins, from whom, in Edward the Third's time, it passed by an heir general to John Gouis, and from him likewise, by the Newburghes and Marneys, to Thomas Viscount Bindon, whose second son Thomas (after Viscount Bindon) built an house there, now belonging to Sir John Strangeways. (qtd in Helgerson 135)

Of the above passage Helgerson aptly notes that chorographies have shifted from being an "adjunct to the chronicles of kings to being a topographically ordered set of real-estate and family chronicles. [...] Books like Coker's show to whom [the land] really belonged, to the Newburghes, the Marneys, the Bindons, and Sir John Strangeways" (135). With their emphasis on property rights and genealogies, chorographies presented the country as a patchwork of individual histories of ownership: "[m]ore and more, chorographies

become books where county gentry can find their manors, monuments, and pedigrees copiously set forth” (Forms 133).

Chorographers’ preoccupation with the land reflects a class preoccupation during a moment of unprecedented land redistribution and social mobility. In his preface, Camden indicates his audience by defending his text from potentially disgruntled readers. “There are those, ‘tis probable,” Camden states, “who will stomach it at a great rate, that I have taken no notice of this or that Family, when ‘twas never my design to mention any, but the best. [...] But whoever takes it so hainously, may probably be of the number of those who have been the least serviceable to their Country, and who claim their nobility from a modern date”

(n.p.). As Hansen summarises,

antiquarian texts can be read as a response to a societal transformation in land ownership and, simultaneously, by virtue of their gentry status, can be understood as taking part in that transformation: their class preoccupations played a significant role in determining the kind of material selected and the version of the picture of the county and country that was subsequently produced. (96-7)

For the details of this picture of county and country, chorographies make use of two developing sciences: empirical evidence and geometric surveys. As we have seen, chorographers drew an image of England by accumulating and enumerating natural facts: lists of England’s rivers, trees, flowers, and even savage beasts and vermin present an image of England’s as a multifaceted natural entity. Similarly, England’s history was reconstructed from material artefacts, from historical remnants that were appreciated as vital and incontestable historical clues. William Ashworth claims that such “artifactual evidence,” capable of being put to the test of empirical proof, became the standard for writing England’s history:

The artifact was being given a new power, and the antiquarians were consciously aware of it. Camden declares, for example, that you can learn more about medieval dress from monuments, glass windows, and reliefs than from writers of those times. The artifact does not lie. It is this obsession with truth that really distinguishes post-Camden antiquarians from earlier collectors of antiquities and from literary historians. (321)

Ashworth's discussion of artefacts centres on their contribution to the development of natural history; and in this sense his use of the word "truth" is perhaps unwary. However, chorographers were very much interested in constructing a "truth" from artefacts, one which served to substantiate their own claims and those of their readers for land ownership. The enumeration of both natural facts and historical artefacts was used by chorographers to naturalise these claims.

With questions of ownership, chorographies were also greatly indebted to the improvement in surveying techniques and the increasing proliferation of survey manuals (guidebooks for mapping the land) from the late 1580s onwards. The work of a medieval surveyor was largely a matter of approximation and took the form of written records. Accurate land surveys became necessary and desirable during the extensive redistribution of monastic lands and the increased tenant mobility in the later years of the sixteenth century. It behooved both landlords and tenants to have reliable property lines.

In a recent essay, Martin Brückner and Kristen Poole have detailed a frenzy of surveying in early modern England; manuals became a standard feature of the booksellers' trade with certain texts reprinted in numerous editions, reliable evidence of the popularity of such manuals. The recovery of Euclid's Elements and other ancient mathematical texts transformed and professionalised the art of surveying. John Fitzherbert's Boke of Surveying underwent six editions between 1523 and 1567; Valentine Leigh's Science of Surveying was

published twice in 1577 and reissued four times before the turn of the century; Leonard Digges's A Book Named Techonicon, first issued in 1556, was republished by his son Thomas in 1592 and reappeared in six additional times in the seventeenth century. With the increased dissemination of geometrical and mathematical knowledge and the accuracy of surveying instruments rapidly ameliorating, reliable accounts of property lines were accessible to a socio-economically diverse audience. Despite the audience range to which different manuals appealed, the new geodetic sensibility served the interests of landowners more than those of any other sector of society. "A rarity at the beginning of the Elizabeth's reign, the estate map was an established convention by the time of her death; it had become a prominent element in defining rank, taste, and tenant/landlord relations" (Brückner and Poole 619).

The improvement of surveying techniques both contributed to and was motivated by landowners' attempts at political and economic aggrandisement: survey manuals facilitated the gentry in marking out and both materially and imaginatively "possessing" their land. The increasingly accurate surveys of estate lands subjected lived spaces to the abstraction of the scale-map, Bernhard Klein has argued, and desocialised agrarian space while "structures of surveillance intrinsic to mathematical surveying" fostered a rhetoric of ownership, reinforcing the map owner's social authority (60-61). On a less conceptual level, the new art of surveying fostered a radically new way of perceiving the land. Survey manuals were conceived as an "interactive project, one in which authorial control was gradually transferred from the writer of the text to the gentleman surveyor recording his own land" (Brückner and Poole 622-3). Landowners were instructed to transpose the material realities of their fields,

hedges, and trees, every declination and undulation of the land, all waterways, ditches and rivers, into an orderly and artful text.

The surveyor becomes a walking synthesizer of data; he gathers information from almost every conceivable human, topographical, and architectural source, and uses a bewildering array of gadgets to analyze nearly every surface of the manor. The survey is not merely a record of measurements, but a document that contains a form of Geertzian “thick description.” (Brückner and Poole 621)

By their travels through their properties, landowners wrote their ownership of the land into the very fabric of their survey. Like chorographies, the itinerary of surveys appropriated and shaped the landscape into textual form through a “process of accumulating ... via naming and measuring, parcelling and privatisation” (McLeod 97).

The unprecedented social fluidity and instability, the appropriation of common lands for capitalist production, and the new prominence, social and political power of the estate and privately owned land incited what McLeod calls a “shift in political architectonics.” The new geographies “breathed life into a new history,” which chronicle the inheritance of national authority by the landed gentry (81-82). The construction of local history as the foundation of the nation, Bruce McLeod has written, facilitated a shift in socio-economic dynamics and an erosion of absolute monarchic authority:

In order to lay claim to land and its productivity and at the same time resist the crown’s intervention, gain local allegiance, and govern a national economy, the gentry had to also lay claim to *the* land, *the* country, and its territories. They needed their history inscribed on the very landscape in order to gain national hegemony. (95)

Traditionally, historical chronicles of England narrated the succession of kings and queens: England was its monarchs. In late sixteenth century chorographies, loyalty to England comes to mean loyalty to the land – its counties, cities, town, and villages, even its uninhabited geographical features – often at the expense of loyalty to the monarch

(Helgerson, Forms 132). The audacious distinction between dynastic ruler and land first arose in oppositional literature during Queen Mary's reign (1553-58), which questioned whether English subjects owed allegiance to the monarch or England (see Grabes, "England or Queen"). The split would persist. Although the metaphor was positive, Queen Elizabeth's "marriage" to England perpetuates the distinction. Similarly, the execution of the King literally and figuratively beheaded the metaphor conjoining land and monarch.

In his discussion of Saxton's atlas, Helgerson notes that each sheet bears the Queen's arms, which marks "royal sovereignty over the kingdom as a whole and over each of its provinces" (Forms 112). In the chorographies of Camden, Speed, Drayton and their contemporaries, the land has become the overruling focus. Royal authority – or at least its insignia – are pushed to the edge of the page as mere ornament. The shift serves to strengthen "the sense of both local and national identity at the expense of an identity based on dynastic loyalty" (Forms 114). As Helgerson points out, few cartographic illustrations exemplify the ideological shift as much as the title to Drayton's great chorographical poem. Dynastic insignia are banished altogether. Taking centre stage is now the land itself. In addition, in Drayton's work it is England's topographical features that voice the chronicle of England's history, which serves to accentuate their antecedence to human inhabitants. The land is presented as the "authentic" England, prior to any rulers or dynasties, and after they are gone the land will remain.

In short, chorographies and their attendant maps are inseparable from their historical moment. Chorographies arise from and give textual representation to pressing social issues of the day, particularly the redistribution of monastery lands, the interests and struggles of a new landholding gentry seeking to secure their claims over property. They engage the new

sciences of surveying, mathematics, and empirical investigation, thereby presenting a new image of the land in all its particularity. Texts and their subject matter – here understood as England, individual authors, literary community, and audiences, all were engaged in a mutual process of definition. The scholarly community of chorographers influenced the form of their individual textual products, shaping a work's methodology, content, and style. Texts gained density and authority by invoking and citing one another, which served as much to authorise the content of texts as to establish the identity of their authors: chorographers forged a subject that in turn legitimised and warranted the industriousness of their scholarship. Further, readers are positioned as privileged citizens whose identity is constructed through their knowledge and ownership of England's landscape, an entity whose contours and particularities are brought into sharper relief by such noble interest and allegiance.

It is significant that the first detailed representations of England's geography and natural phenomena are structured in terms of ownership and possession. Although chorographies and surveys appear to allow the land to reveal itself, ultimately England is presented as a patchwork of enclosures. Chorographers construct the land as a "natural" source of identity in order to challenge royal authority. The English landscape and natural phenomena are at the service of naturalising landowners' claims of possession at both a political and material level (with country estates). Nevertheless, this new image of England's geography stimulated a new appreciation of the inherent Englishness of the landscape and marks a notable development in the connection between English identity and the soil. Further, as much as chorographies strive to possess the land, it is only through and by means of the land that the gentry have acquired their particular identity. And, as will be seen, the land also possessed its inhabitants in a rather more ominous sense of the word.

The Character of Northern Lands

Chorographies also distinguish their historical moment by their formation of a radically new narrative of origins for England's first inhabitants. Prior to the 1580s, English histories trace their people's origins to southern immigrants, that is, to Brutus's Trojan band and the offspring of Old Testament patriarchs. With their growing tendency for territorial self-identification, the new chorographers had little interest in such foreign ancestry. Camden links the Brutus narrative to Geoffrey of Monmouth and shows disdain for the idea, which is a story, he claims, purely in emulation of the Romans and "patched up of meer incongruities and absurdities" (v-ix). Speed likewise has little patience for such a mythical ancestry. Speed writes,

certain it is, that no honor from them can be brought, whose city and fame stood but for six descents ... during which time they were trice vanquished ... and the Trojans themselves, made, as it were, the sum of a conquered people. And therefore as *France* hath cast off their *Francio* King *Priamus* his sonne, *Scotland* their *Scotia* King *Pharaoes* daughter, *Denmarke* their *Danus*, *Ireland* their *Hiberus*, and other Countries their *Demi-gods*; so let BRITAINES likewise with them disclaime their BRUTE, that bringeth no honour to so renowned a Nation, but rather cloudeth their glory in the murders of his parents, and imbaseth their descents, as sprung up from *Venus* that lascivious Adulteress. (166)

A dramatically different narrative emerges in Elizabethan historiography. Rather than link their ancestry to Mediterranean exiles, Camden and his fellow historians trace themselves back to a Germanic line of people, descended from the Saxons. With the publication of Camden's *Britannia* in 1586 the northern barbarian first makes an appearance, identified as England's native population: "*Britannia*'s opening chapters narrate British origins as the slow and bloody civilizing process that followed Roman colonization, which 'chased away all save barbarisme from the Britans minds ... and reduced that naturall

inhabitants of the Iland unto the society of civill life” (Shuger 496). For Camden, the early inhabitants were “rude,” “uncivil,” “most warlike, and exceedingly given to slaughter” before they became subjects to the “Roman yoke.” As Floyd-Wilson explains, “[w]ithout Geoffrey’s fiction that Caesar had recognised the Britons as kin, the ancient description became a harsh portrait of a primitive culture. Where Geoffrey saw evidence of his people’s noble ancestry, Camden saw mere barbarians” (Floyd-Wilson, “Delving” 105).

Other chorographers followed suit. National self-representation did not turn a blind eye to a dauntingly rude and wild history but strove to manipulate its intensity into an energetic narrative of future potential. William Strachey states that “had not this violence, and the Iniury, bene offred unto us by Romanes,” Britons would have continued their barbaric ways, remaining cannibalistic “overgrowne Satyrs” (qtd. in Netzloff 319). Likewise Speed posits the Roman conquest as the necessary precondition for England’s linear progress towards civil society from a time when the manners and customs of the Britons were “not so pleasing or acceptable as were to be wished” (166). And indeed, Speed paints a truly contemptible image of his ancestors gathered from the writings of early Roman authors. Although the women were fair, the men of good stature, and both lived to one hundred and twenty years – “their cold and frozen Country kept in their naturall heat” – the Britons were a hairy, rude, woad-painted² libidinous people with a religion that was nothing more than “diabolicall superstition.” They didn’t eat such refined foods as hen, hare, or goose, nor did they till the fields, “neither eate *fish*, though their rivers thereof bee plenteously stored, but lived upon prey, venison, and fruits,” without even the know-how to make cheese (166-7).

But let us look more closely at the ancestry of the “Caucasian” barbarian, a racial group encompassing the various peoples of northern Europe, including Gauls, Germans,

Norse, Welsh, Dutch, Irish, and the English (Shuger 499). The characteristics of northern Europe depend on three surviving classical works: Caesar's Gallic Wars, and Tacitus's Agricola and Germania. Tacitus asks "who would have left Asia, Africa, or Italy to make for Germany, with its unattractive landscape and raw climate, harsh to cultivate or even to look at – unless it were his home country?" (37) Germans were a strong and broad race accustomed to cold by their climate and hunger by their poor soil. In general the land "either bristles with forests of festers with marches. [...] It is fertile for sown crops but will not grow fruit-trees. It is rich in livestock, but these are mostly undersized. Even on their foreheads the cattle lack the proper distinction and glory" (39). Britain likewise had a miserable climate "with frequent rain and mists" (11). The Germans were by nature averse to peace and domestic life. War and plunder were the only honourable pursuits: "Whenever they are not fighting, they pass much of their time in the chase, and still more in idleness ... and surrendering the management of the household, of the home, and of the land, to the women, the old men, and all the weakest members of the family" (Tacitus 40). Nor were they inclined to agriculture: "they actually think it tame and stupid to acquire by the sweat of toil what they might win by their blood" (41).

Descended from this Germanic line of people, the early inhabitants of England were likewise hostile, barbaric nomads living in a harsh and barren land. Roman characterisation weaves together the nature of the island's inhabitants and their natural landscape: the attributes of the nature and people mirror each other. Both are barbarous, both are rugged and unrefined. Agricola's letters home reveal England as dank, primitive and untamed, condemned to filthy, grey skies and endless wetness, a place no doubt ill-favoured to provide the comforts of Mediterranean soldiers (Burn 28). Non-agricultural, fierce, and undomestic,

the lawless northern barbarian was a product of his rugged geography. Vicious and warlike. Drunken and dull of intellect. Lacking the finer skills of art, graceful discourse, politics, and wit. "As stark counterexamples to the civilized cultures edging the Mediterranean," Elliott Visconsi states, "the gothic northerners were an abhorrently violent, disorganized, and undisciplined mass of primitives who had contributed almost nothing to the processes of advancement" (677).

Considering that chorographers accepted ancient characterisations of England's human inhabitants, what general image did they paint of England's environment? Did they quote from Roman reports? As we have seen it was quite the contrary. In fact, it was the antithesis. When it came to describing the English landscape, chorographers expressed excessive pride. Apple and pear trees flourished throughout the nation. There were more parks, forests, and chases than are found in all of Christendom. Corn, cattle, and wool were abundant. Speed proclaims:

In a word, BRITAIN is so rich in commodities, so beautifull in situation, and so replendent in all glory, that if the *Omnipotent* (as one hath said) *had vouchsafed to fashion the world round like a ring, as he did like the Globe, it might have bin most worthily the onely Gemme therein.* Whose *Vallies* are like *Eden*: whose *Hills* are like *Lebanon*: whose *Springs* are as *Pisgah*: whose *Rivers* are as *Jordan*: whose *Walls* is the *Ocean*: and whose *defence* is the Lord JEHOVAH" (157)

Moreover, Speed and his fellow chorographers all endow England with an ideal climate: "*Cæsar* commends it to be more temperate, and the cold lesser, than that in *France*, as not subject to either extreames as the more Northerne and Southerne countries are" (Speed 156). One writer praises England's clement summers and claims the winters were "passing milde" tempered to such a degree by the warmth of the encompassing ocean "that the cold with us is much more remisse than in some parts of *France* and *Italy*" (Leigh 2). The Roman

image of England as a frozen wasteland blanketed in dangerous fogs that emanate from an encircling sea is countered on every point: chorographers' descriptions of the land can be read in direct and defiant response to ancient reports. Although the seas are often called "*The darke and dangerous Seas*," Speed claims that sea in fact warmed the air: "*though other whiles wanting the aspect of the Sunne, yet is it releevd with the warmth of her invironing Seas*." The fearsome fogs were "dispersed into still showres of raine, that doe dissolve the rigour and great extremitie of cold, yea, and those Seas themselves stirred and working to and fro with the winde, doe thereby waxe warme (as *Cicero* saith) *so that a man may easily perceive within that world of waters a certaine heate enclosed*" (10-12). Speeds' warm waters and delightful rains are not representations of England but contradictions of Roman reports.

The image that chorographers present of England's geography and climate is also crafted in order to assuage the unpleasant representation of the English people. The enormous praise of England's nature can be read as an exaggerated "proof" that the people, like the environment, are no longer barbarous. Camden claims that "the mildenes of the soyle and sweete aire" in England had long ago "mellowed and mollified" the barbarous Saxon immigrants, who on the Continent had been a "warlike, victorious, stiffe, stowt, and rigourous Nation" (qtd. in Floyd-Wilson, "Delving" 113). However, the urgency to prove that the English were no longer barbarous, and to prove it by lauding the English climate as less cold than "some parts of *France* and *Italy*" suggests that English chorographers were dealing with a deeper prejudice than merely Roman histories.

Why would such a daunting ancestry arise for the first time in chorographies, texts that, as we have seen, mark England's geography as a primary source of identity and write

England as a land-centred nation? In part, the “discovery” of England’s indigenous population prior to any foreign immigration derives from chorographers’ motivation to promote indigenous traditions over foreign sources. It is ironic, then, that early Roman reports were the sources of the habits and character of chorographers’ ancestors. That is, chorographers culled the necessary evidence to substantiate their hyperbolic pride and sense of difference from the very foreign authorities – Roman reports – that chorographers rejected.

In fact, this irony is engaged in the founding of the Tudor-Stuart nationhood: the irony of a “nation” being founded as an “empire.” The Act of Appeals in 1533 rejected the foreign jurisdiction of papal sovereignty and any foreign control over indigenous affairs. The Act freed England from Rome, but did so by emulating a Roman achievement by declaring England to be an empire. Claire McEachern points out that “[t]o call England an empire is to announce political sovereignty in the term by which it was known. Crucially, it is an announcement based as much in a competitive, mimetic resemblance to foreign authority as in a rejection of it” (2). Willy Maley also highlights this competitive mimicry, and argues that early modern England in the early part of the seventeenth century was moving from a postcolonial nation to an empire state. This process of national liberation involved the repetition – “relished and resisted in equal parts” – of the colonial project (31). In Maley’s words: “An anti-imperialist, anti-Roman Englishness yields to an imperial Britishness that emulates, even as it opposes its former tyrant. The liberated colony is preoccupied with the mores and lessons of the erstwhile occupying power” (32-3).

But the barbaric history of both England’s nature and people – the two were intimately interwoven – also conforms to early modern notions for attributing distinct characteristics to geographic regions. The historical narrative crafted by chorographers,

linking England's ancestors to a wild throng of nomads, must be read in conjunction with an ancient geographic imagination that positioned England on the peripheries of the world. By linking their history and identity with the land, chorographers were forced to engage with prevailing geographic prejudices that shaped an image of northern peoples that was, as Speed puts it, "not so pleasing or acceptable as were to be wished" (166).

Cosmography and History

Academic readings of chorographies typically trace incipient forms of the social and political dynamics that would eventually characterise English nationalism and imperialism. For Helgerson, chorographies become meaningful primarily through their mediation of the unstable relation between monarch and country. "Not only does the emergence of the land parallel the emergence of the individual authorial self, the one enforces and perhaps depends on the other. [...] Each comes into being in dialectual opposition to royal absolutism" (Forms 64). Helgerson's domestic origin of a rising nationalism – characterised more by internal strife than national difference – is expanded by scholars for whom chorographies are central to the struggle of both internal and overseas colonisation. Camden's Britannia includes Scotland and Wales. Speed dedicates Theatre of the Empire of Greate Britaine to the "MOST HIGH AND POTENT MONARCH, IAMES, OF GREAT BRITAIN, FRANCE, AND IRELAND KING ... INLARGER AND UNITER OF THE BRITISH EMPIRE, RESTORER OF THE BRITISH NAME." Whatever other desires informed chorographers' works, their texts were also invested in the invention of Britain. In The Geography of Empire in English Literature, 1580-1745, Bruce McLeod points to the joint

development of agrarian capitalism, estate management, and colonialism, all of which motivated the production of chorographies:

chorography had as much to do with localizing power relations as it had with defining Britain in relation to the globe. Chorographical descriptions enact a resignification that implies a formerly vacant topography. In what is clearly a colonial move, the new maps displaced other representations of the nation in order to make space for a more authentic design (97)

Despite their different perspectives, for both McLeod and Helgerson the vigorous writing and rewriting of the “nation,” be it England or a united Britain, was only minimally hindered – if at all – by any pre-existing interpretations of the land. The techniques and practices of geometrical surveying and inductive methodologies as well as British desires for territorial expansion pushed aside all residual interpretations and representations of the land; they inscribed a new spatial politics as easily as if the land had been “formerly vacant” of meaning. Gathering momentum the new geographic vision coalesced into a unified set of representational strategies, which proved highly serviceable for projecting – and eventually grounding – territorial appropriation. In the words of Bernhard Klein,

[t]he enthusiastic response to the visual appropriation of physical space was principally a tribute to the effective coalescence of a powerful visual language with the respective cultural and political formulae endemic in the representational codes of the map. In presenting space as politically and economically manageable, in promising imaginary control through ocular access, cartographic investments prefigured material exploits and the act of beholding “the whole world at one view” anticipates the imperial gaze of spatial desire. (92)

Although Klein acknowledges that the signifying power of early modern geographic discourse was neither fixed nor static, he nevertheless reads the new early modern geography from a post-colonial perspective. That is, like McLeod, Klein reads early modern chorographies as early stages in a progressive and aggressive narrative of imperial desire.

However, the geography of England, though revealed and detailed for first time through systematic mapping and description, was not conceptually vacant of cultural and historical associations. And the success of England's imperial projects was yet uncertain.

A large part of that uncertainty arose from a lingering ancient geographic imagination, which linked a nation's character with their geography. In fact, these cultural associations were embedded in what Klein terms "the whole world at one view," more properly known as cosmography. Where geometry, surveying, and natural facts composed a "new" image of England's particularities, a broader vision was required for defining England as a self-contained space, separate from the continent, and placed in relation to the rest of the world. Although cosmography was ostensibly a mathematical science, its function was more figurative, and remained more informed by the poetic dimensions of ancient geographic knowledge than the new information gathered by early modern explorers.

The science and vision of cosmography was dependent on the re-discovery of the Ptolemaic grid. Florentine Humanists searching for original Greek-language texts in the early fifteenth-century chanced upon certain works by Ptolemy, a second-century Alexandrian. Among the twenty-five regional chorographies in Ptolemy's Geography was a cosmographical world map, a geometrical projection of the world over which was superimposed a fixed grid of 360 degrees of longitude and latitude established by the same mathematics with which the ancient Greeks had located the stars and tracked celestial motion. Ptolemaic cartography presented the world as seen from an external viewpoint ruled by a uniform geometric grid (Edgerton, "Mental Matrix" 13).

In 1570, Abraham Ortelius revived the genre with Theatrum Orbis Terrarum, which was translated into English in 1606. While the application of geometry flattened the world

into a grid of longitude and latitude, such cartography was far from lacking human dynamism. Ortelius stressed the importance of geographic illustration for understanding historical events. Exploiting the metaphorical dimensions of the “theatre,” Ortelius cast geography as “the eye of History” or the theatre in which historical events unfold. John Gilles suggests that Ortelius’s merging of geography and history transforms the maps into dramaturgical memory theatres:

In these maps of bygone empires and events, the idea of geography as a historical “theatre” is made geographically manifest. These are not just maps of regions but “expedition,” “voyages,” “peregrination;” the very stuff of ancient history, sacred and secular. To their purely cartographic function, Ortelius adds a narrative-theatrical function. As well as describing regions, these maps tell *histories*. (72)

Although there is no “centre” on a cosmographic grid, nevertheless the grid was imbued with a “poetic” imaginary that conceived of the world in terms of centre and periphery with the Mediterranean firmly in the centre. For all its conspicuous obsolescence and despite early modern geographers’ being conscious of having extended the range of geographic discourse, the figure of the “frame” in cosmographic thought continued to exercise imaginative force well into the seventeenth century (Gilles 36).

In Shakespeare and the Geography of Difference, John Gilles gives a perceptive reading of the perseverance of the ancient geographic imagination in the face of a more geometrically sophisticated geography. “Perhaps the most compelling reason for the persistence of ancient poetic geographic values within the new geography,” Gilles explains, “was the imaginative insecurity of the new discourse. For all its self-consciousness, the new geography had yet to achieve a hermeneutic identity. It required the hermeneutical energy of the ancient geography” (35). Eventually, in the later decades of the seventeenth century, the

new geography would slowly disengage from its ancient legacies, but for “the Shakespearean moment” the two co-existed despite a certain hermeneutic instability.

The use of the ancient “frame” of the world for scholars arose from its ability to represent human difference, as the link “difference and distance was virtually axiomatic.” As an articulation of human perspective, cosmography is a striking example of the differential activity between privileged centres and borderlands:

If the trunk of “poetic geography” consists in the ability of an archaic world-image to accommodate ever more sophisticated and diverse geographic information, then its root consists in the ceaselessly renewed activity of differentiation. The need to constitute an identity by excluding the other is not just primal, but perennial. With the growth of geographic information and the outward push of imperial borders, come ever more others, renewing the need to differentiate, and perpetuating the need for a symbolic border and ever new rites of exclusion. (6)

Gilles’ reading focuses on the ways Shakespeare and his contemporaries imagined “otherness,” particularly “exotic” figures inhabiting the margins of Europe’s cultural and geographic imagination: Moors, Jews, American Indians, Egyptians, Ethiopians, and so on. However, while Gilles’ expressed purpose is to analyse how England viewed geographies peripheral to Europe, it is nevertheless surprising that he ignores England’s own marginal status. In his discussion of Pliny’s remarks of “outlandish” arts, Gilles states:

Ironically enough, Pliny takes Britain as his example of how “that art [magic] ... hath passed over the wide ocean also, and gone as far as any land is to be seen, even to the utmost bounds of the earth; and beyond which, there is nothing to be discovered but a vast prospect of air and water” (31).

However, there is nothing ironic about Pliny’s statement. England was conceived as a little island on the edge of the world, and England’s geographic position as a northern country continued to impose a host of negative associations that were bound to an ancient geographic imagination well through the seventeenth century. The rationale for attributing

behaviours to geographies stemmed from medico-climatic theories for explaining global human diversity. The following chapter investigates the medical and philosophical basis for establishing the relation between geography and race, and attempts to explain why chorographers could not simply ignore the damning Roman reports of England's people and environment.

Chapter Three.
Geographies of Health, Race, and Nation

Whence proceed that variety of manners, and a distinct character (as it were) to severall nations? Some are wise, subtile, witty; others dull, sad, and heavy; some big, some little ... some soft, and some hardy, barbarous, civil, black, dun, white; is it from the Aire, from the soyle, influence of starres, or some other secret cause? Why doth *Africa* breed so many venemous beasts, *Ireland* none? *Athens* owls, *Creet* [sic] none? Why hath *Daulis* and *Thebes* no swallows ... *Ithaca* no hares, *Pontus* asses, *Scythia* swine? Whence comes this variety of complexions, colours, plants, birds, beasts, metall, peculiar almost to every place?
 Robert Burton Anatomy of Melancholy (1628)

The answer to Robert Burton's question, "Whence comes this variety," lay in the congruity of a broad range of disciplines – geography, physiology, climatology, astrology, psychology, natural history and husbandry – which together forged a cohesive and formidable discourse employed since ancient times to explain the wondrous variety of the world. Each discipline subsequently developed and extended its own particular sphere of knowledge, yet from classical times well through the seventeenth century, the interrelations between geography and psychology, between climate and the shape and size of its inhabitants, intensified and legitimised a simple but potent "truth" everywhere apparent: it was variation in climate and latitude – the two words were in fact synonymous – that engendered global diversity: "In all particular provinces we see it confirmed by experience;

as the Aire is, so are the inhabitants, dull, heavy, witty, subtill, neat, cleanly, clownish, sicke, and sound” (Burton 243). By “Aire” Burton means atmospheric conditions induced by latitude, altitude, temperature and moisture, proximity to fresh water or boggy land. All of which directly influenced and conditioned not just a region’s flora and fauna but the distinct character, manners, shape, colour, and size of its inhabitants.

Intimacy between character and homeland was not a flimsy conjecture. That particular airs and regions distinctly shaped human idiosyncrasies was rationalised by classical humoral medicine, a physiological doctrine of which prevailed from at least the time of Hippocrates (460 – 377 BC). According to humoral theories of the body, variation amongst individuals was a result of each human’s distinctive balance of the four humours predisposing a man, woman, or child to particular moral, psychological, and physical traits as well as particular illnesses. The climate of a place was a unifying force, limiting difference by conditioning the overarching constitution of a people. Predicated by physiological doctrine and causal explanations for disease and wellness, climatic determinism was far from illogical. It was likewise far from innocent.

This chapter sets out to explain the medicinal roots of climatic determinism and to trace its persistence through the early modern period. Environmental theories of human variation were inherently biased, lauding the climate of the Mediterranean, the geographic centre of the known world, and downgrading all others to an inferior status. This stigma of alleged inferiority pervaded all sectors of life: Hippocratic theories of influential airs, waters, and places were as effective for judging a people’s character, political structures, and cultural forms as for assessing the health and agricultural potential of their land. Through the sixteenth and seventeenth centuries, English writers and scholars battled with traditional

stereotypes casting northerners as rude, non-agricultural, lawless barbarians who had contributed nothing to the enlightenment and refinement of the civil world. In the second half of the chapter, I consider various tactics and philosophies through which England attempted to assuage the stigma attached to their northern geography, so far from the Mediterranean's ideal climatic conditions.

“la diversité des régions”
Geographies of Health and Home

From ancient Greek times the connections between the character of a people and their land were considered intimate. As John Gilles suggests in Shakespeare and the Geography of Difference, early moderns' inheritance of ancient geographic imagination extended well beyond literal representations of spaces and places. Overflowing with poetic dimensions, distant and exotic geographies were “alive with human and dramaturgical meaning: specifically, with the meaning of human difference” (4). Foreign lands were not merely unfamiliar and little explored but distant from the *oikumene*, a term used by ancient Greek philosophers combining the senses of both “world” and “house.” By the logic of exclusion, *eschatia*, that is, end-zones and wastelands, were constructed as polar opposites of the *oikumene* and their inhabitants were represented as an inversion of Greek society: savage, malformed, disordered. By this same dialectic, Gilles explains, ancient geographic imagination constructed distant lands as mirror images of each other:

Herodotus was able to invent an entire ethnography for Scythia (an extreme northerly region of which he knew very little) by systematically inverting everything he knew about Egypt (an extreme southerly region). Hence where the Egyptians are the most ancient and learned of men, the Scythians are the “youngest,” the most ignorant and

the most savage. Where nature in Egypt is dominated by heat, that in Scythia is controlled by cold. (9)

The symbolic architecture of the *oikumene* was manipulated both to construct climates of even barely known lands and to populate them with befitting inhabitants. Peoples and places ever distant from the centre distended into ever more fanciful hybrids and marvellous forms: frozen wastelands and inhabitable torrid zones, Centaurs and Amazons, Sciapods (men endowed with one giant foot to protect them from the heat of the sun), Blemmyes (an ancient Ethiopian tribe with eyes and mouths in their breasts), and the Panotti of Scythia with ears large enough to cover their entire bodies. Roman geographic tradition maintained the same poetic and rhetorical strategy between *orbis terrarum* or “circle of land” and outlying, terminal regions. The extreme margins of the known world were invented as places of geographic “exorbitance,” a spatial transgression that served to characterise the transgressive natures as their inhabitants (Gilles 18). Such hybrids violated biological rules – hyperbolic dimensions, multiplication of body parts, and fusion of species – as well as moral and civic laws. The nightmarish fusing of images and blurring or inversion of social categories at the world’s edges highlighted the stability and superiority of the centre.

Medieval scholars, travellers and natural historians inherited the dynamic dialectic posed by ancient geographic imagination between centre and borderlands. At the furthest perimeter of geographical knowledge, along what Stephen Greenblatt calls the “rim” of the world, a giant sea curved, a blue ring beyond which nothing existed (42). Places of proliferation and hybridisation, the peripheries quivered with strange and exotic *fabula*. Jerusalem succeeded as a new geographic centre to the world, the *omphalos*, the most holy of places. “It is a commonplace that Jerusalem,” Sir John Mandeville emphatically pronounced,

“is in the middle of the earth” (129). After passing through the Holy Lands, Mandeville turns away from the world’s spiritual and geographical centre and sets off to pass through “many diverse kingdoms, countries and isles in the eastern part of the world, where live different kinds of men and animals, and many other marvellous things” (111). Mandeville passes through lands teeming with self-sacrificing fish and wild geese with two heads, where diamonds grew as big as hazelnuts and giant shrubs were bent low with exotic spices. The poetic resonance between centre and borders was sustained through its shifts from the *oikumene* of the Greeks, the Roman’s *orbis terrarum*, and the Christian *omphalos* of Jerusalem, and would continue to survive “in the teeth of contradictory evidence” well into the seventeenth century (Gilles 36).

The medieval literary tradition of populating distant lands with hybrids was less ethnographic than allegoric and rhetoric: material and cultural disorganisation flourished in topographies unaffected by Christianity. Mary Campbell claims that travel narratives cast the ontological reality of marvels as something between the symbolic and the actual, a “minimum reality” in which “beings are conceived and exist only for the conceptual uses – theological, material, rhetorical – to which others can put them” (79). Tracing the historical imagination at work in Wonders of the East, a medieval book of marvels inhabiting the licentious fringe of the world, Campbell states that the text “exposes the inverted, marginal world of a nature that can mean but not fully be. Its world can *signify* the patterns and temptations of life at the center, in the *oikumene*, but literally and first it stands in opposition to the world we know and the laws that govern it. Its subversive delightfulness lies in its stark presentation of what is Other, Beyond, and Outside” (84).

While increased travel throughout the early modern period greatly expanded the range and depth of ethnographic knowledge, traditional descriptive cultural formulae persisted. The integrity of geographically determined characterisations of the various nations was far from weakened: geography remained the peerless explanation for cultural difference. As Margaret T. Hogden states, despite “intervening centuries of trade with Mediterranean ports, despite recent revelations by Portuguese and other explorers of the characteristics of living Africans, these people were called by their ancient names; and they were reported as conducting themselves in A.D. 1520 or 1620 or 1720, exactly as they had been portrayed in the fifth century B.C.” (182). In an edition published in 1611 of Johann Boemus’s (ca. 1485-1535) The Manners, Lawes, and Customes of All Nations, the mythical race of Scythians, those lovers of human slaughter roaming somewhere in the north-east, were still shackled by their harsh climate and still hadn’t learnt to plow or sow their fields. Well into the sixteenth century, Africa was divided into the same traditional group of nations: Ethiopians and Egyptians, Troglodytes (cave-dwellers), Rhisophagi (root eaters), Spermophagi (seed eaters), Illophagi (fruit eaters), and Ichthiophagi (fish eaters), Opiophagi (snake eaters), amongst others. Living within the margins of the known world, strange African races and Scythians were condemned to persist as inverse models of the normal order manifested at the centre.

If the distance of places from the centre – whether that centre be Greece, Rome, or the Holy Lands – served to determine the licentious natures of their inhabitants, geography was equally effective for explaining human difference amongst less distant, less mythical nations. Although aberrations from the ideal were far from frightful, Greeks, Gauls, French, Spaniards, Britons, and all the other “races” of Europe were stereotyped and catalogued with

no less vigour according to their geographic location. While scientific literature of the Enlightenment divided humanity into only four or five main “races,” the major pre-eighteenth-century ethnographic term was *gens* – translated as “people” or “nation” – etymologically linked to *genere*, to beget or produce, hence meaning the kith and kin of common ancestry or stock inhabiting the same location. If race in modern times, Joyce Chaplin states, “signifies a fixed set of bodily traits, purportedly specific to national or ethnic groups and transmitted through procreation, it was not a coherent hypothesis in the early modern period” (230). Ethnographic thought was preoccupied with the particularity of a people’s political and social systems and their relative sophistication, and this awareness “of ‘national’ difference outweighed anything approaching a modern tendency to identify a particular skin-color or physiognomy with a ‘race’” (Hudson 250). Physical differences between races were thought to be accidents of birth: natural philosophy stressed an underlying, universal human essence altered and moulded by environmental conditions (Chaplin 230). For example, one of the leading political theorists of his day, Jean Bodin (1530-1596), distinguished as many different people as “la diversité des regions”:

Or tout ainsi que nous voyons en toutes sortes d’animaux une variété bien grande, & en chacune espece quelques differences notables, pour la diversité des regions: aussi pouvons nous dire qu’il y a presque autant de variété au naturel des hommes, qu’il y a de païs, voire en mesmes climats, il se trouve que les peuple Oriental est fort different à l’Occidentals: & en mesme latitude & distance de l’Equateur, le peuple de Septentrion est different du Meridional. Et qui plus est en mesme climat, latitude, & longitude, & sous mesme degré, on apperçoit la difference du lieu montueux à la plaine. (661-662)

Environmental theories of human variation, the belief that there was “presque autant de variété au naturel des hommes, qu’il y a de païs,” were based on an ancient physiological doctrine that was given its most comprehensive voice in the Hippocratic corpus. Like its

physical environment, the body was an ever-moving system of fluid motions and temperatures: "The human body of man contains blood, phlegm, yellow bile and black bile. These are the things that make up its constitution and cause its pain and health. Health is primarily that state in which these constituent substances are in the correct proportion to each other, both in strength and quantity, and are well mixed" (Hippocrates "The Nature of Man" 262). Although relatively stable, living organisms porous to the world and susceptible to environmental influence since the world, its natural forces, and inhabitants were composed of the same four basic elements, earth, water, air, and fire, themselves composed of the four qualities, hot, wet, cold, and dry. Disease arose when the body's delicate balance of the four cardinal humours – blood (hot and wet), phlegm (cold and wet), yellow bile (hot and dry), and black bile (cold and dry) – altered suddenly or vacillated abnormally. An edifice porous to the world, the body's dynamic balance of temperature and moisture required constant monitoring.

Whoever wishes to investigate medicine properly, Hippocrates begins his most famous work, On Airs, Waters, and Places, must first consider the seasons of the year, their various effects, and the differences between them. The winds are next in importance; their temperature and directions ought to be considered, first winds that are common to all countries and then those that are particular to the region. For example, a city that is exposed to hot winds but sheltered from northern gales will have plenteous but saline waters. Its inhabitants will be of "moist heads full of phlegm," their bellies subject to frequent disorders, their bodies flabby, the men weak in the head (149). Next, the quality of available water must be examined, and its effects on health not neglected, for "just as it varies in taste and when weighed, so does its effect on the body vary as well" (148). Is the water marshy and

stagnant or running fresh and sweet from the mountains? Is the land covered with well-watered and wooded areas or barren and parched? The situation of the city to the rising and setting of the sun is also of importance: vapours arising from morning dew prove highly perilous to the health, and so, the earlier the sunrise, the healthier the people.

Disease and wellness, therefore, were conditioned by a matrix of environmental conditions such as topographic particularities, governing winds, climate, seasonal precipitation and temperature change. The Hippocratic concept of “airs, waters and places” received significant and renewed attention in the early modern period, and patients and physicians alike studied their environments with care and precision:

Patients and physicians began to examine their environments, they smelt their surroundings, they tasted their waters, they measured the changing tempers of the weather. They sensed that certain localities, certain seasons, certain airs, waters, and places were more conducive to ill-health than others. They speculated that endemic diseases varied according to the contours and undulations of the natural and human world while epidemics ebbed and flowed in accordance with the winds and weather. They searched for patterns and consistencies, rhythms and regularities, that would substantiate their environmental ideas, elucidate the causes of diseases and, in turn, permit a better understanding of the means to prevent ill-health and extend the human life span. (Dobson 10)

Temperate climates were healthier than hot. Fens, bogs, and all wet lands engendered pestiferous mists, fogs, and unwholesome smells. Circulating breezes were more favourable than still and stagnant air; sharp oceanic winds purified and dispelled viscous, malignant humours. In a letter written to the Royal Society and Published in the Philosophical Transactions in 1693, John Clayton relates his fatiguing experiences in Virginia in which he pays particular attention to the changing quality of the air.

July and August those Breezes cease, and the Air becomes stagnant, that the Heat is violent and troublesom. In *September* the Weather usually breaks suddenly, and there falls generally very considerable Rains. When the Weather breaks many fall sick,

this being the time of an Endemical Sickness, for Seasonings, Cachexes, Fluxes, Scorbutical Dropsies, Gripes, or the like, which I have attributed to this Reason.¹ That by the extraordinary Heat the Ferment of the Blood being raised too high, and the Tone of the Stomach relaxed, when the Weather breaks the Blood palls, and like over-fermented Liquors is depauperated, or turns eager and sharp, and there's a crude Digestion, when the named Distempers may be supposed to ensue. (785)

Seasonal change could cause sudden alteration or abnormal vacillation of bodily humours, and he “that loves his health,” in the words of Burton, “must often shift places, and make choice of such [airs] as are wholesome, pleasant, convenient: there is nothing better than a change of aire” to cures maladies (245). Burton relates how the kings of Persia wintered in Sardis and kept summerhouses in Susa; the kings of Spain, now in Madrid, now in Valladolid; in Italy, summers are spent in the country and winters in the city (245-6). Those without means to afford such variety must choose a good house wisely to serve each season. No such house was to be found in Bombay where John Fryer reckons its populace – foreign and indigenious alike – “walk but in Charnel houses, the Climate being extremely Unhealthy.” Some had attributed the high rate of disease to rotten fish, but Fryer ascribes the illness to “the Situation which causes an Infecundity in the Earth, and a Putridness in the Air, what being produced seldom coming to Maturity, whereby what is eaten is undigested; whence follows Fluxes, Dropsy, Scurvy, Barbiers (which is an enervating the whole Body, being neither able to use Hands or Feet) Gout, Stone, Malignant and Putrid Fevers, which are Endemial Diseases” (Fryer 68).

Careful attention to food and drink was critical. Diet and medicine were barely separable components of health and healing: “For a good cook is halfe a physycyon” (Boyrde 277). The only difference between diet and medicine was the reason for which they were taken: food, when one tried to maintain the proper humoral balance; drugs, when one tried to

regain balance. Barley breeds cold humours. Capers, nettles, and wild hops all purge phlegm. Quails engender melancholic humours, and melancholic constitutions should also avoid spicy wines, fried and burnt meat. Young turtledoves encourage good blood while cranes, hard on digestion, rouse dangerous intestinal winds. Consideration of diet was especially important while travelling in foreign climates. The anonymously published pamphlet, The Cures of the Diseased in Forraine Attempts of the English Nation (1598), claims that the calenture is “the most usuall Disease, happening to our Nation in intemperate Climats, by inflammation of the blood, and often proceeding of immoderate drinking of wine, and eating of pleasant Fruits” (G.W. 7). Burton stresses diligence and care when travelling in southern parts:

Our travellers find this by common experience when they come in farre countries, and use their diet; they are suddenly offended, as our *Hollanders* and *Englishmen*, when they touch upon the coasts of Africa, those *Indian Capes* and Islands, are commonly molested with calentures, fluxes,² and much distempered by reason of their fruits. *Peregrina, etsi suavia, solent vescentibus perturbationes insignes adferre* [Foreign foods, although delightful, cause notable disturbances]. (71)

Heat of southern climates inflamed the blood, exciting humours, weakened the lineaments of bodies. The intemperance or inflexibility of English men and women while travelling or residing in foreign climates is often noted. Either they immoderately gorged themselves on exotic fruits and heady, fever-provoking alcohols or imprudently maintained diets suited to colder climates, which then remained dangerously undigested. Ultimately a judicial analysis of diet and climate preserved wellness. Bad air coupled with bad diet proved a deadly concoction, the two being most pernicious to bodily health.

“some are blockish, and some wise”

Environmental Theories of Human Difference

The assumed balance and ascendancy of the humours dictated more than just health and disease. Hippocratic theories of influential airs and topographies neatly interlocked with descriptions of human character since humoral medicine presupposes a sympathy between mind and body. A particular “complexion” was attributed to each humour, endowing individuals with distinctive physical, emotional, and intellectual dispositions. The corrosive properties of black bile engendered the melancholic’s lean and withered body, sorrowful and world-weary countenance, and contemplative, penetrating intellect, while ruddy cheeks and a cheerful, optimistic glow announced a sanguine personality. The sluggish and languid disposition of phlegmatics “naturally” arose from an excess of cold moisture in contrast to choleric’s fiery tempers and irrational, hot-headed anger kindled by the hot and dry humour of yellow bile. Environmental conditions could assuage or aggravate characteristics. Yellow bile or choler, associated with fire, predominated – naturally enough – in hot, dry climates. Thomas Trapham claimed in *A Discourse of the State of Health in the Island of Jamaica* (1679) that “Choler abounds between the Tropicks, is but reasonable as well as matter of fact; for the inflaming Sun must needs kindle its like in its neerest Subjects” (84). Too much heat from the sun provoked a choleric to greater, more irrational passions; too little warmth and too much atmospheric moisture slowed phlegmatics’ already listless intellect to a blockish and dull torpor.

If the environmental influences on the physical and mental qualities of individuals could be shown, they were by extension applied to entire nations and races of people. Since the dominance of one humour or another in the human body was ascribed to environmental

conditions and since each humour was attributed to particular characteristics, Hippocrates concluded that a people's behaviour could be read from their environment: "You will find, as a general rule," he explains, "that the constitutions and the habits of a people follow the nature of the land where they live" (Airs 168). The intimacy between mind, body, and environment established by humoral theory thus could explain not only physical and mental health, but also physiological and cultural variation among peoples as a whole. The acute influence of climate combined with humoral medicine enabled the construction of compact packages of environmental information equally useful for harvest speculation as for surmising a people's moral, physical, and psychological inclinations.

Where the soil is rich, soft and well-watered and where the surface water is drunk, which is warm in summer and cold in winter, and where the seasons are favourable, you will find the people fleshy, their joints obscured, and they have watery constitutions. Such people are incapable of great effort. In addition, such a people are, for the most part, cowards. They are easy-going and sleepy, clumsy craftsmen and never keen or delicate. But if the land is bare, waterless and rough, swept by the winter gales and burnt by the summer sun, you will find there a people hard and spare, their joints showing, sinewy and hairy. They are by nature keen and fond of work, they are wakeful, headstrong and self-willed and inclined to fierceness rather than tame. (168-9)

When a race lives in a rough mountainous country, at a high elevation, and well watered, where great differences of climate accompany the various seasons, there the people will be of large physique, well-accustomed to hardihood and bravery, and with no small degree of fierceness and wildness in their character. On the other hand, in low-lying, stifling lands, full of meadows, getting a larger share of warm than cold winds, and where the water is warm, the people will be neither large nor slight, but rather broad in build, fleshy and black haired. (168)

Barren northern lands produced admirably fierce warriors: where the soil is not so fruitful, the people are not so feeble. The indulgent way of life permitted by the lush and fertile soil usually ascribed to Asia spoiled its inhabitants to such a degree that "[b]ravery and hardihood are not an integral part of their natural character" (168). The influence of Airs,

Waters, and Places and its theory of climatic determinism can hardly be overestimated, informing history, ethnography, and geography for well over two millennia. It is responsible for the fallacy that whole cultures and the behaviours, propensities, skills, and deficiencies of an entire population can be “logically” simplified into reductive descriptions determined from their prevailing climatic conditions. Such entrenched tendencies transformed geographic territory into culturally defined landscapes, spawning moral and physical stereotyping of “races” of people, which were rationalised and naturalised because they were rooted in physiology and humoral theory.

The tenacity of environmental theories of human variation persisted well through the seventeenth century. Juan Huarte Navarro’s The Examination of Mens Wits (1594) claims we need to look only at “how far are different Greeks from Tartarians: Frenchmen from Spaniards: Indians from Dutch: and Æethiopians from English”: the virtue or vice of the soul, the “shape of countenance, and features of body” all arise from the particular temperature of their indigenous habitat (22). The “maners of the soule, follow the temperature of the body” and “by reason of the heat, the coldnesse, the moisture, and the drouth, of the territorie where men inhabit, of the meates which they feed on, of the waters which they drinke, and of the aire which they breath: some are blockish, and some wise: some of woorth, and some base: some cruel, and some merciful”(Navarro 22). Burton ascribes the Egyptians’ conceited and merry outlook to “the serenity of their Aire,” free from “boggs, fens, mists, all manner of putrefaction, contagious and filthy noisome smels [sic]” (243). On John Fryer’s travels through the eastern part of the world published in 1698 as A New Account of East-India and Persia in Eight Letters being Nine Years Travels, his ship stops a while on the island of Joanna on the east coast of Africa. The island is the image of

paradise: delightful groves cooled by dainty streams; lime, papaya, and lemon trees; warbling birds; a continual spring “charming the Senses with the real Sweets of any of the most exquisitely feigned Paradises” (19). The inhabitants are “like the Country they live in, innocent; for as the one produces nothing hurtful, so they have always had the Character of being harmless” (19). During his residence in Persia, Fryer commends his hosts for their “Magnificence and Civility of Temper” and their fidelity to their Princes, for “which excellencies they seem to be beholden to the pureness of their Air; for it is Hot and Dry for the most part, whereby their Hearts are more firm and solid, which makes them more constant and resolute, they being of a more refined Head than the other *Easterners*, their Brain being more spirituous and clear” (403). Indeed, the prevailing capacity of climate had altered the character of Persians “who were originally of morose Extract; yet they have put off their Native Ferity [sic], to comply with the over-ruling Influence of the Climate” (402).

Scholars' faith in their ability to divide the world into latitudes and attribute characteristics to each, if anything, was bolstered by a new cartographic technology: the Ptolemaic grid. The unprecedented level of abstraction and application of geometry to social spaces was of less service for supplying practical information to explorers and navigators than for rendering visible the aspirations of adventurers and conquerors and for entertaining the musings of scholars and armchair travellers (Lestringant 13; Edgerton, "Florentine" 280). Indeed, cosmography was tainted with hubris: the point of view is elevated “jusqu'à saisir dans l'instant la convexité du globe terraqué. En ce point imaginaire, l'œil du cosmographe coïncide idéalement avec celui du Créateur” (Lestringant 16). The mental ownership engendered by cosmographical vision “affords a totalizing overview and entertains the fiction of absolute spatial control: the world ... can be taken home to rest on a shelf, or

decorate a wall” (Klein 35). In short, cosmography was a dilettante’s delight: attention to detail was minimal and the sweep of its gaze reductive, thereby supplying the perfect language for ascribing assumed cultural difference to the world’s various climates.

Cosmography was first introduced to England in 1559 with the publication of William Cunningham’s textbook Cosmographical Glasse, which provides a detailed step-by-step explanation of the geometrical calculations involved in constructing a cosmographical map:

First if they described Parallels circles in the Mappe, answeringe to the like circles in the heauens: & by the right or croked Horizon, th’equinoctiall, polary circles, and altitude of the pole, to limite out the Zones, Climates, & Paralleles of Longitude, and Latitude: which being once præpared, you shall place there in the countries, hilles, fluddes, seas, fortresses, Ilandes, cities, desertes & such like (according to the præcepts of th’art) as are placed on the platte forme of the’earthe. (n.p.)

The division of “th’uniunersall face of th’ earth in a generall Mappe” with lines of longitude and latitude was an invitation to conceptualise its “platte forme” as a theatrical stage across which places and topographical features could be distributed and assembled by any half-way educated armchair scholar. Without leaving the comfort of their studies, the readers may “beholde” the complexity of nature. Besides the other salubrious benefits of cosmographical knowledge – including history lessons, biblical exegesis, and locating Eden – Cunningham accentuates its necessity for personal well-being, for health “cannot be conserved in perfite estate, or once lost be recouered and restored without Cosmographie.” For how greatly our understanding of the world increases, Cunningham continues, when we “consider the temperature of Regions, Cities, and Townes, in what Zone, & under what Clymate and Parallele they are situated.” Cosmography not only teaches the “alteration of th’ Aire” but sets out “the natures of waters, the quality & pertition of windes, the maners &

complexions of th' inhabitant," as well as "the lawes and statutes by which they are governed." Indeed by applying Cunningham's geometry lesson and superimposing the Ptolemaic grid over the face of the world, anyone "may describe all th'earth," and know "the natures of people, and the diversitie of nations" (n.p). As Cunningham proudly claims: "I may ... at my pleasure, drawe a Carde for Spaine, Fraunce, Germany, Italye, Græce, or any perticuler region [...]. Oh how precious a Iewell is this, it may rightly be called a Cosmographical Glasse, in which we may beholde the diversitie of countries: natures of people, & innumerable formes of Beastes, Foules, Fishes, Trees, Frutes, Stremes, & Meatalles" (111).

In addition to influential airs and affective climates, the sway "place" held over its inhabitants was intensified by astral influence. Classical authors had imagined a world partitioned into seven horizontal latitudinal bands – the Mediterranean occupying the centre – each characterised by distinct climates and each under the sway of particular constellations (Kupperman, "Puzzle" 1265). As noble bodies, excelling in superior power, stars and heavenly bodies had direct influence over the elements and earthly forms: as the moon controlled tides, celestial spheres ruled the waves of humoral fluids in one's body (Camille 67-8; Siraisi 123). According to one sixteenth-century natural philosopher it was "the miraculous mouinges of the Planetes, Starres, and heavens" which caused "the varietie of times and dyuersities of all naturall thynges, by naturall causes" (qtd. in Chaplin 234). Another philosopher states that "every particular Nation, whether civil or barbarous, has some particular Manners and Customs particularly imprinted by Heavenly Influence, different from others, not to be acquir'd by any Art of Philosophy, but such as are meerly natural to the Inhabitants, without any assistance of Education" (Agrippa von Nettesheim

148). Each nation has some “particular marks of distinction, which are the more immediate marks of Heaven,” that is, planetary influence by means of geographic position, whereby anyone can easily discern a stranger’s nationality, such as pitch of voice, conversation, diet, likes and dislikes (148).

Airs, climates, topography, and astral influence thus formed an integrated discourse capable of explaining all human variation, which early moderns used zealously to categorise and order the relative aptitude and talents of European nations, constructing hierarchies of moral, societal, cultural capacity. Cultural stereotyping can be found in any early modern work that touches upon any form of relations between European countries. The parroting of cultural stereotyping continued through the sixteenth and seventeenth centuries, with each nation’s follies exaggerated into moral exempla justified by their geographic situation. While he finds that the virtues of various Europeans are too many to list, Gerard Mercator (1512-1594) states their vices “are noted in some short sayings.” The people of “*Franconia* are foolish, rude, and vehement. The *Bavarians* are prodigall, gluttons, and railers. [...] The *Low-country-men* are horsemen, delicate, and tender. The *Italians* proud, desirous of revenge, and wittie. The *Spaniards* haughtie, wise, covetous. The *French* eloquent, intemperate, and rash” (2:12). Boemus’s collection of manners and customs aimed to assemble, digest, and exhibit the wide range of human behaviour, laws, fashions, and rituals in order to teach and improve morality and civility by example. From various cautionary proverbs, Boemus culls the knowledge that “Suevia onely is able to yeeld whores inough for all Germany, as well as Franconia affordeth good store of theeves and beggars, Boemia heretics, Bavaria pilferers and Slaves, Helvetia Butchers and Bawdes, Drunkards in Saxonie, perjurers in Frisia and Westphalia, and gluttons about the Rheine” (293).

A translation of De incertitudine et vanitate scientiarum by Heinrich Cornelius Agrippa von Nettesheim (1486?-1535) printed in London in 1684, states in a chapter on Moral Philosophy that “some nations are so planted by Heaven, that they appear eminent for the unity and singularity of their Customs” (147). Agrippa composes a comprehensive catalogue of national stereotypes encompassing all facets of human social and political life: “[t]he *Scythians* were always infamous for Savageness and Cruelty. The *Italians* were always eminent for their magnanimity. The *Gaules* were reproach’d for Stupidity. The *Sicilians* were always Subtile. The *Asiaticks* Luxurious, the *Spaniards* Jealous, and great Boasters.” The carriage of Germans is severe, that of the French effeminate, and of Italians grave. The “tatter’d” habit of Germans is contrasted by the “careless” style of the French while the Italians are “decent in habit” (147). The basic formula could be endlessly extended and moulded to any critique and compare any aspect of human affairs.

In Singing also the *Italians* Bleat, the *Spaniards* Whine, the *Germans* Howl, and the *French* Quaver. In Discourse, the *Italians* are grave, but subtile; the *Spaniards* neat, but great boasters, the *French* quick and ready, but proud; the *Germans* soure, but simple. In council, the *Italian* is provident, the *Spaniard* subtile, the *French* rash, the *German* for profit. Toward Strangers, the *Italians* are Officious, the *Spaniard* pleasant, the *French* are milde, the *Germans* rude and churlish. In their Anger and Malice, the *Italians* are close, the *Spaniards* hard to be appeas’d, the *French* full of threats, the *Germans* imperious. As to their Amours, the *Italians* are jealous, the *Spaniards* impatient, the *French* inconstant, the *Germans* ambitious. In business, the *Italians* are circumspect, the *Germans* laborious, the *Spaniards* watchful, the *French* careful. In War, the *Italians* are stout, but cruel; the *Spaniard* full of Stratagem, the *Germans* fierce and mercenary, the *French* magnanimous, but rash. The *Italians* are famous for Learning, the *Spaniard* or *Portugal* for Navigation, for Affability the *French*, for Religion and Mechanick Arts the *Germans*. (147-148)

Matters of the heart likewise differ “according to the difference of Nations and Climates” (194). The “lascivious *French*-man” loves a “witty, though unhandsome woman”; trusting in his “Obsequiousness” he woos her with songs and merry discourse, but after

“enjoyment, he neglects, and marries another.” The Italian courts “with a dissembled heat, a quaint kind of Wooing, praising her in Verse, and extolling her above all other women.” He prefers a “fearful bashful woman” while the German loves a bold woman: “The cold *German* slowly moves to love; but being once inflam’d, he makes use of art and liberality. If he grows jealous, he shuts his Purse.” In contrast the Spaniard is “rash, impatient of his heat, mad, and restless, and bemoaning the torments of his Flames, with miserable lamentations, worships and adores his Mistress. If he be cross’d in his Love, he grieves and pines away to death; if he grows jealous he kills her; or being satiated leaves her to prostitute her self” (194-5).

The basis of national difference, therefore, “logically” arose from a medical understanding of the body’s contents and the fluid interaction of those contents with environmental conditions. Yet, while the logic explaining humoral and environmental difference was impeccable, it was far from ingenuous. As the early modern squabbling among “slow” Germans and “rash” Spaniards evinces, European nations were caught in an endless struggle to establish their national, and, one might say, humoral superiority by weighing the merits of various degrees of civility. However, while early modern writers might contrive ever more slanderous insults for neighbouring nations, the rationale for their various constructions remained rooted in humoral theory, and, therefore, in the ancient humoral hierarchy despite the obvious alteration of Europe’s cultural map over the intervening centuries. This situation in which national cultures had developed while the philosophies for projecting cultural difference remained stagnant produced all manner of inconsistencies. Nevertheless until humoral medicine itself was discarded, all cultural designations necessarily had to be thought through the filter of ancient geographic prejudice.

An inherent superiority was predetermined by Hippocratic and Galenic medicine. As a balance between the humours produced optimum health, a geographic balance between the known regions of the world produced the ideal body and its characteristic forms of civility. Classical authors imagined themselves as ideally positioned in the *middle* of the world, the golden mean. For ancient authors, northern lands, southern, and eastern regions were all categorised as places of stark contrast to Mediterranean civilisation.

Situated in the centre of the known world, the Hellenic race viewed all others from a superior stance, establishing its members as the golden mean between frigid and torrid climates, perfectly balancing the best features of otherwise injurious northern and southern zones, ideally positioned to bask in the ripest material conditions the world had to offer. All classical writers at one time or another ascribe the distinctive character of their civilisation to their idyllic Mediterranean climate. Hippocrates claimed that his climate was quite simply superior to all others, engendering the healthiest minds and bodies and enabling the clearest thought. Herodotus paints the Ionian cities with luscious vegetation blossoming in the most temperate airs and beautiful climates while other countries are devastated with heats and droughts or subdued by cold and damp (Glacken 89). To Aristotle the geographic golden-mean of Greece captured the best qualities of all global locations. His statement in Politics carries environmental theories beyond medicine into political and social thought, all while insisting on the terrestrial advantage of his native land:

The peoples of cold countries generally, and particularly those of Europe, are full of spirit; and this is why they continue to remain comparatively free, but attain no political development and show no capacity for governing others. The people of Asia are endowed with skill and intelligence, but are deficient in spirit; and this is why they continue to be peoples of subjects and slaves. The Greek stock, intermediate in geographical position, unites the qualities of both sets of people. It possesses both spirit and intelligence: the one quality makes it continue free; the other enables it to

attain the highest political development, and to show a capacity for governing every other people. (296)

Clarence Glacken writes that for Aristotle “the correlation between climate and peoples is direct, without any intermediary physiological explanation: the golden mean applies to both the environment and culture” (93). The climatic, agricultural, and cultural perfection of the Mediterranean littoral to outlying areas formed a synthetic discourse at once ethnographic and moral, geographic and climatic, blending the Herodotean geographic tradition with Hippocratic theories of climatic determinism.

The ideological force of “the golden mean” was powerful throughout the early modern period. As we have seen, the delight of early modern writers’ in their new ability to pinpoint places according to lines of longitude and latitude – whether accurate or not – stabilised and extended cultural stereotyping. Political theorist Jean Bodin dedicated an entire chapter of *Les six livres de la république* (1576) to elucidating the centrality of climate and environmental factors in determining the relative cultural superiority and political stability of European countries, claiming it is necessary for a sage government to know the humours of its people, “car l’un des plus grands, & peut estre le principal fondement des Républiques, est d’accommoder l’estat au naturel des citoyens” (664). After investigating the universals and general estate of commonwealths, Bodin turns to “la diversité des peuples, afin d’accommoder la forme de la chose publique à la nature des lieux, & les ordonnances humaines aux loix naturelles. A quoy plusieurs n’ayant pris garde, & s’efforçans de faire servir la nature à leurs edicts, ont troublé & souvent ruiné de grands estats” (661). Republics that fail to appreciate the necessity of framing laws according to the natural aptitude of their citizens and attempt to govern according to absolute standards cannot but be brought to ruin.

Bodin divides the northern hemisphere into three horizontal bands of thirty degrees and each zone in half again with the upper fifteen degrees absorbing some of the upper zone's characteristics and the lower fifteen degrees absorbing some of the lower. England, though in the middle region, was positioned in the upper ten degrees and necessarily assumes characteristics of northern zones. Bodin attributes qualities and characteristics to the inhabitants of each region following ancient stereotypes of northern, middle, and southern inhabitants. Peoples closest to the equator were exceptionally quick-witted, excelling in philosophy, mathematics, and the contemplative sciences, but wanting courage. In contrast, the inhabitants of the coldest region were courageous and hardy but dull-witted and non-agricultural.

Bodin saw the mind and the body bound in a seesaw relation: the more strength a body had, the less wit, and the less strength, the more astute a mind. The climate of the middle region, to which Bodin's native France belonged, a middle territory between northern brutes and southern Epicureans, where inhabitants "tiennent des deux extremités en humeur," provided the perfect conditions for temperance, political sciences, and a stable commonwealth (672). Bodin gave particular energy to emphasising northerners' savagery. The further one moves north, "the further one is from human culture, that is, from the nature of men, the nearer he approached the likeness of beasts, which since they are so lacking in reason, are unable to restrain their wrath and appetites. So it happens that the northerners are carried by impulse into acts of cruelty" (qtd in Floyd-Wilson, "Temperature" 198).

Ancient prejudice given to "the middle" is maintained. Northern nations besides being brutish and courageous are gullible, "un peuple n'est point fin ny rusé, discourant ses secrets par maniere de pasetemps" (676). They are more chaste than Southerly people

(Africa, West Indies) who are “fort lubrique ... à cause de la mesme melancholie spumeuse & abradente” (672). That cold weather brings out strength and courage while warmer climates are characterised by wit and politics has been proven time and time again by history, Bodin emphatically states, and he bolsters his claim by presenting numerous cases in which northern countries excel on the battlefield but are defeated at the treaty table by the wit and craftiness of their southern enemies. Although the French “perdoient le plus souvent les batailles” against the English, “ils gaignoient tousjours aux traittez qu’ils faisoient.” As the English are outdone by French subtlety, the French are surpassed by their southern neighbours: “nous pouvons dire le semblable des Espanols, qui n’ont fait traité depuis cent ans avec les François, où ils n’ayent eu l’avantage.” Summing up, Bodin avers that “le naturel de l’Espanol, qui, pour estre beaucoup plus meridional, est plus froid, plus melancholic, plus arresté, plus contemplatif, & par counsement plus ingenieux que les François: qui est bilieux & cholere, ce qui le rend plus actif, prompt et diligent” (673-75). According to Bodin, Italians demonstrate an ideal fusion of characteristics, which is explained by Italy’s central position: “aussi est-elle en l’assiette la plus temperee qu’il est possible, entre le Pole & l’Equateur: & au milieu de l’Asie, de l’Afrique, & de l’Europe, biaisant un peu vers l’Orient & le Midy” (675).

Barbarous and Subtle Natures

Medicine, race, the natural environment, and global position, therefore, were intimately related. Moral climatology was more than a trope. Concatenating so many areas of knowledge from geography and cosmography to medicine and natural history, climatic

determinism formed a solid and integral discourse. In the previous chapter, I discussed the rise of an expression of English national allegiance authored and accelerated by a new cartographic genre. The medico-climatic model ascribing character to place rendered this allegiance troublesome. The intimate link between climate and airs, humours and character, was embedded in the very fabric of the human physiology, and as bodies inhabiting cold climates were physiologically adapted to a northern way of life, so too their barbarous character was determined by their environment.

For example, northerners were capable of consuming richer meats in greater quantities. As one Scottish theologian explained, the Jewish doctrine that branded men as gluttons who ate more than a pound of meat at a sitting did not apply “in these cold countries” (qtd. in Thomas 26). The digestion of southerners “is not altogether so vehement,” William Harrison explains in his Description of England (1587), “because their internal heat is not so strong as ours, which is kept in by the coldness of the air that from time to time (especially in winter) doth environ our bodies” (123-4). In Chapter VI “Of the Food and Diet of the English” Harrison explains that “[t]he situation of our region, lying near unto the north, doth cause the heat of our stomachs to be of somewhat greater force; therefore our bodies do crave a little more ample nourishment than the inhabitants of the hotter regions”(123). It was not unusual for the tables of the nobility to be laden with “not only beef, mutton, veal, lamb, kid, pork, cony, capon, pig, or so many of these as the season yieldeth, but also some portion of the red or fallow deer, beside great variety of fish and wild fowl, and thereto sundry other delicates” (126). Harrison does not directly link over-consumption with incivility in England, stating simply “frugality deserveth commendation”

(131). But his anxiety hovers just below the surface and forcefully discharges in his vehement reproach of his more northerly neighbours:

In Scotland likewise they have given themselves ... unto very ample and large diet, wherein, as for some respect Nature doth make them equal with us, so otherwise they far exceed us in overmuch and distemperate gormandize, and so engross their bodies that divers of them do oft become unapt to any other purpose than to spend their times in large tabling and bellycheer. Against this pampering of their carcasses doth Hector Boece in his description of the country very sharply inveigh. [...] Henry Wardlaw also ... noting their vehement alteration from competent frugality into excessive gluttony. (124)

Harrison's Rabelaisian list of meats and savouries weighing down the tables of English noblemen strikes the reader as precariously close to Scottish bellycheer and carcass pampering. If comparisons of the English with Italians and Spaniards sat unfavourably, then castigating regions ever more peripheral from the "ideal" latitudes for possessing ever more barbarous cultural forms verged on the cathartic. For example, Andrew Borde divided Scotland into two parts. While the portion bordering on England exhibits some attributes of its southern neighbour, the northern half, naturally enough, "is a baryn and a waste country, full of mores, and lyke the lande of the wylde Ireshe. And the people of that parte of Scotland be very rude and unmanered & untaught ... but yet the Sowth parte wyll gnaw a bone, and cast it into the dish again" (137). John Speed also distinguishes between Scottish Highlanders and Lowlanders, and determines the "southern people" as being "from the same Original with us *English*, being both alike the *Saxon* branches" (130). However, this gesture towards cultural proximity also reinscribes difference by referring to the English as "us," which presumes a divergent "them."

The subject of Scotland's barbarism became a matter of intense concern during the time of King James's accession in 1603 and his proposed union. To counteract pervasive

fears of an infiltration from the north, James urged Parliament to celebrate the joining of England and Scotland as a reunion of two ancient kingdoms rather than a clash of two cultures by emphasising the kingdom as “one Iland, compassed with one Sea.” Despite this inclusive gesture, even pro-Unionists acknowledged the innate barbarousness of Highlanders. Climate and particularly the sun were key terms for both sides of the debate. The sun was thought to engender and draw out the best qualities in all matter. As the Virginia Company put it, the heat “doth norishe and by bryng fourth gold, spices, stones and perles,” since the sun is “under god the first cause both of health and Riches” (qtd. in Kupperman, “Puzzle” 1267).

Anti-Union documents expressed anxiety that the formation of Great Britain would result in a mass immigration of poor Scots desirous to “draw nearer the Sonn,” bringing with them starved cattle “into a more fertile soil” (qtd. in Floyd-Wilson, “Temperature” 199). In his anti-Union tract of 1604, Of the Union, Sir Henry Spelman, the record-keeper of the Society of Antiquarians, feared that with a union with Scotland, “we shall change the goulden beames of the sonne for a cloudy day, and drownde the glory of a nation triumphant through all the worlde to restore the memory of an obscure and barberouse people” (qtd. in Ivic 141-2). In other words, as Mary Floyd-Wilson observes, the union “threatens to join England with a country whose environment produces the very qualities in its inhabitants which the English strive to amend or deny in themselves” (“Temperature” 199). The other side of the debate also manipulated the metaphor of the sun. In her analysis of Ben Jonson’s The Masque of Blackness (1604) Floyd-Wilson points to Jonson’s glorification of James’ “sciential light” as a civilising “salve.” Floyd-Wilson observes that by “[m]aking a direct analogy between the King’s civilizing presence and the purifying effects heat has on bodily

humors, Jonson describes James as a 'temperate' sun that has the ability to *refine* 'All things on which his radiance shine'" ("Temperature" 199-200).

Similarly, criticism of the Irish as a people in need of political reform and social improvement during the Tudor and Stuart periods can be read in part as anxious projection of England's own northern identity. In his reading of Spenser's A View of the State of Ireland (1596; 1633), Willy Maley argues persuasively that the standard criticism of the View that concentrates on a simplistic division between English and Irish cultures cannot begin to do justice to Spenser's deft interweaving of different elements of Irish, Scottish, and English cultural and national identity. Maley makes a compelling argument that Spenser's Irish genealogy is interlaced with conflicting perspectives on British origin myths. Reading Spenser's tract on Ireland as an expression of "unadulterated anti-Irish racism ... is fundamentally flawed, exactly because Spenser's overriding concern is not with the margins, but with the mainstream, that is, he is preoccupied with using the complexities of the Irish colonial milieu as a means of refiguring metropolitan identities" (75).

The barbarian terminology wielded by English reformers "does not conflate the Irish with New World or other non-white people, but designates them as northern European" (Shuger 495). Tacitus's characterisation of all northerners is simply shunted onto the Irish: Ireland provides a "synecdochical glimpse into the cultural origins shared by all northern European nations, including, of course, England" (503). No matter how disparaging John Speed's remarks are concerning the incivility of his English ancestors, his worst comments are reserved for the Irish: "*Anthropophagi of Ireland*, who used to feed on the buttocks of *boyes*, and womens paps, as their most dainty and delicate dish" (Speed 167). Yet, if English constructed the Irish as "atavists of the northern European barbarian" (Shuger 501), the

formulation was haunted by England's fears that their own barbarism had only recently, if at all, been stamped out.³

With the loss of the noble Trojan ancestry in contemporary chorographies, the English were consigned to the same barbarian status they vigorously ascribed to those "races" in need of England's civilising influence. This loss was potentially troublesome, yet English writers reworked the common ancestry of England, Scotland, and Ireland to benefit England's colonial desire. First, the most crucial determinant for a stable government was its aptitude of institutional properties for its population. As Bodin states above, a government that ignores the character of its people more often than not suffers great ruin. This idea of aptitude lies at the heart of Tudor-Stuart nation imaginings. As Claire McEachern argues, "what matters for the presence of an English nation is not that its political form is or isn't a monarchy (or democracy, or oligarchy), but that monarchy is imagined to be the most appropriate form of English government. Imagined, in other words, as the most expressive of the character of its people" (11). If the Scots and the Irish could be shown to be descended from the same race of people as the English, the success of the united Britain seemed more certain.⁴ England claimed that Scotland and Ireland could be civilised just as the Celts had been civilised by Roman rule. Although the argument is based on a racial similarity between coloniser and colonised, nonetheless it deploys the rhetoric of denial of coevalness: travelling north and west was equated with travelling back in time.⁵

Characterising England's northern peripheries as barbarous was also a manoeuvre to claim some share of the "middle" for England. Yet, if England attempted to refashion itself by projecting its uncivil history onto ever more northern peoples, most European nations continued to label England with traditional northern characteristics. English writers spend a

good deal of energy and paper protesting southern nations' unfair condemnation of the rude, unrefined, and untutored English. In Passions of the Minde (1604), Thomas Wright questions why "Italians and Spaniards, with other inhabitants beyond the Alps, should account Flemings, Englishmen, Scots, and other Nations dwelling on this side, simple, uncircumspect, unwary, easy to be deceived and circumvented by them" (81). Wright counters that his experience with students and instructors in Spanish, Italian, and French schools had shown that "Flemings, Scots, and Englishmen were ever equal and rather deeper Scholars than either Italians or Spaniards." He further adds that "we may add the proof of former ages wherein all the world will confess that our Nation hath yielded as profound and learned Schoolmen as any Nation under the sun, in like quantity and proportion." He lists such celebrated authors as the Venerable Bede (c. 672 – 735), William of Ockham (1265-1349), and Roger Bacon (1214-1292), who, although "born in a corner of the world, comprehended the whole world" (81). As for the arts and trades, "all travellers can well affirm" how England was "far superior to the Spaniards and nothing inferior unto the Italians" (81). And yet, Wright laments, "for all this our Nation is accounted simple and unwise among divers others" and other nations do not refrain from calling "our Nation uncivil and barbarous" (81, 82). Wright presents three explanations why inhabitants of "Northern Climates are accounted simple and unwise."

The first is the natural inclination of inhabitants of colder climates towards virtue and honesty, which is confirmed by "common experience" (82). Rather than consider it the first step towards prudence, Italian and Spaniards censure this honesty as "foolishly unwary," accounting it a "passion of ignorance," and as "a vice bending to stupidity and lack of knowledge." The second cause is lack of erudition gained through conversation and

commerce. While Italians and Spaniards spend their time in cosmopolitan cities in continual conversation becoming “very politic and crafty” and “bold and audacious” from an early age, most Englishmen spend their youths in the country and never have opportunity to practice witty and refined conversation (83-84). The last justification for the prejudice against northern intellects is the “natural complexion and constitution of the body, the which in very deed inclineth and bendeth them of hotter Countries more unto craftiness and wariness than colder Climates.” Again Wright appeals to common experience and compares the various degrees of subtlety exhibited by the Romans and Lombards, the Neapolitans and Sicilians, the Biscayans, Castilians, and Andalusians: “[w]herefore as we prove in beasts that some by their natural instinct are more wily than others, as Foxes, Monkeys, and Apes, so we find in men that some surpass others in aptness to deceive and in craftiness to circumvent” (85). In sum, “for the most part those Nations surpass ours in a certain politic craftiness, the which Nature first bred in them, Education perfected, Virtue amendeth, and Art discovereth” (85). By equating cleverness with craftiness, Wright advances simplicity as a virtue rather than the bovine vacancy that southern nations ascribe to the English. But his attack is rather hollow especially since he advocates educational reform based on southern models.

Refinement or “subtlety” of character originated with a humoral “subtlety.” The wit and genius associated with the inhabitants of southern climates was thought to arise from the refining and purifying heat of the sun. Without this heat the humours of northern inhabitants remained thick, moist, and sluggish, which was thought to clog the cultivation of rarefied sensibilities.⁶ Harrison notes that “foreign historiographers” allege the English “want wit because our brains are not warmed by the tarriance of the sun” and take them to be “men of great strength and little policy, much courage and small shift, because of the weakness abode

of the sun with us, whereby our brains are not made hot and warmed" (446). Although he admits that "in pregnancy of wit, nimbleness of limbs, and politic inventions" the inhabitants of southern regions "generally exceed us," Harrison is of the same mind as Wright and paints subtlety as craftiness and dissimulation: "these gifts of theirs do often degenerate into mere subtlety, instability, unfaithfulness, and cruelty" (446).

Here then is the other balancing extreme centring England. The Scottish and Irish are the northern barbarians and all southern nations are characterised with the qualities classically ascribed to Africans and Asians.⁷ The ancient formulaic humoral designations are unchanged: northerners are dull and violent, southerners wily and capricious. The "middle" latitudes are merely pulled north. As the self-appointed centre, England could aspire to all the superior attributes – human, natural, and climatic – of the ancient centre. Although it had an appeal, this stratagem remained fixed in humoral theory and the classical tripartite division of the world, and so, would never eradicate the connection between northern countries and barbarians. The concept of the "middle" had to be done away with, and for that to occur Galenic humoralism, which itself was based on the concept of balance and centre, would have to be seriously questioned.

Southern Subtlety and Paracelsian Pathogens

Harrison's and Wright's attempts to reinvent the English character by denigrating southern "subtlety" as "craftiness" became a common manoeuvre in the national and religious self-image from the late sixteenth century onwards. In post-Armada rhetoric, Spain was consistently constructed as England's moral and religious antithesis. Despite England's

continued veneration for Italian cultural exports – humanism, Petrarchism, literary sophistication – Italy was also depicted as the seat of Popery, sodomy, murder, devious subtlety, deceit, licentiousness, and revenge. The English appropriation of Italian fripperies and fopperies such as clothes, cosmetics, books, and, as will be discussed in the next chapter, drugs was an endless point of criticism by both English and Continental writers. While French and Italian writers used England’s importation as evidence that the English were indeed unpolished, English writers associated England’s feckless consumption of Italian style as an insidious invasion of Italianate excess and moral depravity. The fear of Italian social transgression, persistent threat of Catholic invasion, and Protestant suspicions of conspiracies in the last decades of the sixteenth century assured that

the most malign bogeyman inhabiting the wellsprings of early modern English popular fantasy was Papist political plotter. Not only are plays and pamphlets of the period brimful with poisoning cardinals, Machiavellian Catholic princes, and Italian intriguers; accounts chronicling the various “Romish” plots against the lives of English monarchs and subjects also became something of a fashionable sub-genre in the first decades of the seventeenth century (Harris, *Foreign Bodies* 48)

England’s xenophobia cast southern “subtlety” as an antagonistic intruder entering the English nation from abroad. Roger Ascham’s description of the “Englishman Italianated” presents the social dangers of Italy as a mobile contaminant, which invades English travellers while abroad and returns to England with them:

He, that by living, and traveling in *Italie*, bringeth home into England out of *Italie*, the Religion, the learning, the policie, the experience, the maners of *Italie*. That is to say, for Religion, Papistrie or worse: for learning, lesse commonly than they caried out with them: for pollicie, a factious hart, a discoursing head, a mynde to medle in all mens matters: for experience, plentie of new mischieves never knowne in England before: for maners, varietie of vanities, and change of filthy lyving. These be the enchantementes of *Circes*, brought out of *Italie*, to marre mens maners in England.
(78)

Even the translation of certain Italian books into English, Ascham feared, might be the work of "sutle and secrete Papistes at home." Such books open "such subtle, cunning, new, and diverse shiftes, to cary yong willes to vanities, and yong wittes to mischief" (80).

Within Galenic physiology, mental states and their behaviours were results of internal conditions: a balance between variously refined humours. Illness was endogenous and complexional arising from a disruption of internal harmony. This physiological model was in accordance with Neoplatonic ideals of proportion, harmony, and balance in the political body. However, fears of invasive social and religious "pathogens" placed a new emphasis on the body politic's boundaries as sites of potential infiltration and contamination. And this emphasis, Jonathan Harris claims in Foreign Bodies and the Body Politic, was inspired in part by a new model of disease proposed by the Swiss physician Philippus Theophrastus Bombastus von Hohenheim (1493/94-1541), better known as Paracelsus. Where Galen attributed illness to a state of imbalance, Paracelsus believed that diseases were exogenous and ontological entities entering the body from the environment.⁸

Paracelsus forcefully distinguished himself from the ancients, whose writings were corrupting contaminants as dire as any material pathogen.⁹ The knowledge of Aristotle and Galen was non-Christian, unsound, and of no use in northern nations. The ancients had been ignorant of the true workings of nature, and their adoring followers perpetuated classical ignorance since they cared little for direct observation of nature. Rejecting the "paganism" of ancient learning, Paracelsus invalidated all knowledge that did not originate either from the book of divine revelation – the Holy Scriptures – or from the book of Creation – nature. His theories of philosophical, social, and medical reform issued from his desire to provide a

Christian basis for a new understanding of nature, disease, and healing. In short, he desired to retrieve the complete and divine knowledge granted to Adam.

Paracelsus assumed an intimate relation between the macrocosm of the universe and the microcosm of each individual's body. The same forces operated in each, penetrating each thing in nature. The interrelation between the two worlds was by way of astral emanations. The essence of this relationship was revealed in the natural world through a mystical notion of "the light of nature," the inner radiation of all being given off and received by inquirers as a form of self-revelation. According to Paracelsus, God breathes spirit into all created things, but indirectly. Only in humans does the natural light or spirit exist in a pure form, the immortal soul (Selected Writings I). Through these emanations God had impressed earthly things with "signatures," by means of which observers might discover objects' uses: "[i]t is God's will that nothing remain unknown to man as he walks in the light of nature; for all things belonging to nature exist for the sake of man" (109). The brain-like form of a walnut is an example of such a signature; its shape indicates what was believed to be the efficacy of walnuts in reducing brain inflammation. Although speculation about analogies and correspondences between humans and the world had been in circulation since the time of Plato and were also common in folk medicine, Paracelsus was the first to apply such speculation to the systematic knowledge of nature.

Paracelsus urged the reform of medical science in particular: the secrets of nature and the causes of diseases were not to be found in the rules and texts of ancients. Medicine was a divine calling; healing could never be achieved through reasoning (especially not in the writings of non-Christians) but known through an intimate and empirical understanding of nature. Book knowledge never made a physician; to understand the parts and functions

nature, the physician “must tread her books with his feet” (Selected Writings 59). “My proofs derive from experience and my own reasoning,” Paracelsus boldly stated, “and not from reference to authorities” (Selected Writings liii). He criticised medical faculties with a vengeance, and supported the cause of surgeons, to whose ranks he belonged, against physicians’ persistent attempts to check their medical practice. And in particular, he criticised Galenic humoral medicine.

Although Paracelsus’ devotees came from all European nations, Paracelsus’ strong emphasis on medical, social, and political reform found a receptive audience in England. The writings of Paracelsus were virtually unknown in England in 1560, but by the early seventeenth century his ideas had been largely assimilated and continued to exercise a deep influence on certain groups of medical practitioners and reformers throughout the next century (Webster, “Alchemical” 323). Paracelsianism likewise appealed to English reformers seeking a medical and philosophical language in harmony with the Reformation and broader social reforms (“Alchemical” 316).

Paracelsus dismissed Galenism as a theory of no use in northern geographies, and as such, he asserted a bold new cultural spirit for northern nations. Certainly not all reformers of English medicine were Paracelsians. But Paracelsus’ fusion of medical reform, pharmaceutical self-sufficiency, and territorial allegiance resonated strongly among English naturalists. By replacing Galenic medicine with new theories of health and disease, Paracelsian medicine complicated the traditional humoral basis for the intimacy between geography and character. In the following chapter I attempt to explain the shape and purpose of these complications.

Chapter Four.
English Herbs for English Bodies:
Popular Herbals and Paracelsian Medicine

All that have written of Herbs either in the English or not in the English Tongue, have no ways answered my intents in this Book, for they have intermixed many, nay very many outlandish Herbs, and very many which are hard, nay not at all to be gotten, and what harm this may do I am very sensible of. Once a Student in Physics in *Sussex* sent up to *London* to me to buy for him such and such Medicines, & send them down, which when I viewed, they were Medicines quoted by Authours living in another Nation, and not to be had in *London* for love nor Money, so the poor man had spent much pains and brains in studying Medicines for a Disease that were not to be had.

Nicolas Culpeper *The English Physician* (1652)

In opposition to the encyclopaedic urge of many academic herbals – to set forth all known herbs from across the globe – *The English Physician* accommodates only “the Vulgar Herbs of this Nation.” The titlepage announces Culpeper’s aspiration to ameliorate the nation’s health by enriching knowledge of local, cheap, and accessible pharmaceuticals. His herbal contains “a Compleat Method of Physick, whereby a Man may preserve his Body in Health, or Cure himself; being sick, for Three Pence Charge, with such things only as grow in *England*, they being most fit for *English Bodies*.” Though herbalists exalt, physicians prescribe, and merchants import specimens, Culpeper contends that English herbs are “not a whit inferior in Vertues” to those foreign herbs not to be had in England without great difficulty or great expense (111).

Paracelsus' distaste for the contaminating "subtlety" of Italians applied equally to Galenic medical theories as contemporary exports. Paracelsus' theory of localism – local herbs for curing local diseases – began to influence English medicine from the late sixteenth century onwards. Following Paracelsus, medical reformers emphasised the superiority of local herbs; they were cheaper and safer than the concoctions prescribed by physicians or the exotic imports sold in apothecary shops. Imports were castigated as the newfangled wares of charlatans, who were more interested in their purse than their patients' well being. Further, the Paracelsian concept of disease as an invasive contagion was applied to all imported herbs. As Culpeper advocates, English herbs were the proper remedies for English bodies. Disputes about foreign and local medicines were thus caught in a fight between two competing medical systems.

In contrast to Turner's academic impulse to match English plants to Mediterranean varieties, popular herbalists writing in English for a specifically English audience not only ignored foreign plants but argued all imports were dangerous, foreign invaders weakening the integrity of English bodies. By stressing the particular nature of English plants, popular manuals accentuated the particularity of the English body and England's geography, thereby mapped out England as a distinct biogeographic region. Herbalists argued that herbs not only provided material evidence of England's unique geography, but marked out England as a theological realm. Further, herbalists argued that importing spices and drugs was antagonistic to the economic and moral health of the nation as a whole. There is both a sense of national cohesion and of xenophobia underlying the assertion.

The College of Physicians and Medical Reformers

In 1518 Thomas Linacre and five physicians successfully petitioned King Henry VIII on behalf of the physicians of London to be incorporated as a college. The College of Physicians was established that same year on the Italian model of humanist education, which consisted of long years spent acquiring a comprehensive knowledge of logic, grammar, rhetoric, and mathematics, moral, natural, and metaphysical philosophy as well as anatomy and remedial medicine. Membership to the College was restricted to medical graduates from Oxford and Cambridge, although graduates of foreign universities could apply for membership but were charged triple fees to discourage them (Webster, Instauration 251). The other two licensed branches of health practitioners were The Barber-Surgeons' Company, established in 1540, and The Worshipful Society of Apothecaries, who gained independence from the City Company of Grocers in 1617.

Physicians represented a small percentage of medical practitioners in early modern England. While the population of London doubled between 1600 and 1650 from 200,000 to about 400,000, the College's numbers remained between thirty and forty Fellows until after 1660, providing one physician for every 10,000 Londoners (Webster, Instauration 251). In rural communities, professional medical assistance was frequently not available at all. Only four licensed physicians were at hand for the entire county of Lancashire, for example, and Cheshire county was probably left without a physician after 1638 (Nagy 20). As such, more often than not patients sought out the help of a large and diverse assortment of health practitioners including local gentlewomen, wise women, clergy and family members, bonesetters, and empirics.¹ In Norwich, which had a population of 17,000 in 1585, Margaret Pelling and Charles Webster determine a total of seventy-three persons who were practising

some form of medicine between 1570 and 1590: 37 surgeons or barber-surgeons, 12 apothecaries, 10 women practitioners, 6 practitioners of physics, 5 university-educated physicians and 3 healers of unknown status (Health, Medicine, and Mortality in the Sixteenth Century 225-6). Physicians, then, could not possibly be available to all the sick and needy, yet most physicians continued to argue that far from benefiting national health, distributing medical knowledge widely would endanger the populace.

From the moment of its foundation, the College acted as the dominant authoritative medical force in London. The College was continually seeking control over all other practitioners, unlicensed healers as well as apothecaries and surgeons, all of whom frequently and unlawfully administered internal medicines. Apothecaries and surgeons were trained as apprentices, which in the eyes of physicians did not endow their members with the same rational knowledge or social status as the College's university-based education, a prejudice which served to justify physicians' attempts to regulate surgery and pharmacy (Wear, Knowledge 217). In fact the College had been founded "with a view to the improvement and more orderly exercise of the art of physic, and the repression of irregular, unlearned, and incompetent practitioners" (qtd. in Urdang 4). Physicians had licence to examine, correct, and govern their own members within London and a seven-mile radius and "to survey and examine the stock of apothecaries, druggists, distillers and sellers of waters and oils, and preparers of chemical remedies" (Urdang 6). Yet physicians' attempts met with little success: "Within the City of London unlicensed practitioners flourished, and in the countryside they were dominant" (Pelling and Webster 165).

In 1566, John Securis, a rather determined defender of physicians' privileges, laid down the law in his A Detection of the Daily Enormities Committed in Physick. No surgeons

should “let bloud or undertake any hard cure, without the physitions counsell;” no apothecary “should minister of his own heade, or ordeyne any purgation or other composition of Physicke” without the physician’s advice; no “ignorant lewde or ill suspected person, be he man or woman” should sell or minister any internal medicines (Securis B5-6). In their continued attempt to control and regulate apothecaries and other drug traders, for example, the College of Physicians issued the Pharmacopoeia Londinensis in 1618 in Latin, a tactic that rendered it inaccessible to the vast majority of the population as well as most health practitioners.² Unfortunately for the College, Nicolas Culpeper translated the Pharmacopoeia in 1647, thereby frustrating physicians’ efforts to enshroud their knowledge in secrecy and earning himself their vociferous antipathy.

Physicians defended their use of Latin by claiming that the art of healing could not be understood without proper learning in philosophy. Physicians practised “physic,” etymologically derived from the Greek noun *physis*, meaning “nature.” As the name suggests, *physic* was a component of natural philosophy: only by extensive study in philosophical principles rooted in ancient literature could physicians understand the workings of nature, and only by proper reasoning could the regulation of life according to nature be achieved (see Cook, “Good Advice” and “New Philosophy”). Physicians claimed that vernacular texts simplified and distorted medicine, or worse, allowed Securis’ dreaded “ignorant lewde or ill suspected person” to practice more easily. Securis averred that English translations contained not a tenth part of the “perfecte knowledge” that is required for physicians: “englishe bookes teacheth nothings of the trewe foundation of Phisike. For if there be any that doo it, howe can it be well understood without logike and natural

philosophie. For Aristotle saith *Ubi desinit Physicus, ibi incipit medicus*. A man must first peruse naturall Philosophie, before he entre into phisycke” (B1-2).

Despite elitist arguments against translating medical works, a rising number of vernacular medical texts flooded from English presses. Sir Thomas Elyot’s The Castel of Helthe (1539), one of the earliest popular medical instruction manuals, proclaimed a national imperative to give public access to medical knowledge. And if “phisitions be angry, that I have wryten phisike in englyshe, let theym remembre, that the grekes wrote in greke, the Romanes in latyne, Avicena ... in Arabike, whiche were their owne propre and maternal tonges” (A2). Likewise, William Turner, as mentioned previously, was a staunch advocate of vernacular medical texts. Turner asks “How many surgeons and apothecaries are there in England, which can understand Pliny in Latin, or Galen and Dioscorides, where as they write either in Greek or translated into Latin, or the names, descriptions and natures of herbs?” Since physicians “commit not that knowledge of herbs unto the apothecaries,” how many patients’ lives are jeopardised “when as by having an herbal in English all these evils might be avoided.” The same argument is extended to surgeons: it is “better that they should kill men for lack of knowledge of herbs or that an herbal should be set out for them in English” (A New Herball 2:215-6).

While Turner wrote in English, as mentioned previously, he was not addressing an English audience and his subject was not first and foremost English nature. In contrast, popular English herbalists in the sixteenth and seventeenth century were using English conscious of its national force. Not only were they writing for a non-specialised and specifically English audience but, as will be described, their subject matter was almost xenophobically limited to English nature.

A strong impetus among certain herbalists and medical practitioners to break down knowledge barriers between academically trained physicians, those who could afford medicinal advice and apothecaries' drugs, and those who were by necessity self-reliant is evinced by the growing number of English popular herbals. Between 1640 and 1660 alone, 207 medical works were published in the vernacular (of these 182 published between 1650 and 1659) while only 31 works were published in Latin (Webster 267). Despite the flood of English texts, the battle for vernacular medicine was not an easy victory. In the preface to his herbal The Compleat Herbal of Physical Plants (1694), John Peachey repeated Elyot's and Turner's apology of a century and a half earlier for publicly disclosing vital knowledge. Mindful that "many Practitioners do not understand Foreign Languages, and so, by Consequence, cannot partake of those improvements that are made abroad, or conceal'd at home, in a Language to them unknown," Peachey trusts that "no sober Man will blame me, or any other, for Writing or Rendring into English such things as may be more generally conducive to the Health of our Country." Yet sober men are "now-a-days the weakest ... and so can yield no Protection." And Peachey laments that he who "dares advance any thing for publick Good, must expect publick Hatred" (n.p.).

Reformers linked physicians' preservation of Galenic medical authoritarianism with social irresponsibility: as a degenerate organisation, the College sustained an intellectually debilitating body of medical doctrine (Webster, Instauration 263). Its curriculum remained one of the most conservative in all of Europe. Despite the clinical advances, physiological discoveries, and new chemical philosophies distinguishing early modern medicine, London physicians were students of a literary study of medicine, and remained committed to Galen and Hippocrates, safeguarding ancient medicine and themselves (Axtell 146).

Physicians were condemned by medical reformers as uncharitable and accused of driving patients into the arms of unscrupulous quacks by withholding even the most basic medical knowledge. John Archer considered rigorous knowledge of anatomy, diseases, and medicines unnecessary for the general populace yet “that Man is to be pittied that eats for hunger and knows not the Nature of what he Eats, which negligence in so necessary a knowledge hath occasioned much Sickness to many, and Death not to few” (3). For the prevention of such dangers, Archer’s appropriately titled Every Man his Own Doctor (1671) presented its readers with “brief Rules how to know your own Constitution and Complection, and also the Nature and Faculty of all the Meats, Drink, or sorts of Food, now used in this Kingdom. To the end that every Man may be his own Doctor, so far as to know as well by reason as experience, that this doth agree with my Constitution, and why that doth not” (3-4).

Popular herbals were written for all sectors of society. Approved Medicines of Little Cost, suggested various simple remedies and basic medicines for the travelling soldier to carry in his knap-sack. Gideon Harvey’s The Family-Physicians and the House-Apothecary (1678) addressed families of middling income. His manual contained instructions to prepare at a fraction of the price certain choice medicines prescribed and sold by physicians and apothecaries so “that you can have your Medicines ready, without attending the Apothecaries leasure” (Family-Physicians A4). For example a plague water mainly composed of roots and herbs cost three shillings a pint in stores although, by following Harvey’s directions for home preparation, a pint could be had for as little as 7 pence. William Salmon addresses his The Family-Dictionary; or Household Companion (1696) to “Ladies, Gentlewomen, and Persons of Quality, to the Great, the Rich, the Noble” able to afford “Choice” and “Rare” medicine. Although his herbal was not written for the poor, Salmon hopes that they might indirectly

reap benefits. The cheap, common, easily prepared, safe and effectual cures prescribed in his herbal might encourage and educate the privileged to do good by “helping and assisting to their Neighbours and Friends, and hold out a Hand of Relief and Comfort to the Poor, the Wretched and Miserable” (n.p.).

A large percentage of popular herbals were written for the poor unable to afford expensive medical attention. The problems of poor relief and medical reform, then, were interconnected. Titles such as Richard Hawes’ The Poore-Mans Plaster-Box (1634), Robert Pemel’s Help for the Poor (1650), Lancelot Coelson’s The Poormans Physician and Chyrurgian (1656), and Thomas Cocke’s Kitchen Physick: Or, Advice to the Poor (1676) indicate their authors’ mandate to provide cheap and reliable cures for segments of the population generally overlooked by London physicians. Pemel, a physician in Kent, published his Help for the Poor as a collection of necessary herbs “for the benefit of such as are not able to make use of Physitians and Chirurgions, or live remote from them” (1653). The dedicatory poem written by J. E. begins with a rich man lying sick to whom the doctor rushes to ply him with expensive medicines.

But let the poor, sick or diseased lie,
Let him send for them, let him call and cry;
They are as deaf as *Baal* to his Priests;
He hath no gold to grease them in their fists.

The authors continues by praising Pemel as “a pitiful Samaritan,” who, with “more of love and Christian charity,” eases the plight of the poor and needy and

Doth him provide of easie medicines,
Which nor are costly, nor are hard to finde;
So his own Doctor in need he may be,
Without the care of any Doctors fee. (Pemel A3-4)

In want of physicians, or money enough to pay enough fees or apothecary bills, “in these hard times, wherein the poor have scarce bread to eat,” the sick had recourse to local herbs, neither costly nor hard to find (Pemel A2). God had endowed herbs, flowers, minerals, and trees with various virtues, intending them for “poor peoples-good; / As well as of rich Lords, and Ladies, Gent” (A3). Likewise Hawes addresses his treatise to the needy, “for the poore and plaine man, not the rich and learned,” and Alexander Read’s Most Excellent and Approved Medicines (1651) offered advice “at a very cheap and easie rate: So that even the meane and poorer sort of people who for want of ability cannot go to the Physicians in time of Sickness and visitation” might treat themselves.

Natural history developed a central role in medical reform. Reformers viewed physicians as shackled by their Latin texts, unable or unwilling to embrace new empirical methods of inquiry: their learned conjectures and philosophies were useless without a solid knowledge of individual plants and their pharmaceutical properties. And indeed, physicians played a diminutive role in the investigation of English flora or of the uses of local herbs and pharmaceuticals (Webster, Instauration 269). With their emphasis on philosophy and classical languages, universities rarely arranged or required any clinical experience for students (Cook, “New Philosophy” 406). In fact, institutionalised natural history was slow to develop in England: no museums or botanical gardens were established and no universities taught any aspect of natural history until well into the seventeenth century (Findlen, “Bacon” 242).

Culpeper disparaged certain eminent medical writers who “gave not a bit of reason why such an herb was appropriate for such a part of the body, nor why it cured such a Disease.” Without giving adequate experience, such writers trained novices in “the School

of Tradition” and taught them “just as a Parrot is taught to speak, an Authour saith so, therefore ‘tis true” (English Physician A5-6). If physicians were unfamiliar with plants, how could their prescriptions be trusted? The emphasis on ocular demonstration and direct experience of living botanicals was fundamental for health and healing.³ And from Burton: it is “as great a shame for a Physician not to observe [plants] as for a workman not to know his axe, saw, squire [square], or any other toole which he must of necessity use” (340). While natural historians embraced the comparison between themselves and workmen, Burton’s comment would have been doubly insulting for physicians, who viewed themselves as philosophers far elevated from manual labour. By failing to retain an active and practical interest in the basic materials of their trade, physicians were characterised as possessing less reliable knowledge than herb women, whose intuitive and well-tested expertise earned them a grudging respect. Agrippa claims that the most learned Doctors are often outdone

by silly Country old Women, one of which has done more good with one single Herb of Plant, than the most famous Doctors, with all their elaborate Receipts: for they endeavouring the cure of diseases by a compounded mixture of several Drugs, go more by Conjecture, than by any true knowledge of the cause of reason of the distemper; rendering the whole Art of Physicks meerly a thing of Chance and Guess: whilst the poor woman, knowing the vertue and effect of her simple Remedy, more easily by a natural force of a try’d Receipt shall overcome and cure a distemper. On the other side, the Physicians, by the help of Drugs and Precious Gums brought from *India* at great charge and expences, promise great Cure; the poor Woman, by cheap and easie Remedies that grow in her own garden, doth not only promise but restore Health. [...] And therefore a Country-woman shall cure more safely with a Garden-receipt, than a proud Physician with all his prodigious costly and conjectural Medicaments. (295-6)

Agrippa neatly lays out the main arguments against physicians and their medications.

Although simples had always composed a significant portion of the pharmacopoeia, reformers emphasised their efficacy and purity over compounds⁴ and exports, which were

labelled by popular herbalists as elitist remedies advocated by greedy physicians and affordable only by the wealthiest of patients. The following section outlines the practical and economic issues of the debate.

**“a prospect of the rich Garden of Nature”
The Pragmatics of Local Herbs**

First, simple herbs were more efficacious than compounds. Having little or no interest in discovering the virtues of herbs, physicians who prescribed compounds only increased the potential danger of their medicine: the greater number of medical ingredients, Harrison warned, “the greater confusion is found therein because the qualities and operations of very few of the particulars are thoroughly known” (266). A physician writing under the initials T.K. castigated his colleagues’ translation of pure and simple remedies into compound medicines, or what the author labels “Galenic Compositions,” “Artificial Experiments,” and “Universal Medicines.” Careful not to transgress too far, T.K. makes it clear that physicians’ literate medical knowledge was superior in complicated cases and with virulent disease. However, compounds frequently proved too powerful and “by their sublime and too high strained applications, leave the Patient in a desperate condition.” For common and ordinary distempers, patients were better served by “the diligent Nurse, or Housewife [and] her plain and common Experience in Herbs and Plants.” T.K.’s The Kitchen-Physician: Or Guide for Good-Housewives (1680) set forth “a prospect of the rich Garden of Nature; adorned with nothing but its own simple qualities” in the hopes of making his countrymen and women “their own Physitians in cases not dubious” (A2).

Galenic procedures were also thought by many to be excessively invasive. Rather than restoring health, violent purges, bleeding, scalding hot cupping-glasses, scarification, and cauteries were more dangerous than the diseases they sought to remedy. Gideon Harvey voiced the popular opinion that far from helping individuals, most physicians in fact did more harm: “three fourths of the World spin the thread of their Lives to a greater length, without the help of these imposing Physicians, meerly by observation of Remedies their Country affords, and applying them according to their natural sense” (98). Burton held the same opinion: “those countries which use it [physics] least live longest, and are in best health” (335). According to a common Dutch proverb, “a new Physician must have a new Churchyard,” and, Burton asks, “who daily observes it not?” (336)

Furthermore, most medicines were exorbitantly priced and could rarely be afforded by the sick poor for whom the basic necessities of life were scarce. Doreen Nagy estimates that London physicians charged 6 to 10 shillings for a visit, a fee too large for all but a few (21). Most treatments stretched over several days, even weeks or months, and as the duration of the cure lengthened, the expense rose proportionally. Nagy records the payment of eleven shillings for a ten-day treatment of hysteria and £1.6.10 for six treatments of a patient with diarrhoea; Sir John Gell paid £13.9.0 to a surgeon for curing a neck wound; Sir Robert Cecil, Earl of Salisbury, paid an apothecary over £60 over the course of a year (22-23). At a time when the average daily wages for a labourer was 12 pence (Nagy 22), Gideon Harvey lists London druggists' rates of two shillings a pound for clove bark, six for nutmeg, seven for cloves, eight for cinnamon, and twelve shillings for rhubarb. Apothecaries' preparations were priced even higher. A “Garcons Powder” containing pearls, crab eyes and claws, harts horn and amber averaged forty shillings an ounce (Family-Physicians 115-35). Many

physicians and apothecaries had business links, and, therefore both benefited financially when an expensive remedy was prescribed when cheaper substitutes were to be had (Wear, Knowledge 47).

Medical reformers slandered physicians by dissolving any distinction between university trained physicians and charlatans: both were driven more by economic gain than patient welfare, and both their healing methods were but inflated rhetoric not founded by empirical evidence. Physicians, apothecaries, and quacks alike were criticised as profiting on patients' willingness to pay dearly even for uncertain cures. It is a revealing indication of the corruption among physicians that many physicians advocated better control of their members. Dr. Mee's The Character of a Compleat Physician, or Naturalist denounces physicians who sully the profession by flaunting themselves in public as enlightened peacocks for personal gain. His caricature of physicians implicitly ridiculed patrons as well who were foolish and/or wealthy enough to fall victim to the common vogue of choosing "a modish Habit, a neat and well-furnished House, a Coach and Horse, a Velvet Coat, and a fine Periwig, a curiously-headed Cane, a smooth and starched Behaviour, flattering Language ... and frequent visits" over skill and solid knowledge (7). A physician himself, Gideon Harvey had an interest in maintaining the traditional medical hierarchy, but not without substantial reforms. In 1683 he published The Conclave of Physicians, Detecting their Intrigues, Frauds, and Plots against their Patients. Harvey claims that "among a hundred Physicians you shall find Ninety five Learned Mountebanks," not the sort of illiterates who loiter on street corners, but the more dangerous learned charlatans who "Quack their Abilities" privately in patients' houses, promising cures while dextrously picking the sufferers' pockets by prescribing some miraculous panacea without method or reason (Conclave 85-87). If you are

looking for “Avarice, Envy, Malice, Pride, Ignorance, Slandering, Backbiting, Flattery, Lying, and Defrauding, you may find it in the *Conclave* of Physicians” (90).

Compound remedies remained popular for their promised cures, yet fears that the ingredients themselves were adulterated further served to accentuate the primacy of simples: “A few simples well prepared and understood, are better than such an heape of non-sense confused compounds, which are in Apothecaries’ shops ordinarily sold. *In which many vaine, superfluous, corrupt, exolete things out of date are to be had*” (Burton 345). Since many physicians’ remedies were based on ancient formulae, many ingredients were imported from abroad. Bits of potentially efficacious bark, seeds and roots were easily corrupted or adulterated. Apothecaries were reliant on merchants for their wares, who perhaps either knowingly sold them the wrong herb or, not being herbalists themselves, erred in the names of their merchandise. In a wildly uncontrolled marketplace, merchants, drug sellers, physicians, and patients themselves encouraged the traffic of dubious items “the greatest part whereof,” according to Agrippa, “are to be suspected as sophisticated, or damaged in the Ship, or else not gathered in due time and place; from which arises eminent hazard.” Agrippa averred it “would be better for the general Health of men, and for the Common-wealth, to forbid the use of all Exotick Medicaments, which are brought in by Pyratrical Merchants, at such Miraculous prices, to the bane of Inhabitants” (301). Never one to hold back a strong opinion, Leonard Fuchs paints the entire medical *modus operandi* as based on deceit, deception, and ignorance:

I have been on my guard against exotic and expensive medicaments and those which are difficult to prepare only because there is a danger of many of these being adulterated, since they are insufficiently known either by those that sell them or by those who buy them. And the merchants in extracting them (such is their insatiable avarice) are principally concerned to sell inferior one, and while they do this those

which are good being kept too long or eaten by mould and maggots become worse. Now the apothecaries, almost all of them being no less eager for profit than the merchants and paying out money, buy only the worst ones. And although even amongst this kind there are good men to be found nevertheless, because, for the most part they are unlearned and ignorant of better things, they purchase only the familiar materials which are for the most part adulterated for making their medicines. (qtd. in Wear, "Explorations" 123)

Despite fears of adulteration or fraudulence, foreign imports and newly discovered plants, fruits, and roots such as guaiacum, china root, sarsaparilla, cinchona (quinine), *nux vomica* from lands previous unknown to Europeans were flooding into the English drug market. It should be noted that many socially conscious natural historians welcomed the introduction of new medicines from overseas. New botanical pharmaceuticals frequently were recognised as essential remedies for new diseases explorers and adventurers were also importing. According to Garcia d'Orta's dialogue on Indian simples and drugs

each day brings new diseases, such as the Neapolitan disease which were call the Castilian itch; and God is so merciful that in each land He gives us medicines to cure us. He who causes the illness provides the medicine for it. [...] And as we do not know the medicines which cure all disease, we bring the *rhubarb* from China, whence we get the root or stick to cure Castilian itch, the *cana fistole* we get from India, *manna* from Persia, *guaiacam* from the West Indies. Please God we will always continue to search for and enquire about medicines. (105-106)

The pharmaceutical potential of exotics generated an almost hysterical optimism surrounding their efficacy. In 1567 the total value of imported drugs and spices was about £600. During the 1630s the yearly total rose to £15,000, and by 1669 is estimated to have been £60,000. By the end of the century the import of exotic drugs into England had increased twenty-five-fold from the century before (Roberts 170). For example, between 1672 and 1695, John Peachey issued a series of short pamphlets introducing English readers to various nuts, seeds, roots, and beans imported from Brazil, Mexico, Virginia, Carolina, the

East and West Indies, Turkey, and Russia. The Maldiva nut was a most effectual simple for women tortured by difficult labours, while a particular Turkish root prevented all miscarriages. The titlepage exalted casmunar for its virtues “above any other as yet written” for curing a variety of trembling diseases including apoplexies, convulsions, palsies, and lethargies, as well as “fitts of the mother, giddiness in the head, and all distempers of the brain and nerves.” A root called nean or nising was unequalled for consumption and shortness of breath as well being a restorative for those impaired by languishing distempers and long fits of sickness.

For each plant or plant part, Peachey provides several short narratives of exemplary cures reported by eminent physicians or persons of sound reputation. Of nean (a root imported from China), Peachey states “When I read the Bills of Mortality, and find three or four Thousand dye in a Year of Comsumptions, notwithstanding all the rational Methods of Physicians, and the boasting Pretences of Quacks and Mountebanks, I could not longer conceal this Excellent Specifick” (5). As added corroboration of nean’s curative properties, Peachey claims that “Mr Boyle once told me, he thought it a medicine sent from Heaven, to save the Lives of Thousands of Men, Women, and Children” (7). And, as evidence of his demotic motivations Peachey lists servants and a shoemaker’s wife amongst the more typical patients treated by such luxury medicines.⁵ The necessity of these two declarations – reliability and affordability – reveals less about the nature of nean and more about that of the seventeenth-century medical marketplace, rife with extravagant promises, dangerous remedies, and greedy practitioners.

A further argument against imports was that the excitement they aroused lured English herbalists away from investigating their own indigenous pharmaceuticals. Harrison

objected to the current vogue of gathering “new seeds from strange countries” whose virtues are extolled “so far we fall into contempt of our own” (266). We become enemies to our own welfare, Harrison alleges, through

the natural desire that mankind hath to esteem of things far-sought, because they be rare and costly, and the irksome contempt of things near-hand, for that they are common and plentiful [...]. For hereby we have neglected our own good gifts of God growing here at home, as vile and of no valure, and had every trifle and toy in admiration that is brought hither from far countries, ascribing I wot not what great forces and solemn estimation unto them. (263).

Harrison contends that “our common germander or thistle bennet” is as potent as any import, and supposes that “if the use of outlandish drugs had not blinded our physicians of England” that the virtues of English plants would be as well known as “those of India,” wherefore English simples would be “more profitable to us than the foreign are or may be” (266, 268). Harrison’s lament was repeated a century later by John Floyer’s Touch-stone of Medicines (1687). “It is a great shame to our profession,” Floyer asserts in the Epistle Dedicatory, “that the Ignorant *Indians* should know more of *Plants* in their *Native Country*, and do greater Cures by Them, than our *Artists* can by Ours.” “I have therefore wrote in *English*,” he continues, “that I might the more encourage our Country-Men to enquire into the *Vertue* of our *Native Plants*” (n.p.).

The emphasis on local plants thus transformed English herbs from insignificant weeds to key instruments in the attack on the antiquated philosophies of the College of Physicians. Accessible to the poor and rich alike, either found naturally flourishing in the countryside or cultivated in private gardens, English herbs were themselves symbols of a new medical philosophy. English herbs were not only cheap, available, and trustworthy, but most importantly, they were English. In fact they were trustworthy because they were found

growing in England: patients and healers would have no fears that medicines were adulterated, contaminated, or substituted for another if they gathered the herbs themselves. In addition to such pragmatics, as the comments of Harrison and Floyer suggest, there was a nationalist drive behind the advocacy of English simples. And this drive was in great part due to Paracelsus: “I determined quite satisfactorily,” Paracelsus claimed, “that those things needed for treating each illness are to be had in abundance on our own soil; and that these things counter illnesses and are useful against them” (*Herbarius* 104). Therefore, by weighing the merits of and distinguishing between foreign and indigenous herbs, natural historians were engaged in debates between two medical systems, Galenic and Paracelsian. The debate also questioned the boundaries of England’s natural territory and the characterisation of English plants and bodies.

**“not a whit inferior in Vertues”
English Herbs for English Bodies**

Although disease might “migrate hither and thither,” Paracelsus declares “each land gives birth to its own special kind of sickness, its own medicines, and its own physician” (*Herbarius* 109). The physician, therefore, should prescribe medicines “composed in accordance with the patient’s blood and flesh, with his country’s ways and his innate nature – harsh, crude, gentle, mild, virtuous, friendly, tender, etc.” (*Selected Writings* 58). Paracelsus’ argument for local herbs is imbued with his characteristic loathing of all things foreign – intellectual and material alike.

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 command medicines, and whether, without the foreign sort,

these may exist also in its own domain. [...] Moreover, there are in Germany so many more and better medicines than are to be found in Arabia, Chaldea, Persia, and Greece that it would be more reasonable for the peoples of such places to get their medicines from us German 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. ("*Herbarius*" 104)

In discussing the contributions Paracelsus and his followers made to the early modern pharmacopoeia, scholars typically focus on the use of chemical remedies.⁶ As the above quotation reveals, Paracelsus was also an advocate of local herbs for healing local diseases. He blames Italy for Germans' dismissal of their local herbs: "For the Italians saw to it that the German thought nothing of their own plants, but rather took everything from Italy itself or from beyond the sea. This they realized was to their own advantage and thus pursued it." As ancient wisdom was imported from Italian schools, so too were pharmaceuticals: "the books and the medicines come from one and the same nest, and that medicine is neither German nor is it any better than that which is German." In their eagerness to appear learned and widely experienced, Germans doctors foolishly prescribe imported medicines. Like "a tree which bears no fruit," this "Italian seduction" must be rooted out ("*Herbarius*" 104).

After publishing various medical works in Latin, Timothie Bright, a moderate Paracelsian and Cambridge physician, wrote Treatise Wherein is Declared the Sufficiencie of English Medicines (1580), in which he denounces physicians' blind veneration of ancient medical knowledge. England's own rich treasury of medicines had been too long neglected by physicians whose academic commitments trained them to consider worthless all plants unmentioned by ancient authors. Importing the precepts of ancient authors was at best a foolish dilettantism without solid logic. Bright echos Paracelsus' critique of imported knowledge:

The whole art of physicke hath beene taken partly, from the *Greeks*, and partly from the *Arabians*, and as the precepts of the art, so likewise the meanes and instruments ... which hath bred this errour in times past, nowe by tradition received, that all dutie of the physician touching restoringe health, is to be performed by the same remedies, not in kinde onely, but even specially with those *Grecian* and *Arabian* maisters used, who wrote not for us but for their *Greekes* and *Arabickes*, tempering their medicines to their states. [...] *Galen* saith in his first booke of preserving health, hee giveth the rules thereof no more to *Germanes*, then to boares and beares, but to the *Grecians*.
(47)

If it be ordinary for all nations to fetch their medicines from distant lands, “let me know why,” Bright jeers, “as we cease not to travell for to store us with outlandish drugges, wee carie not thither also our countrie medicines for change, or they of those nations give not the like adventure for ours?” (24) As they are contented with their native herbs, so too English men and women ought to be satisfied with their own store of pharmaceuticals. Bright sets forth a nationalistic propaganda lauding England’s natural phenomena. He directs his readers to those herbs we “knowe both in the blade and in the seede, in the roote, and in the fruite, and knowe the aire, the hill, the valley, the medowe where they growe.” For what can be more pleasant, he asks, “than the inioying of medicines for cure of thine infirmitie out of thy native soyle, and countrie, they Fields, they Orchard, they Garden?” (14) The task of investigating the abundance of England’s flora “is neither mine nor thine onely,” Bright states, “but the common wealthes, the benefite whereof all are bound who are members thereof” (5). A detailed inventory of England’s plants would reveal yet untapped national riches, lying undiscovered.

Underlying Bright’s encouragement to his fellow herbalists and ordinary citizens alike is a bold statement: English herbs were worthy of serious investigation. The prejudice that England was incapable of producing medicines as efficacious as those found overseas

was completely rejected by medical reformers. Far from being a deficient northern climate populated with inferior herbs, English herbs, as Culpeper claims in The English Physician (1652), are “not a whit inferior in Vertues” to those foreign herbs not to be had in England without great difficulty or great expense (111). Burton notes that many persons well acquainted with ancient natural history presume “our Northerne simples are weake, unperfect, not so well concocted, of such force, as those in the Southern parts, not so fit to be used in Physicke, and will therefore fetch their drugs afar off: *Sena, Cassia* out of *Ægypt, Rubarbe* [sic] from *Barbary* ... *Tobacco* from the West, and some as farre as *China*” (339). Yet Burton contends that English rosemary matches cinnamon in virtues, basil cures as well as cloves, sage for nutmeg, and thyme for musk. Each climate and every country “hath his proper remedies growing in it, peculiar almost to the domineering and most frequent maladies of it” (339).

Further, common plants such as rosemary, sage and thyme, growing in English fields and gardens were advanced as distinct from those same herbs harvested in all other regions. What began as an attack on the social elitism and intellectual stagnancy of physicians, increasingly developed into a nationalistic discourse that served to map out England as a unique biogeographic region. Although Renaissance veneration of ancient learning had engendered a biased topography favouring Mediterranean herbs, Galen in fact had claimed medicines were universal – that herbs gathered from any location were equally efficacious for all patients. In contrast, herbalists insisted that English herbs were qualitatively different than those from any other country. As England was by and large an isolated region whose boundaries could be clearly demarcated, English herbalists claimed that England’s climate uniquely marked the character of their national herbs. Accordingly, herbalists argued that

herbs were solid, material evidence of the particularity of England's geographical space. The reasoning was circular: as English plants were naturalised and nationalised as unique products distinctly shaped by their indigenous habitat, English plants materialised England as a natural entity.

Herbalists determined that where herbs propagated within the English landscape provided crucial insight to their pharmaceutical virtues, which were perceived to vary not from county to county, but according to topographic features. While England's climatic regime was a harmonising force, herbals cast the English landscape as a multifaceted collection of unique places. Certain fungi were discovered in forests; different herbs were found by the seashore from those on hillsides; marsh lands yielded botanicals unlike those found in sunny, open meadows. Culpeper writes that arrach grows usually upon dung-hills, cuckow-pint (skunk cabbage) grows under every hedge, and ground ivy in "shadowed Lanes, and other waster Grounds in almost every part of the Land" (English Physician 15, 81, 8). In his discussion of wormwood Culpeper distinguishes between the common variety and that called seriphian: each grows in the region where it will be of most use: "The tender Mercies of God being over all his works, hath by his Eternal Providence planted *Seriphian* by the sea-side, as a fit Medicine for the Bodies of those that live near it." Although seriphian is weaker than common wormwood, it is more apt to heal those bodies "nourished by the same Air" (English Physician 238).

The circulation of printed vernacular herbals fostered an imagined community among users by standardising a national pharmacopoeia. Culpeper collects botanical observations from various locations, reorganising the country – towns, counties, meadows and heaths – according to botanical growth. Of alexander, Culpeper writes: "This Tree or Shrub may be

found plentifully in Saint John's Wood by *Hornsey*, and in the Woods upon *Hampstead-Heath*, as also a Wood called the *Old Park in Barcomb in Essex* near the Brooks-side" (10). Of crosswort: "It groweth in many moist grounds, as well Meadows as untilled places about *London*: in *Hamstead Church-yards*, at *Wye in Kent* and sundry other places"(80). Culpeper forms an image of England's landscape not in reference to the Mediterranean but by relating different English topographies to each other, thereby conceptually shrinking the distance and difference between London and Kent.

An English Herbal, anonymously published in 1690, incites readers to "Go into the Field, you'll find growing by Walls and Hedge-sides frequently Cinquefoil, Hounds-tongue, Flaxweed, Jack-by-the-hedge, Knotgrass, Mugwort, Shephards-purse, Vervain, wild Tansie, wild Orage. In Closes you'll find Bedstraw, wild Carrots, Dandelions, Daisies, Earthnuts, Knapweed, Ragwort, Scabious, Trefoil, Yarrow" (64). The author continues by listing ten common herbs can be found among corn, twelve in woods, six in meadows, seven in bogs, nine on river banks, nine if you "Cast your Eye towards the Water," eight by ditches, seven on town walls, and four on rooftops, totalling just short of a hundred herbs. By mapping out botanical information within such sites, herbals formulated a national medicinal topography in which the countryside is organised into a collection of repeatable units, areas that are as particular and local as they are general and national: shaded lanes, marshlands, roadsides, and woodlands. And with herbal remedies standardised and the locations in which botanicals were to be found simplified into a fixed set of locations, individuals in distant parts of England could imagine that somewhere else at the far reaches of a common territory similar herbs were growing in similar bogs and meadows.

Foreign and imported remedies provoked strong opposition on religious grounds as well: national self-sufficiency was intimately linked with notions God's benevolent providence. Liberally interpreting Ecclesiasticus ch 38 v4, "The Lord hath created medicines out of the earth," some health practitioners believed that reliance on foreign imports detracted from God's providential goodness which sufficiently furnished each environment with all essentials. Harrison wonders at "how many strange herbs, plants, and annual fruits are daily brought unto us from the Indies, Americans, Taprobane [Ceylon], Canary Isles, and all part of the world" (265). Yet in regard of the "constitutions of our bodies they do not grow for us, because that God hath bestowed sufficient commodities upon every country for her own necessity. [...] sith (as I said before) every region hath abundantly within her own limits whatsoever is needful and convenient for them that dwell therein" (265-6).

Likewise Bright's main critique of foreign import arises from "the Christian doctrine of God's providence" which ensures each nation has sufficient provisions for the maintenance and preservation of health so that "no nation under heaven [is] so poore and destitute, but it hath of the owne cuntries soyle sufficient to content nature with foode and apparel, which as they bee two pillars of life, so from them are taken the meanes of preservation of health" (9). Would God so dispense his blessings that patients of little means should languish; "is Physicke only made for rich men? & not as well for the poorer sort? ... or doth the Lords goodnesse passe over them of lowe degree?"(23) Furthermore, most exotic herbs were imported from "the most vile & barbarous nations of the world, and almost all from the professed enemies of the Sonne of GOD." Should we then presume that "the Lorde hath more care, or setteth more store by them then by his owne people? that he so furnisheth them, and leaveth us destitute? or shall we rather condemne the vanities of our

owne mindes, who insatiably desire straunge things, little regarding, or rather loathing that which is always at commaundement” (24).

Through a discourse of herbs, global space was moralised. Nature was interpreted as a divinely designed organic whole created for the harmonious coexistence of a multitude of different beings. The avarice of health practitioners, their promotion of exotic imports, and their neglect of indigenous English herbs was a lamentable disregard for the God-given bounty: lusting after foreign wares diminished the excellency of God’s providential plan:

As the Earth is called the Mother of all things, not because it bringest them forth onely, but yeildeth them perpetual nourishment, so is the Country of all people so then named, the Parent of all parents. Then by Nature’s laws, all things being abundantly ministered unto us for the preservation of Health at home in our own fields, Pastures, Rivers etc, how can the wisdom of God, and his Goodness stand with the absence of Medicines and Remedies necessary for the Recovery of Health, the need being as urgent of the one as the other ... it followeth necessarily that the Medicines should be as ready for the sick, as meat and drink for the hungry and thirsty: which except it be applied by the Native Country, cannot else be performed. (Culpeper, School of Physick 7)

Therefore, English plants were key terms in mapping out the intersecting realms of national and religious identity. Overlapping economic, theological, medicinal, and natural agendas, the self-sufficiency of nation’s natural economies composed a “theological biogeography characterizing the country as a natural unit in which virtuous commerce and consumption coincided with the mapping of local medicobotanical knowledge” (Spary, “Peaches” 25). Spary’s analysis of eighteenth-century *materia medica* and natural history in France accents the same protectionism at work in England a century earlier. Attention to local medicines would increase the nation’s health while decreasing its commercial dependence on other parts of the world, a philosophy that coincided with God’s plan for

supplying each land with its own remedies from endemic diseases: “Nature is the model of a good economist, supplying just enough and not too much” (“Peaches” 27).

According to Sir Matthew Hale’s The Primitive Origination of Mankind (1677), “[i]t is an admirable evidence of the Divine Wisdom and Providence, that there is that suitable [sic] accommodation and adaptation of all things in Nature, both to their own convenience and exigence, and to the convenience, use, and exigence of one another” (10). The ability of each region to bring forth all necessary medicaments was part of a larger system of laws established by the Creator to govern and furnish all existence. The distinct colours, forms, and characteristics of each region’s plants, animals, and peoples as well as the harmony of their interrelated functions were works performed by God at the moment of their creation, which together formed an integrated “economy of nature.” In such a nationalistic model of natural resources, natural history developed as a material economy of objects controlled by moral values.

Humans were not separate from the natural economy. Claiming that English herbs were more consonant for the English produces an English body distinct from all others. Moreover, it dissolves some of the difference between aristocratic bodies and those of commoners: when it came to the efficacy of English herbs, all English bodies were similarly healed. Simple herbs were thus tangible evidence of the particularity of the English body. The claim was repeated endlessly by medical writers. Harrison affirms that English plants “are in truth more beneficial and apt for us than such as grow elsewhere” (266). Adam Coles desired to acquaint his readers with “those more wholesome Herbs and Plants that he hath growing at his own doore, which are more consonant and proper for his Body” than any imported herb (2). The titlepage of Coles’ Adam in Eden claims to aid all health

practitioners and patients that they “may from our own Fields and Gardens, best agreeing with our *English* Bodies ... completely furnish themselves with cheap, easie, and wholesome Cures.” Although Joseph Blagrove recommends some foreign ingredients for their forceful action that “by reason our Climate” didn’t grow in England such as figs, raisins, and currants, his herbal is focused on herbs “all growing within our Nation” without troubling “my self or Reader in setting forth the dangers in using Forrain Drugs” (n.p.). Similarly, George Starkey claims “no medicaments are so proper for our *English* bodies, as those which *England* produceth. And so in other Countreys ... their native Simples are sufficient” (60).

The democratic drive of popular herbals suggests what Jean Howard describes as an early modern form of English nationalism: a “fraternity of subjects within an imagined community defined in part by a bounded geographical essence and in part by cultural and racial *differences* from other such imagined communities” (101). As discussed previously, Galenic notions of difference between peoples were less biological than climatically induced cultural categories – religious morality, legal systems and political systems. That is, Galenists assumed that all bodies were fundamentally the same: their variation was induced by environmental conditions that nurtured or hindered their development. In contrast, Paracelsus and his followers argued for a distinction between national bodies.

If, as Lynda Boose suggests, “‘race’ originates as a category that hierarchically privileges a ruling status and makes the Other(s) inferior” (36), the “Others” for Paracelsus and his northern followers were not inhabitants on the peripheries of Europe, such as Africans or American Indians, but ancient and contemporary peoples from the “southern realms.” In this sense, Paracelsian medicine and its new philosophies of difference between groups of people were constructed against the colonising spread of Galenic humoral

hierarchies, arising from rejection and defiance of a prejudicial worldview. Paracelsus claimed that to

treat illness according to Italian doctrine and make Italians out of us Germans, even though we are German and have nothing in common with the Italians themselves. This has come to pass because the books come from Greece, Arabia, and other places ... in southern realms. [...] Indeed I really must laugh at those Germans who have become, in this way, Arabic, Greek, or Chaldean, and yet know nothing about what is German. ("*Herbarius*" 104)

Pinpointing what exactly constituted the difference between Italians and Germans is impossible. But the difference cannot be fully resolved by cultural, theological, national, ancestral, or geographic explanations, and certainly the difference extends beyond the hierarchy of civility and deportment explored in the previous chapter. The distinction between various national bodies and races is ambiguous in Paracelsian thought, and race remained a highly unstable term throughout the seventeenth century, characterised by overlapping, tangled, and at time conflicting discourses. More often than not these conflicts arose from residual philosophies or cultural relations, which perpetuated and inflected subsequent discourses. Yet, Paracelsus makes a new addition, expanding traditional concepts of racial differentiation to include a physiological element. The following section attempts to explain the theoretical basis and ideological outgrowths of Paracelsian concepts of this difference.

Qualities, Atoms, and Humours

Popular herbals were essentially self-help manuals directing patients to efficacious yet common herbs naturally flourishing in the English countryside. The idea that individuals

with no formal medical training might treat an illness themselves attacked the very heart of physicians' expertise. The goal of physicians was to preserve health and prolong life, not merely to fight illness once it arose. The learned art of physic retained strong roots to the Greek notion of a "good life" since soundness of body and soundness of mind were intimately connected (Cook, "New Philosophy" 407). The self-assumed superiority of the physicians over other health workers, then, not only derived from their anatomical knowledge but also from their focus on pastoral care. Without the proper philosophical foundation needed to understand individual bodies and the reasons for their loss of equilibrium, physicians argued, other practitioners applied medicines randomly and dangerously without hope of regaining a healthful balance with nature. The explanatory power of physic and its pastoral advice about regime perhaps made it more comforting than merely curative medicine, "for a learning physician could give an answer to what are often a patient's first and most pressing questions: Why me? Why now?" (Cook, "New Philosophy" 410). In line with humanist values, knowledge and virtue were connected. Physicians were men of good character, who could exercise good judgement and advice:

physicians gave council, expecting that reforming the habits of their patients, much more than merely giving them a medicine, would restore their health and prolong their life. They stressed the connection between health and virtue, teaching and persuading those who consulted them about how they should regulate their lives. Only an upright and learned person could be trusted to give such advice about life. Because their education had made them both virtuous and learned, the physicians thought of themselves as members of a grave and dignified profession. Like his fellow professional of bar and pulpit, the early modern physician exercised judgement and gave his best council both to well and ill clients. (Cook, "Good Advice" 14)

As students of the classical liberal arts and sciences, physicians' advice was in accordance with classical models of decorum and temperance. The codes of deportment in the ancient Greek and Roman world engaged poise and temper of the body: achieving self-

control and dignity in character was intimately related to the maintenance of a hot and dry constitution, which was the superior equilibrium of all possible humoral balances (see Brown 8-12). As such, physicians' advice on how to live life was modelled on this classical notion of the ideal body. This ideal was exemplified by the character of the humanist – male, educated, elite – but also and more importantly for the present discussion the constitution of bodies native to Mediterranean latitudes. Since conduct and constitution were bound together – humours tempering intellect and character; decorum controlling humoral balance – by basing their medical council on ancient codes of conduct, physicians engaged in sustaining traditional hierarchical ordering of bodies and personality types. This is not to say that physicians intentionally denigrated the cold and wet English body, but by extolling the character of the classical and southern body and mind, they implicitly encumbered their countrymen and women with a burden of humoral inferiority.

Harold Cook distinguishes between Galenic physicians' art of "physic" and a new practice of "medicine" associated with Paracelsians, empirics, natural historians, and all medical reformers including some physicians who emphasised empirical methods of natural investigation. Practitioners of medicine relied on clinical experience rather than university degrees. They advocated the study of nature, not books. While physicians provided a holistic approach to life, health, and healing based on classical models, medical reformers were concerned primarily with administering curative remedies rather than regaining a lost humoral balance – towards curing the sick rather than restoring health. Rather than referring to classical concepts of conduct, reformers sought out new remedies through close study of nature, especially local nature, thereby transferring attention from the time and space of the ancient world towards their present surroundings. For example, Paracelsus claimed to report

only such knowledge about plants, roots, and seeds as he was able to obtain “through experience and personal practice” without consulting “Arabic, Greek, and Hebrew writers, but rather in considering only what is German” (*Herbarius* 105).⁷

Paracelsian medicine also attacked the very logic of Galenism, and thereby further weakened the traditional associations between climate and character. As the building blocks of the world, Galenism considered the four primary qualities (hot, wet, cold, dry) responsible for the properties of all objects living or nonliving. The essential nature of a hot stone or a melancholic woman bore a direct relation to the innate balance of the primary qualities. No power or functions were ascribed to matter, but the form exerted a dynamic power over the development of the object. Though immaterial, the form was an indivisible, qualitative entity, which controlled the structure and appearance of an object but above all its function and activity. The form was a composite of primary qualities; each form is shaped by a particular configuration of qualities that distinguish and identify an object. By reason of the qualities, the form is functional; in other words, the qualities endow objects with their essential functions and properties. The simplicity and logic of Galenic medicine – four elements, four humours – facilitated easy and straightforward explanation of both disease and character. It was the sway of the qualities over the form that facilitated reading character from the evidence of climate: an atmospheric excess of “wet” influenced the form of all bodies – living and nonliving – inhabiting that particular climatic regime.

In contrast Paracelsus synthesised the vital forces of the world into the so-called *tria prima* of sulphur, salt, and mercury, the “principles” from which all life was generated. Paracelsus retained the four Aristotelian elements although with modifications. Rather than sharing qualities each element only had one quality, thereby accentuating the elemental

nature of the elements. Further, the visible forms of the elements are only crude approximations of their true spiritual essences. But while Paracelsus maintained aspects of the elements and qualities, he flatly rejected the four humours. Difference between groups were mainly ascribed to astral influence since Paracelsus believed it was the planets that conferred objects with the qualities of smell, colour, temperature, moisture or dryness, as well as forming and guiding the behaviours of individual organs and people (Pagel 37).

Compared to the simplicity of humoral theory's explanation of human difference, Paracelsus proposed an esoteric mix of folk theory, mysticism, alchemy, and empiricism. And, in the absence of a coherent theoretical approach, his followers interpreted Paracelsus' writing as they saw fit. The English Paracelsian Thomas Moffett observes the growing number of element systems when he wrote in 1584 that "some wish that there should be but one element, while others think they are many, and some even think they are infinite, innumerable and immovable; these assert there are two, those three, some say four, while others demand eight" (qtd. in Debus 79-80). Furthermore, it is a revealing indication of the logic inherent in the attribution of character to humours that most Paracelsians retained the humours in some form or another although their simple qualitative interaction with the environment as explained by Galenism was obscured. For example, Joseph Duchesne argued for three elements (fire was rejected) and three humours analogous to the three principles.

The Englishness of English bodies advocated by popular herbals, then, arose partially from England's distinct climatic and environmental conditions. But the most important difference between the Galenic and Paracelsian physiological models and indeed the rationale for constructing national bodies arose from the Paracelsian theory of disease. The emphasis on disease as an invasion of a foreign body rather than a disruption of an internal

balance distinguishes between groups of people by their susceptibility to particular contaminants: “Opium in *Turkey* doth scarce offend, with us in a small quantity it stupifies: cicuta, or hemlock, is a strong poison in Greece, but with us it hath no such violent effects” (Burton 342). The similarity of English bodies arose from their similar sensitivity to all foreign products, to all foods and medicines that were not grown in England.

In addition to the geographic and behavioural prejudices inherent in ancient medico-climatic formulae, the Paracelsian concept of disease and susceptibility introduced a physiological component to racial difference. Whatever could not be grown in England was by its very nature hostile to English bodies. Bright compares ancient Mediterranean and contemporary continental prescriptions and descriptions of herbal remedies with English experiences of those same imported herbs, reasoning that “[t]hese straunge workings of these foreigne drugges in our bodyes, and a more gentle and kinde working in theirs, doth it not manifestly declare unto us, that they were not created for us? doe they not force us oftentimes with perill of our lives to give them over?” (17) Bright declares “as the Indian, Arabian, Spaniard, have their Indish, Arabian, and Spanish medicines, so also the Germane hath his, the French man his, and the English man his owne proper, belonging to each of them” (27).

Susceptibility to disease would eventually develop into a hegemonic discourse for explaining racial difference. By the end of the eighteenth century, European experience with diseases in hot climates was used to explain the racial inferiority and degeneracy of particular colonial subjects (see Stepan). In early modern medical discourse, however, self-defined differentiation based on Paracelsian theories of susceptibility are motivated by a self-protective xenophobia. The English body as conceived through Paracelsian pathology is endangered by all foreign imports. It follows that this physiological model was employed less

to articulate similitude between humans than difference between national bodies. Disorder and illness arose when people, commodities, and diseases moved across national boundaries. As such, the geographic boundaries for the Paracelsian body's optimum health is even more locally circumscribed than with the Galenic model.

As evidence of the imaginative resonance and applicability of Paracelsian susceptibility, the model was used to explain the economic dynamics between nations. As Jonathan Harris admirably explains, the pathological discourse of dangerous foreign bodies was instrumental in the fashioning of an emergent discourse of national economy. And indeed, connections between the natural and political body, between the health and welfare of the individual body and that of the state, were defining characteristics of the Tudor and Stuart period. With boundaries imagined as finite, the body politic was understood as a local organism, ruled by internal laws, and increasingly defined in opposition to other nations. Foreign drugs were seen less as remedies than "potentially lethal agents of commercial as well as corporeal contamination, capable of disturbing national financial health and individual humoral balance in equal measure" (Harris, "I am sailing" 110). Paracelsus postulated that the seed of disease or *semen* "was motivated by an inner schedule or *archeus* that directed it to infiltrate the body through its pores or orifices." Ills did not originate simply "in matter in motion, but more specifically in matter with a malevolent internal code that predisposes it to migrate through the body's apertures for the sake of its own pathological profit" ("I am sailing" 127).

James was particularly receptive to Paracelsian pathology whereas Queen Elizabeth's court physicians were exclusively Galenic. James had brought the Paracelsian Thomas Craig back with him to Scotland from Denmark and stationed him as his "chief mediciner," in

which capacity Craig remained after James acceded to the English throne. James positioned other Paracelsans in the court medical retinue. By the end of the first decade of the seventeenth century, Paracelsianism had become the official medical ideology of the English court.

The commingling of bodies natural and political is articulated particularly forcefully in The Counterblaste to Tobacco, a short invective written by King James, originally published in 1604 and reprinted in The Workes of King James in 1616. As every human body, however wholesome, is subject or at least naturally inclined to some sort of diseases, or infirmities, so “there no is Common-wealth, or Body-politicke, how well governed, or peaceable” that is not “naturally enclined to corruptions.” As the “proper Phisician of his Politicke-body” it is the King’s obligation to “purge it of all those diseases, by Medicines meete for the same” (97). Of all the social ills threatening the commonwealth none is too small to receive its “owne cure proper for it” from the King, even a matter which is “but of smoke” (97-8). The importation of tobacco disrupted England’s natural economy and national economy: the unnecessary and intemperate consumption of foreign natural goods ruined the health and wealth of the individual as well as the nation:

Whereas Tobacco, being a Drugge of late Yeres found out, and by Merchants ... brought from forreign Partes in small quantitie into this Realm of England ... was used and taken by the better sort both then and nowe onelye as Phisicke to preserve Healthe, and is now at this Day, through evell Custome and the Toleration thereof, excessivelie taken by a number of ryotous and disordered Persons of meane and base Condition, whoe ... doe spend most of there tyme in that idle Vanitie, to the evill example and corrupting of others, and also do consume that Wages ... wherewith there Families should be releived ... by which great and imoderate takinge of *Tobacco* that Health of a great number of our People is impayred, and their Bodies weakened and made unfit for Labour, the Estates of many mean Persons soe decayed and comsumed as they are thereby dryven to unthrifitie Shifts onelie to maynteyne their gluttonous exercise thereof, besides that also a great part of the Treasure of out

Lande is spent and exhausted by this onely Drugge so licentiously abused by the meaner sorte. (102)

The immoderate use of tobacco was synecdochic of England's social and moral ills and excesses. Consuming exotic substances was a "gluttonous exercise," a moral excess that incited riotous individuals to greater disorder especially when England's own natural economy might supply all her people's needs in a more wholesome manner. The natural economy and body politic shaped by Paracelsian thought did not particularly encourage global trade or expansionist urges. Only vigilant confinement and enclosure would ensure national health.

Of course this protectionist model of human and national bodies did not enjoy longevity. The discovery of climates and environments distinct from previously known regions reinforced ideas of the God-given fullness, richness, and variety of the nature. Proponents of trade and importation argued that such variety was crafted by God to be used. Creation as a whole and its individual parts was ultimately for the use, service, and contemplation of humans. The usefulness and beauty of nature are consistent with humankind's duty to understand it, husband it, and even control it with a Christian temperance without excess or greed. Advocates of trade claimed that God "has so marvelously apportioned his gift in order that men can learn that they and their land always need one another" (Glacken 365). A country could not be self-sufficient in everything, but trade distributed God's diverse bounty. No nation has "been so happy, that it could be sufficiently furnished with its own remedies, except the Indians" (Primrose 234). By the providence of God, the kingdom of England is endowed with such abundance of rich commodities, yet without trade the glory and welfare of the kingdom is diminished:

Who is so ignorant, in any famous commonwealth, which will not consent to the moderate use of wholesome Druggs and comfortable Spices? Which, have beene so much desired in all times, and by so many Nations; not thereby to surfeit, or to please a lickorish tast (as it often happeneth, with many other fruites and wines) but rather as things most necessarie to preserve their health, and to cure their disease. (236)

Foreign drugs were imported into England in increasing numbers, and eventually the corresponding belief in the universality of remedies prevailed: “[w]ith the globalisation of trade came a belief in the global efficacy of remedies; remedies that were thought to work only within a localised geographical area were worth less than those that were marketed across geographical, cultural and national borders” (Wear, Knowledge 77). Nevertheless, Paracelsian emphasis on local herbs encouraged a new vigour in English natural history, and made some strides towards exterminating the stigma against English herbs.

Medicine at the end of the seventeenth century differed dramatically from what it had been at the beginning. The massive upsurge in experimental science and sheer increase in factual information produced a mass of data that could no longer be explained satisfactorily by the four elements and the balance of the four qualities alone (Rather 25). Most late seventeenth-century adherents to chemical philosophy rejected Paracelsus’s alchemical and astral theories of influence and alteration. The influence of environmental conditions would remain a central determinant of variation between bodies. The dynamics of the interactions between climate and human bodies were increasingly explained by the mechanical motions of corpuscularism, a form of atomism that was slowly displacing Aristotelian and Paracelsian views of the world. Instead of defining physical reality and analysing change in terms of Aristotelian substance, form, and the classical four elements or in terms of the three

Paracelsian elements of salt, sulphur, and mercury, corpuscularism discussed matter, and vicissitudes in matter, in terms of particles and their motions.

Advocates for the presence of atoms pointed to the troublesome and well-recognised fact that certain properties or clusters of properties remain unchanged through a series of transformations. Although corpuscularians retained the basic idea of Galen's qualities, they reworked the essential character of the qualities in the attempt to explain such transformations. "The minimal corpuscles exhibit an essential form which remains entire even when mixed" (King 27). The primacy attributed to the qualities was now given to atoms: "sensory qualities, instead of having any primary status, became secondary to the pattern of the components" (30). Atmospheric temperature and moisture still held sway over the qualities and quantities of the body's fluids, and most advocates for atoms retained the four humours. Yet, the presence of atoms multiplied the variety and character of possible interaction between body and climate.

In the eighteenth-century science of human taxonomy, race would be developed as biological divisions. But seventeenth-century medical explanations for national and racial differences – part Paracelsian, part Galenic, part corpuscularian – were heterogeneous and ambiguous: there was no consensus on the physical, moral, political, and religious differences between people, and no single explanation that could compare with the simple logic of Galen's qualities. This epistemic flux did facilitate, however, a certain amount of flexibility for recasting and reshaping traditional associations between geography and human character.

Fears that England's northern geographic position limited the capacity of its people and agricultural products remained prevalent throughout the seventeenth century. In agricultural improvement manuals from the second half of the seventeenth century, the reason for England's poor husbandry was switched from an assumption of climatic deficiency – and therefore without hope of improvement – to farmers' laziness and a lack of ingenuity, two qualities that could be ameliorated. This reworking of the English character is the subject of the next chapter.

Chapter Five.**“Idleness never wants an Excuse”:****Ingenuity, Industry, and Agricultural Reform**

If I were an house-keeper in the Countrey, I would make excellent *Beere, Ale, Cider, Perry, Metheglin, Wine*, of our own *grapes*, and if my Friends would not drink these, they should drinke water, or go away a thirst. I would scorne to honour *France* so much as men do usually, and the *Spaniard* and *Italians* should not laugh at us, and say that we can as well be without *bread*, as their *wines, Currents &c.* Thus may many other *excellent drinks* be made out of our *Fruits*: not to speak of those which are made of our *Graine*, as *Barly, Wheate &c.*
 Samuel Hartlib Samuel Hartlib, his Legacy (1651)

Samuel Hartlib’s frustration with English farmers and agriculturists centred on what he saw as their indolence and ignorance. As far as Hartlib was concerned, it was only from the sheer laziness of her husbandmen that England did not cultivate such culturally superior crops as grapevines. English farmers supposed England’s climate was too cold and the soil irremediably barren, and so, made no effort. A Prussian émigré exiled from Germany during the upheavals of the Thirty Year War, Samuel Hartlib (c. 1600-62) settled in England during the 1630s and quickly became the centre of a wide network of co-operative scientific research involving scholars and thinkers, natural historians and agriculturists. Hartlib and his growing circle of correspondents maintained that educational and philosophical reform and practical solutions might together improve fertility of the land, assuage suffering, feed the poor, and increase national wealth. If only his countrymen could show a little industry and

ingenuity, they too might harvest excellent drinks from their own fruits, and “the *Spaniard* and *Italians* should not laugh at us.” It was not England’s poor climate, but “by reason of our ill *Husbandry*, that we have *Quince* from *Flaunders*, *Smalnuts* from *Spaine*, *Pruins* from *France*, and also *Walnuts* and *Almonds* from *Italy*, and *Chestnuts* ... from *Portugall*” (Legacie 23).

By far the largest component of England’s economy, agriculture had been and would remain central to all England’s activities and concerns well into the eighteenth century (Low 63). In the words of Hartlib, agriculture is “the *Chief part* and as it were the very *Root* of all *Wealth*” (Legacie n.p.). The importance of improving the land and feeding the population was especially vital during the sixteenth and seventeenth centuries when global temperatures severely dipped, devastating harvests. Applying additional pressure to England’s limited resources was the rapid increase in the population – from just over 4 million in 1600 to over 5 million in 1700 (Cantor 44). Yet, English agriculture lagged behind most other European countries, and landowners showed little interest in cultivating their fields.

Hartlib’s influence over English agriculture in the second half of the seventeenth century can hardly be overestimated, and in fact the 1640s and 1650s have been labelled “The Age of Hartlib” by agricultural historians (Raylor 91). His strenuous energies as a publisher, co-ordinator, and propagandist of agricultural and silvicultural reform underlie most agricultural treatises and activities of his day. Having begun in the latter years of the sixteenth century, the agricultural revolution in England rapidly accelerated from the 1650s onwards. The rise of agrarianism was stimulated by a revival of classical husbandry, which promoted cultivation of the land as an exercise in civility. In addition, Hartlib and his correspondents proposed a return to an Adamic understanding of nature and Edenic soil

fertility through penitent labour and moral rectitude. And, as ever, hovering behind all transformations in conceiving and representing agriculture in England was the stigma labelling cold climates as agriculturally and culturally deficient. Revitalising agriculture in England, then, involved rethinking the cultural, economic, and societal meaning of husbandry and refashioning the character of the English farmer.

**“the sun which we want”
Cold Climates and Societal Unrest**

In 1549, 1550, 1551 England suffered three bad harvests in a row, which were followed by two more in 1556 and 1557. The harvest of 1557 was the poorest of the century inflating grain prices by twice the normal rate. Another unusually cold spell chilled the late 1560s and early 1570s. The poor harvest of 1596 was followed by another two years of catastrophic dearth, the longest run of harvest failures of the century (Slack 33). The price of grain rose by eighty-four percent; even basic foods such as peas and beans were scarce: “Visitations of pestilence of one kind or another were familiar, inescapable features of the environment in Tudor England, and virtually every bad harvest was followed by a period of high mortality” (Slack 9). Plague and other virulent infections broke out repeatedly throughout the century, which easily laid low the poor and hungry. Between 1556 and 1560 alone, it has been estimated that sixteen percent of the population died of influenza.

The consequences of the fierce winters and harvest failures on the poor can only be imagined, but Sir Hugh Plat gives us a taste of the general misery afflicting England. In 1596, Plat published Sundrie New and Artificiall Remedies against Famine to assuage the

“many cloudes of wrath” brought down from the heavens by which “the great hope of our harvest is smitten and daunted” (A2). Plat advises more prayers, better legislation for the distribution of food for the needy, Christian charity, abstinence (“if everie rich man woulde spare but one meale in a week”), and the joint labours of ingenious minds, which together might “worke some alteration and change in this great and dangerous dearth” (A4). In addition to such social reforms, Plat proposes various practices that truly indicate the hardship of the times. Spoiled beans and peas are purified by multiple boilings; bread can be made from almost anything including dandelions and the leaves of apple and pear trees; water in which oats have been soaked warms the stomach; just the smell of bread could suffice to “nourish the body, and refresh the spirits greatly” (C2-D2). Some suggestions are even more desperate: a man may survive without food for three or four days by sucking a ball of tobacco, or nine days by drinking urine, or even twelve days by sucking his own blood (B2-3).

The period between 1500 and 1700 has been dubbed the “little ice age” due to its severe global weather patterns (Appleby 645). Increased volcanic activity caused significant fluctuations in temperature and precipitation recorded not only in northern Europe, but also across China, Korea, Japan, Mongolia, Russia, the Mediterranean basin, and, based on tree-ring data, in the mid-Atlantic and North Platte regions of North America (Atwell 56). Temperatures first significantly declined during the late 1530s and early 1540s. Yet the worst weather and hardship were yet to come. Seventy kilometres east of Arequipa in southern Peru, Huanyaputina erupted in 1600. The volcanic ash discharged into the upper atmosphere played havoc with the global climate: it darkened the sky for months and fell to the earth as far away as Greenland and the South Pole. The summer of 1601 may have been

the single coldest summer in the Northern Hemisphere in the past 600 years (Atwell 56).

The summer was

among the coldest in Scandinavia, where the sun was dimmed by a constant haze. Summer sunlight was so dim in Iceland that there were no shadows. In central Europe, sun and moon were 'reddish, faint, and lacked brilliance.' Western North America lived through the coldest summer of the past four hundred years, with below-freezing temperatures during the maize growing season in many areas. In China, the sun was red and dim, with large sunspots. (Fagan 105)

Other major cold spikes in 1641-43, 1666-69, 1675, 1698-99 were all associated with volcanic activity. In particular 1641, 1642, and 1643 were the third, twenty-eighth, and tenth coldest summers respectively in the northern hemisphere during the past 600 years (Atwell 63).

Evidence of extreme weather patterns, devastating harvests, and widespread misery can be found throughout late sixteenth- and seventeenth-century literature. In 1666, John Evelyn documents an autumn so wet many feared famine would ensue. In January of 1667, hailstones as big as turkey's eggs fell from the sky. In March of 1667 Evelyn records "Great frost, snow and winds prodigious at the vernal equinox; indeed it had been a year of prodigies in this nation," and on April 4th of that year he wrote that the "cold [was] so intense that there was hardly a leaf on a tree." 1673 again was characterised by a "deficient harvest" and the Farmer's almanac notes that the poor were obliged to eat bread made from peas and beans while a great number of rotten sheep lay in the fields. In the same year an Order of Sessions was passed "made for burying the bodies of diseased dead cattle, caused by the continuing rains, whereby the air is likely to become corrupt from the infinite numbers of sheep and other great cattle being suffered by the owners to remain dead above ground" (Baker 154). Deficient harvests were again widely recorded in 1674 and 1675. Extremely

cold weather continued throughout the next decade with great floods and winds vicious enough to tear up “[w]hole woods” and “sudden floods carrying away “several houses.” 1683 suffered the longest frost on record; ice on the Thames measured eleven inches thick; elms, ash, oak and walnut trees were split by frost (Baker 158).

In the fall of 1684, Jacob Bobart wrote “The *Cold* now approaching and threatening, easily puts us in mind of the rigour and severity of the last unparallel’d *Winter*; wherein Men, Beasts, Vegetables, and most part of what had any life in it, felt its cruel assaults; some proving able to withstand, and others forced to suffer under its so unusual and rude a season” (766). Plants, herbs, and flowers likewise suffered: “most of the *Artichokes* of England, and winter *Coleflowers*, *Sage*, *Tyme*, *Mastick*, *Lavender*, *Laven-Cotton*, and other divers other were generally kill’d” (778). Bobart’s prophecy concerning the approaching cold was correct: the winter of 1684 was even worse. The weather in January was so severe that street booths selling wares and roasted meats were set up on the Thames, the ice being so thick that even carts, coaches, and horses passed over. The seas were so locked that no vessels could leave or enter. “The fowls, fish, and birds, and all our exotic plants and green universally perishing,” Evelyn wrote. “Many parks of deer were destroyed, and all sorts of fuel so dear that there were great contributions to preserve the poor alive.” The summer was scorching before another winter hit, again resulting in high mortality rates.

English husbandry did little to counteract such calamities. When it came to ploughing, manuring, setting orchards, choice of crops, and planting methods, the agricultural knowledge of English farmers lagged behind the rest of Europe. In most areas, traditional forms of open-field cultivation and communal organisation of sowing and harvesting had continued unbroken for centuries. Poorly ploughed and rarely manured, the

soil in many regions was exhausted. The chief crops were limited to wheat, oats, barley, rye, and beans. Roots, clover, and many types of grasses were as yet unknown in England, and their absences made any form of crop rotation impossible (Cantor 25). All that could be done to maintain the fertility of the soil was to let the land lie fallow every second or third year. What little manuring was practised dwindled further in years of dearth and disease since farmers relied on animals grazing on the stubble of crops to fertilise the land. The cold weather only accentuated the inability of English agriculture to feed its own populace.¹

Cold weather and lack of agriculture continued to be interpreted as indicators of England's incivility well into the seventeenth century. Further, the public unrest and political turmoil plaguing seventeenth-century England did little to dislodge ancient prejudice linking barbarism and political instability with northern climates. Visconsi claims that for Restoration writers "barbarism was an uncivil taint only recently overcome and still lurking in the English people" (673). In his analysis of Aphra Behn's two last works Oroonoko (1688) and The Widow Ranter (performed posthumously in 1689) that are poised on either side of the 1688 revolution, Visconsi argues that while Behn's American settings may idealise indigenous American cultures and thereby serve a colonial purpose, Behn sees Virginia and Surinam "as refractions of England's primitive history," a period of violent lawlessness and restless disobedience, "which so haunted a nation driven to assert its credentials of civility." The barbarians are not indigenous people but rather the "dregs of English culture" who find in the Americas an opportunity to express their true nature (673). Royalists viewed the violent rejection of the Stuart line by the *mobile vulgus*, a subversive assembly of Whig politicians, mercantile and middle classes, as a result of a national character innately disinclined to law, equity, and obedience, susceptible to sliding back into a

primitive and rabble-run state.² Playing on Royalists fears of the dangers in Whiggish democratic ideology, Behn depicts the colonial government as a lower-class mob, too vicious and self-interested to tolerate a sovereign possessing noble qualities of prudence and moral judgement (696). Thus Behn's works exploit English anxieties about "the nation's racial incapacity to live in a peaceful, civil society – in current parlance we may say Behn sees the English people as possessing a collective genetic predisposition towards violence, greed, and restless disobedience" (673).

The fears of Behn and her fellow Royalists that England's barbarous past was not yet expiated also plagued their political opposites. It is testament to the insidious and pervasive nature of early modern climatic determinism that radically opposed factions, Royalists and Republicans alike, both blame the failure of their political ideals on the innate barbarity and violence of the English character. For example, John Milton traces the cause of the republic's failure to the adverse effects of cold climates:

For Britain, to speak a truth not often spoken, as it is a land fruitful enough of men stout and courageous in war, so it is naturally not over-fertile of men able to govern justly and prudently in peace, trusting only in their mother-wit; who consider not justly, that civility, prudence, love of the public good, more than of money or vain honour, are to this soil in a manner outlandish; grow not here, but in minds well implanted with solid and elaborate breeding, too impolitic else and rude, if not headstrong and intractable true civil government. Valiant indeed, and prosperous to win a field; but to know the end and reason of winning, unjudicious and unwise: in good or bad success, alike unteachable. For the sun, which we want, ripens wits as well as fruits; and as wine and oil are imported to us from abroad, so must ripe understanding, and many civil virtues, be imported into our minds from foreign writings, and examples of best ages: we shall else miscarry still and come short in the attempts of any great enterprise. (Long Parliament 10)

As England's climate was incapable of producing those agrarian necessities so abundant in southern latitudes, so too its influence negatively shaped its inhabitants: civility,

prudence, justice, fraternity, wisdom and tolerance did not ripen naturally beneath the weak English sun. Milton's fears that England's attempts to establish a peaceful, just, and stable government might "miscarry still" resonates with the pervasive anxiety of national cultural backsliding. Milton refers to England as "a savage nation born under the northern sky" ("Quintum novembris" 94) and questions whether the world "will not disdain so distant a Muse, who reared under hard conditions in the frozen North, recently in her rashness to fly through the cities of Italy" ("Mansus" 283). As Z. S. Fink states in his essay "Milton and the Theory of Climatic Influence," it is "symptomatic of the seriousness with which such ideas were viewed that one finds English writers attempting by various shifts to dodge the implications of their full acceptance" (71).

Of all the character traits classically ascribed to northern barbarians, England's non-agrarianism seemed to present material evidence of an innate cultural deficiency: the English character seemed more inclined to fight than hoe. It was only a barbarian who identified status with the sword, and it was the same barbarian who shunned the agrarian way of life. Deborah Shuger explains the logic: "Whereas semi-nomadic grazers have little real property and therefore little investment in peace, agriculture breeds civility since farmers, in contrast, are understandably reluctant to see the fruits of their bone-weary toil destroyed overnight by marauding soldiers" (509). What Shuger calls "the pacification of the English aristocracy" involved a gradual transformation of the English warrior aristocracy into a rural gentry from about the mid-sixteenth century onwards (521). Turning swords into plough shears became a common catch phrase. In the Epistle Dedicatory to Curiosities: or The Cabinet of Nature, Contayning Phylosophic all Naturall and Morall Questions answered (1637), Robert Basset advocates exactly such a transformation. Basset describes a soldier "by an innate desire of

amelioration ... seeing that *Bellum* was but *Jactus Aleæ*, making a faire retreat, and resigning his Sword to *Mars*, retired himselfe to the former unforgotten tranquillity of his pleasing and most recreative Studies” of nature’s “ever vernant and private walkes” (n.p.). Basset’s claim that the soldier possessed “an innate desire of *amelioration*” reinterprets the northern character, who, for Basset, desires to return to a “former unforgotten” tranquil mode of life.

The following section explores husbandry manuals published by the circle of writers associated with Samuel Hartlib. In these works, agricultural reform is inseparable from an agenda of societal refinement and enlightenment based on classical ideals of civility and Puritan aspirations for a paradise regained.

The Golden Age, Eden, and Baconian Scientific Reforms

From the mid-sixteenth century onwards, classical works on husbandry began to make a profound impact of English agriculture. Xenophon described how to improve neglected ground by tillage; Cato explained methods for grafting fruit trees and spreading manure; Columella gave instructions for planting a more varied range of vegetables than ordinarily used in the English diet, such as cress, various lettuces, cucumbers, and artichokes. There was more to farming than tending the land. Aiming to improve the character of English landowners as much as agricultural productivity, husbandry manuals exalted the classical ideals epitomised by Virgil’s *Georgics*. *Maison Rustique, or The Countrey Farme*, an English translation of Charles Estienne’s work published in 1606, claims that for the pleasures and liberties of gardening, “verie manie great worthies have left and forsaken their

townes, theaters, pillars, images, and all manner of stately buildings and monuments of magnificencie, despised their purple robes, imperiall crownes, and sweete perfumes, and addicted themselves to husbandrie.” For, Estienne asserts, the earth “was never so fertile and fruitfull in all kinds of fruits, as when it was adorned with a purple plough” (n.p.). In Sylva, or a Discourse of Forest-Trees and the Propagation of Timber (1670), John Evelyn notes such great kings, philosophers, and senators as Solomon, Cyrus, Cicero, Cato, “and thousands more whom I might enumerate, that did not disdain to cultivate these *Rusticities* even with their own hands” (n.p.). Likewise, Leonard Meager’s The New Art of Gardening (1697) reckoned that the Ancients had “inriched Posterity, in leaving behind them, *Orchards* Planted with stately and regally planted Trees. [...] Kings, Princes, and the wisest Men of all Ages, have some or other of them, taken singular Delight in this Exercise of Planting, Setting, Sowing ... and rejoyced to see the Fruits of their Labour” (1-2). The labour of gardening itself cultivated character as much as the land.

The civilising propaganda in agricultural manuals was aimed directly at landowners of a certain status. As Richard Drayton states, “the hero of the drama of agrarian improvement was the private landlord who was driven by private delight as much as by the urge to make his country (or himself) rich and secure. His prudence, industry, and patriotism would be visible in the beauty of his estate, the range of his amusements, and sometimes, his learning” (60). Evelyn presents his Kalendarium Hortense; or the Gard’ners Almanac, first published in 1664 and re-printed at least ten times before the end of the century, “to incite an *Affection* in the *Nobles* of this *Nation*” towards gardening” (6). Evelyn appeals to the landed gentry’s aspirations for remembrance and grandeur. Not only were the greatest personages in history farmers, but gardening left behind “a more *lasting*, a more *Glorious Monument*” than

military conquests. The useful arts such as farming have “always Surviv’d the *Triumphs* of the proudest *Conquerors*, and spillers of humane *blood*; *Princes* have been more *Renown’d* for their *Civility* ... than to all their *Sanguine Victories*, subduing *Provinces*, and making those brutish desolations in the World, to feed a savage, and vile *Ambition*” (*Sylva* n.p.). Likewise the English gentleman might shed any savage vestiges by cultivating his lands.

But apparently not all landowners were convinced. Evelyn rebukes the English custom of sending the brightest child away to school and leaving farming either to “the most *Ignorant*” children who remain at home or hired labourers: “This is the *Cause* ... that our *Lands* are so ill *Cultivated* and neglected,” Evelyn charges. “When as in *truth*, and in *reason*, the more *Learning*, the better *Philosopher*, and the greater *Abilities* they possess, the *more*, and the *better* are they [farmers] *qualified*, to *Cultivate*, and improve their *Estates*.” Giving directions on what to do monthly about their estates, Evelyn hoped that his readers would learn the labours and pleasures of gardening, which naturally lead to “*tranquillity and satisfaction* ... *Piety, Contemplation, Experience, Health and Longævity*” (*Kalendarium* 5).

If gardening was a civilising pleasure, agricultural reformers strove to convince landowners that it was also profitable. The agricultural revolution is closely connected with the passage of English society from a feudal to a market economy (Low 64-65). While land enclosures for sheep were criticised for depopulating the land and inducing high rates of unemployment, enclosing land for farming was promoted as “improvement.” Seventeenth-century writers used agrarian improvement as a concept which “conflated qualitative changes in agricultural productivity with increases in financial returns” (McRae, *God Speed* 137). To improve meant to “turn *land* to profit; to enclose and cultivate (waste land); hence to make

land more valuable or better by such means” (OED 2b), or, more explicitly, “to enhance in monetary value; to raise the price or amount of” (OED 3).

“It is a thing much celebrated by Antiquitie,” claims Sir Richard Weston in 1652, “and thought the noblest way to gather wealth, for to imploie one’s wit and monie upon his Land, and by that means to augment his Estate” (2). Weston continues, asking for what purpose do “men of all occupations and trades, toil and labor with great affection, but to get monie; and with that monie when they have gotten it, but to purchase Land, and to what end do they buy that Land, but to receiv the fruits of it to live; and how shall one receiv the fruits of it, but by his own Husbandrie”? (3) Weston’s treatise contained instruction to convert five hundred acres of “barren and heathie land” into seven thousand pounds a year in only five years (22). Leonard Meager promised similar returns in The New Art of Gardening (1697), claiming to offer “an extraordinary way of Improving Lands to a vast value, even to Twenty Fould in a few Years” (B). “You will finde this Husbandry,” Weston affirms, “to bee very pleasing to you, and also so exceeding profitable, that it will make you diligent” (3).

In addition, writers began to argue explicitly that private ownership, self-interest, and self-enrichment were beneficial to the common good and to the republic’s welfare. This view, so fundamental to later western history and economic thought, was first submitted around 1650 by agricultural reformers (Low 65). As McRae explains, “With ever-increasing confidence, the proponents of improvement fashioned coherent and authoritative representations of an economy and society in which the interests of the commonwealth were advanced by the individual desires of its members (“Husbandry” 56). Hartlib claimed that “most men seek themselves alone; and conceive that they are not bound to provide for any besides themselves; and so undertake all their works accordingly, which doth extremely

heighten the miseries of the times.” But Hartlib maintains that the “*Profit* of particular men, is neither so *Certain*, nor so *Great*” as when a man works “out of a faithful love to his Neighbour, or *Native Country*.” Through the industry of right-minded individuals working in collaboration “this *State* may recover it self and flourish; and the burdens which lie upon every one, may be the easier born by all” (Reformed A2, 1).

The gentrification of labour rather than its accurate portrayal in agricultural manuals distinctly shaped the relations between labour, land, character, and nation. Their attitudes towards agricultural improvement were inherently aristocratic. First, the prosiness of agricultural manuals was modelled on Virgil’s Georgics and the classical agricultural treatises, and texts were aimed at those with education in the classics and the leisure to read didactic texts. Second, labour is idealised as a pleasurable activity. A pleasure, in fact, approaching that which Adam enjoyed while tending Eden. In addition, manuals legitimised enclosing land by exalting the land-owner’s supposed superior civility and morality. Under the guiding hand of the landowner, idle workers and idle lands will both become productive.

Intensive husbandry would also provide work for the rising number of unemployed, and in fact transformations of land ownership in the mid-seventeenth century from the old aristocratic ideal of feudal tenure to a meritocracy of owners who improved their lands likewise effected a revaluation of labour. As Anthony Low explains, work “which in the consensus of many old-fashioned moralists represented the curse on fallen Adam and his sons ... now to the contrary represents the very means of restoring Eden in this present world” (67). In Bread for the Poore, and Advancement of The English Nation, Promised by Enclosure of the Wastes and Common Grounds of England (1653), Adam Moore claimed that England could become a second Eden by means of agricultural improvement through the

employment of rural labourers: “as *Adam in Eden*, so are we all by that all-Creator placed in this Garden, *To keep it and dresse it*, for the comfort, encrease, and preservation of his people” (2). Taking God’s command to Adam and Eve to tend Eden, Moore argues that England will flourish only by hard yet pleasurable labour.

Agriculture, then, was also an exercise in spiritual rectitude. In improvement manuals the classical ideals affiliating civility with agrarianism were paired with Christian associations of moral rectitude and prelapsarian fertility. The backdrop to all seventeenth-century discussions of agriculture was the ever-potent image of Eden. Husbandry was humankind’s oldest occupation; the most harmless and necessary of industries in which the providence and wisdom of God “appears unto man more eminently then in any other way of *Industry whatsoever*” (Hartlib, *Reformed* n.p.). As Roy Porter put it: “theories of the Earth, unlike many forms of scientific discourse, were a quite *overtly* value-laden mode of natural knowledge, giving meaning to life and directing action. [...] As man was *Imago Dei*, so *mundus was Imago hominis*” (99). Inquiries into the Book of Nature were always grounded in the Book of Scripture, which expounded the Christian truths of humankind’s history, obligations, and destiny within creation.

Adam had been a gardener. The earthly paradise had enjoyed perpetual spring-like temperatures, shielded from climatic extremes, from cold frosts and scorching heat. Undisturbed by seasonal change, Eden was a vernal delight in which fruit trees simultaneously burgeoned with blossoms and fruit, and fields spontaneously brought forth autumn riches amidst the temperate pleasures of springtime. Adam had tended his fertile surroundings with ease and pleasure, and because he was obedient, he was given complete

control and knowledge of his environment. Eden, then, was distinguished by easy labour and an idyllic climate.

After his expulsion, Adam discovered the fields were reluctant and barren, requiring constant toil. The Fall not only marked the end of humans' intellectual and spiritual perfection but corrupted nature as well. As Thomas Burnet explains in The Sacred Theory of the Earth (1681), the fertility of the primogenial earth was tempered, and by degrees the earth was growing less and less fertile. The even temperature of the air was broken into seasons, winter and summer, seedtime and harvest. Delighting in the perpetual serenity of an eternal spring, the soil had been fresh and full, "all things flow'd from her more easily and more pure, like the first running of the Grape, or the Hony-comb; but now she must be prest and squeez'd, and her productions tast more of the Earth and of bitterness" (Burnet 182). And Evelyn claimed there "is not amongst *Men*, a more laborious life than is that of a good *Gardeners*" (Kalendarium 5). The necessity of farming, then, marked the difference between the current state of the world and Eden:

That which makes Husbandry and Humane Arts so necessary now for the Fruits and productions of the Earth, is partly indeed the decay of the Soil, but chiefly the diversity of Seasons, whereby they perish, if care be not taken of them; but when there was neither Heat nor Cold, Winter nor Summer, every Season was a Seed-time to Nature, and every Season an Harvest. (Burnet 197)

The consequences of Adam's sins were still present for humankind in the form of disease, mortality, and labour, and for the environment, seasonal change and barren soils. In an effort to understand their world and their place within it, seventeenth-century intellectuals composed various histories of the earth from its primogenial beginnings to the present state of the world, which gave rise to various theories on the earth's fertility and the moral

meaning of agricultural labour. Was agricultural labour, then, a woeful tribulation, marking the distance between current sweat and past delights? Or was it man's duty to steward the earth? Could the earth's edenic fertility be regained? Or did the extreme climatic conditions of the present world eliminate any such hope?

In particular, Puritans in the Hartlib Circle submitted a hopeful course of action, which did not so much nostalgically long for a past perfection than seek to create a better future. Though the expulsion of Adam and Eve was irreversible, humans were not forever damned. The fall itself contained the promise of redemption. The Puritan ethic proposed a utopian image of the world's future, in fact suggesting a "New Eden" was attainable. John Evelyn declared all gardens to be fashioned "as near as we can contrive them to the resemblance of that blessed Abode" (Kalendarium 5). And in turn, gardeners were furnished with the "the most innocent, laudable, and purest of earthly felicities, and such as does make the nearest approaches to that *Blessed State*" (5).

According to Charles Webster, Puritans formed the dominant intellectual force in English society in the second half of the seventeenth century, mounting a scientific and philosophical revolution (Instauration xiii). Two themes were of particular importance for the Puritan movement in England. The first was millenarian eschatology, associated with the belief that God had sanctioned the Reformation. The political and religious turbulence associated with such events as the Counter-Reformation, Thirty Years War, and the Civil War, were not evidence of the innate northern propensity to violence, but tests and trials for the faithful, who, if their spirits did not flag, could look forward to a period of reconciliation and utopian conditions on earth. Samuel Hartlib claims that it was

by reason of our sins we have not the blessing of the Lord upon our Labours. And this is the reason, that although the *Husbandman* hath been laborious and diligent in his calling these last years; yet our Crops have been thin, his Cattel swept away, & scarcity & famine hath seased [sic] on all parts of this Land; and if we had not been supplied from abroad, we had quite devoured all the creatures of the Island, for our sustenance, and yet we could not have been satisfied, but must have devoured one another. And therefore to conclude; though I desire the *Husbandman* to be diligent and laborious in his calling, yet I counsell him to *break off his Sins by Repentance*. [...] [I]t is the Lord *that maketh barren places fruitful*, and he likewise *that turneth fruitful Lands into barrenesse* ... and therefore, I again desire the *Countrey-man* to walk as it becometh a *Christian, in all Sobriety, Righteousnesse and Godlynesse*. (Legacie 107)

The second distinguishing feature of the movement was the revival of learning, which was seen “as thoroughly consistent with the envisaged utopian paradise and indeed capable of providing the means whereby the utopian conditions would be realised” (Webster, Instauration 1). Baconian science was central to agricultural reform. Not only were Bacon’s theories framed with reference to millenarian expectations of man’s dominion over nature but also explicitly emphasised the utilitarian functions of natural science (Webster, Instauration 335). The new system of natural philosophy set by Bacon’s writings, particularly in Instauratio Magna, was deemed the authentic guide to intellectual regeneration, and through that, the return of humankind to a state of grace. Bacon’s concluding words of Novum Organum must have been inspirational, giving voice to the possibility of a paradise regained:

For by the Fall man declined from the state of innocence and from his kingdom over the creatures. Both things can be repaired even in this life to some extent, the former by religion and faith, the latter by the arts and sciences. For the Curse did not make the creation an utter and irrevocable outlaw. In virtue of the sentence “In the sweat of thy face shalt thou eat bread,” man, by manifold labours (and not by disputation, certainly, or by useless magical ceremonies), compels the creation, in time and in part, to provide him with bread, that is to serve the purposes of human life. (221)

Bacon’s program of work “seemed to offer the hope that the fertility of the earth could be restored to its original extent by a virtuous few, a biblical motif which was taken up

by other agrarian writers in the Hartlib circle” (Bennett and Mandelbrote 38). Building on Bacon’s call for state-funded, co-operative research, Hartlib’s recommendations centred on free communication for the relief of “Publick Calamities” resulting from civil war, social unrest, unemployment, and poor harvests. Hartlib criticises those who have “enviously detained” useful knowledge from others, preferring to gratify uncharitably their private needs when through collaborative research English soil might be made fertile, the poor might be fed, and the nation, grow prosperous. Hartlib called for the establishment of a college or corporation of Husbandry, “which is the *Mother* of all other *Trades* and *Scientific Industries*.” Through education and particularly through the establishment of a college, farmers would be infused with “the more perfect *Principles* of their own *Art*, and such additional *Uses* and *Instruments*, as shall make their *Practises* more *rational, easie, & really effectual & beneficial*, as to *themselves*: so to the *advancement* and *encrease* of *publique plenty and welfare*” (Essay 6).

Agricultural reformers remained committed to practical solutions to everyday problems through organised collectives, the creation of new institutions dedicated to natural philosophical knowledge, and the application of new agricultural techniques. Beneficial plants would be unveiled. New husbandry tools and techniques would reclaim the world from corruption and infertility. By the enterprise of right-minded individuals, the workings of nature might be harnessed for human benefit: “Because man was ‘shut out of Paradise into the suburbs of this world,’ he might only return to grace through a relentless search for purity, both in personal life and nature. To struggle with the environment was to attempt to restore nature to its primitive purity” (Webster, *Instauration* 325). By experimenting and collecting, by analysis and direct study of nature, and by the practical application of

knowledge through collective projects, humankind might still regain a complete understanding of the natural world.

Before any material improvement in agricultural productivity, reformers therefore argued, farmers were obliged to cultivate character, morality, and learning. Yet, the insecurity regarding England's climatic potential remained, and perhaps was even accentuated by reformers' exaltation of classical virtues and Edenic morality and their idyllic climates. Amidst the harsh climatic realities plaguing the early modern world, as Prest rightly claims, there "can be no mistaking the longing of the late sixteenth and early seventeenth centuries for a perpetual spring" (66). Eden's vernal conditions also dovetailed with classical ideals of a Golden Age. For example, the image of *ver perpetuum* – an eternal spring – outlined by Virgil in *Georgics*, inspired Bacon to claim that London gardeners might "have the *Golden Age* againe, and a Spring all the yeare long" if they could but keep gardens thriving and green in every season (431). Balmy climates connoted a network of interrelated ideals associated with both classical and Adamic husbandry: moral purity, enjoyable labour, abundant harvests, culture, civility, and peace. And yet the chief reason the Hartlib Circle claimed why agriculture "hath hitherto arrived at no greater perfection" in England was not due to the climate.

"to the end that *Ingenuity* and *Industry* may want no incouragement"

Hartlib gives little credence to the opinion of "some fond Astrologers" who claim "that the earth being growne older and therefore colder." Certain theories further claimed that to warm the earth, the sun had descended "many degrees lower" leaving northern regions

even more frigid. Hartlib admits that Roman soldiers who occupied southern Germany mutinied “because they thought it too *cold*, that *Vines* would not grow there.” Yet at present vines flourished “many hundreds of miles more towards the *North*, both in *France*, *Lorraine*, and *Germany*; and that they are crept down even to the *latitude* of *England*” (Legacie 30). Climate was not England’s primary problem or, at least, England’s cold weather was not a drawback that could not be overcome.

Since the climate of the Mediterranean was held as the ideal and its produce such as wine and olives the ultimate harvests, northern regions, by their very geography, could not compare. Although nature is always culturally defined, it cannot be reduced to a cultural phenomenon and no more than a product of discourse. Grape vines and olive trees did not thrive in England’s soil. Imported orange and palm trees could not survive outside heated glasshouses. Even the most ardent social reformers could not ignore the significant difference between the climate of the Mediterranean and that of England. England’s cold climate would seem an easy excuse, or even a necessary cause of England’s agricultural deficiency. But blaming England’s climate cast a fatalistic verdict on England’s agricultural potential. To ascribe England’s poor harvests to a climatic insufficiency would only serve to accentuate the island’s distance from the moral, cultural, and agricultural bounty of the Mediterranean’s optimum climate. England’s geography could not be altered, but the English character could be.

The deficiency of English agriculture, as the Hartlib Circle saw it, was the result of a deficiency in disposition. English farmers needed to rouse themselves – both physically and mentally – from their indolence and apathy. In his preface to Cressey Dymock’s An Essay

for Advancement of Husbandry-Learning or Propositions for the Errecting Colledge of

Husbandry (1651), Hartlib claims,

it is nothing but the *Narrownesse* of all mens *Spirits* that makes their Miseries to ly heavy upon them: for there are *infinite Meanes* of *Reliefe* and *Comfort*, for all sorts of *Calamities* to be found in *Nature*, and well ordered *Societies*, if men were not enviously, or covetously, or peevishly, or ambitiously, or drousily straitned [sic] within themselves, in the use of that which *God* hath given them. (Essay n.p.)

The foundation of a college was seen as a dose of smelling salts that “therefore *Ingenuity* may be ransomed from her too tedious captivity; And *Industry* awakened from a kind of lethargie” (Essay 8). The urgent need for these two particular virtues – industry and ingenuity – became a mantra for advocates of English agricultural improvement. Deploring the “disorderly and lazy undertakings of private men,” Hartlib expounds the private and public benefits of agriculture “to the end that *Ingenuity* and *Industry* may want no encouragement” (Legacie A2). Hartlib’s The Reformed Husband-Man or, a Brief Treatise of the Error or Defects & Inconveniencies of our *English-Husbandry* (1651) makes certain observations and recommendations that “will lead those that are *Ingenious* and *Industrious*” towards plentiful rewards. Leonard Meager encouraged “the Ingenious, and Industrious to what must needs yield them a great Measure of Pleasure and Profit” (A2). Dymock’s short article on a new grinding machine of his own invention was published as an inspiration, that “by the blessing of the same God, there are begotten by the same Father Industry, and conceived by the same Mother Ingenuity, some other offspring of no small or lesses use” (Invention 12).

The greatest deficiency of English husbandry was the disregard for and neglect of England’s own produce, which led to an unnecessary and foolish reliance on imports.

Inspired by Bacon’s summon for collaborative inquiry and comprehensive catalogues of

nature, Hartlib entreated agriculturists and naturalists to begin assembling complete lists of England's plants. Hartlib praises "some Ingenious men" who had recently identified about 90 species of grasses in England (Legacie 5). Likewise, three men from different parts of the country – Essex, North Hamptonshire, Worcerstershire – each had collected about 200 species of apples, which prompts Hartlib to "boldly say, there are no lesse in this *Island* then 500 species" (Legacie 23). Hartlib also urges his countrymen to seek out useful grasses. He notes a particularly famous grass – "which may better be called one of the wonders of this Land" – growing in Wiltshire nine miles from Salisbury "may excel the great *Trefolie, Saint Foine, La Lucerne*, or any *exotick* plant what so ever" in the improvement of meadows and pastures (Legacie 4-5). If only Hartlib could bring ingenuity into fashion, English native fruits and grains might satisfy all England's wants. Hartlib parcels together English laziness, agricultural ignorance, and a provincial adoration of all things foreign:

We have as yet divers things from beyond Seas, which the *Gardiniers* may easily raise at home, though nothing nigh so much as formerly; for in *Qu. Eliz.* time, we had not only our *Gardiniers'* ware from *Holland*, but also *Cherries* from *Flanders*; *Apples* from *France*; *Saffron*, *Licorish* from *Spain*; *Hopps* from the *Low Countries*: And the *Frenchman* who writes the *Treasure Politick* saith, that it's one of the great *Deficiencies* of *England*, that *Hopps* will not grow, whereas now it is knowne, that *Licorish*, *Saffron*, *Cherries*, *Apples*, *Peares*, *Hopps*, *Cabbages* of *England* are the best in the world. Notwithstanding we as yet want many things, as for *example*: We want *Onions*, very many coming to *England* from *Flaunders*, *Spaine*; *Madder* for dying cometh from *Zurick-Sea* by *Zealand*; we have *Red Roses* from *France*; *Anice seeds*, *Fennel-seeds*, *Cumine*, *Caraway*, *Rice* from *Italy*, which without question would grow very well in divers moist lands in *England*; yea *Sweet Marjorame*, *Barly*, and *Cromwell-seeds*, & *Virga Aurea*, though they grow in our hedges in *England*. Lastly, *Gardening* is *deficient* in this particular: that we have not *Nurceries* sufficient in this land, of *Apples*, *Peares*, *Cherries*, *Vines*, *Chestnuts*, *Almonds*, but Gentlemen are necessitated, to send to *London* many 100 miles for them. (Legacie 12-13)

Hartlib's critique was not new or unique. In the late sixteenth century, William Harrison similarly had chastised his countrymen for lusting after all things foreign. Like

Hartlib, Harrison blames English idleness for the neglect of English gardens “whereby many goodly commodities failed and in short time were not to be had amongst us.” Idleness was spurred on by “excess and vanity” and the “natural desire that mankind hath to esteem of things far-sought, because they be rare and costly.” This “irksome contempt” for England’s natural resources because they are common and plentiful induced his countrymen to discount “our own good gifts of God growing here at home, as vile and of no value, and had every trifle and toy in admiration that is brought hither from far countries, ascribing I wot not what great forces and solemn estimation unto them” (263).

As evidence that England’s lack of agricultural product was a result of laziness and dullness and not climate, the Hartlib circle upheld the exemplary agricultural technology of the Low Countries. The system of farming developed by the Flemish was foremost in Europe at the time (Fussel 611). And that such success had been achieved at the same latitudes the English themselves occupied was no doubt inspiring for English husbandmen. The first description of farming practices in the Low Countries written in any language was Sir Richard Weston’s A Discours of Husbandrie used in Brabant and Flanders Shewing the Wonderful Improvement of Land There; and Serving as a Pattern for our Practice in this Common-wealth first published in 1645 and reprinted by Hartlib in 1650, 1652, and 1654. Weston’s text highlights the possibilities for English agriculture by promoting the suitability of farming techniques proven successful in the Low Countries since, in Weston’s words, the “similitude of a great quantitie of Land I have in *England* unto theirs in *Flanders* and *Brabant*, which I saw did bear their richest Commodities” (9).

Weston begins his treatise by describing his journey from France into the Low Countries. Landing at Dunkirk, Weston travelled forty miles to Bruges, which was “as rich a

Countrie as ever my eies beheld, stock't with goodlie *Wheat* and *Barlie*, and excellent Meadows and Pastures" (5). Weston then travelled twenty-four miles to Gent and a further thirty miles to Antwerp. Midway between Bruges and Gent, the land began to alter and just past Gent, Weston observed "such Land for about twentie miles together, that I cannot compare to any ground more like, then the Land by *Sandie Chappel*, three miles distand from *Kingston upon the Thames*" (5). The fields were not tilled and seemed to produce nothing but heath and broom. Diligently reviewing the country, Weston claims, "I could finde no other Corn to grow there, then *Rie*, *Oats*, and *French Wheat*; which seemed Testimonie to mee of the barrenesse of the soil, which would neither bear *Wheat*, *Barlie*, or *Peas*; and for that the former Grains did usually grow in *England* upon the edge of Forrests and Heathie grounds" (6). But Weston was wrong about the region.

While speaking with a Dutch merchant, Weston discovered that those lands around Gent, which seemed so similar to English fields, were in fact the richest areas. The merchant extolled the setting of flax, turnips, and clover, which when planted in rotation "yielded more profit yearly then [sic] the best Land in *Flanders*" besides supplying ample fodder for cattle (6-7). Weston was amazed:

At first I wondered much at his discours; but then much more at the ignorance and slothfulness of our Countrie which beeing near to *Flanders*, and many Merchants and Gentlemen travelling thither daily, none should understand, or at least put into practice these *Husbandries*, there being so much Barren and Heathie Land in *England* of very little value, which might by following their Example in these *Husbandries* bee made more profitable, then [sic] the best Land in this Kingdom. (7-8)

There was no reason for English soil not to produce a tidy profit. "You see," Weston tells his readers, "you have better means to mend your Land then they have; your Land lieth in a manner under the same Climate; for *Chichester* and *Mecklin* are in one degree; the Soil

is much alike” (22). By learning the ways and means of Flemish farmers, by “*Liming, dunging, or marling, and devonshiring* [clearing and burning weeds and spreading the ashes on the land]” and setting flax, turnips, clover, and grasses in proper rotations throughout the year, Weston promises “you may nobly augment your Estates, and will receiv [sic] so much the more profit and prais, by how much with more industrie and diligence you govern your affairs, and will not onely bee imitated, but also honored by your Neighbors, when they shall see your Labors prosper so far as to convert barren and heathie ground” (2).

The introduction of turnips, clover and the crop rotations they facilitated, were perhaps the most important innovation both to improve the soil and to increase productivity. Previously, such vast quantities of ground were required for active crops and fallow fields there was “hardly any *Pasture* enough or *Hay-ground* for the stock”: to produce sufficient grain for the nation, the husbandman “must rob *Peter* to pay *Paul*” (Hartlib, Reformed 5). In addition, Hartlib also recommends three French grains – *Saint Foine* as well as *La Lucerne* and *Trefoile* – all of which flourished in even dry and barren ground (Legacie 4-5). Other innovations such as building canals for better irrigation, more efficient farm layout, better land zoning, new methods of tillage were advocated by Cressy Dymock in An Essay for Advancement of Husbandry-Learning (1651), one of the earliest theoretical papers for the improvement of English husbandry.

Another vital necessity in farming was the plough. Hartlib notes that at present “there is scarce any sure rule” for making ploughs; each country, even every county, fashions its ploughs differently. Some ploughs have wheels, others none; some have pointed shears, some rounded ends; some are drawn by one or two horses or four or even twelve, others by oxen, and some propelled “with sailes as ships.” The poor farmer, “who is ordinarily

ignorant in *Mechanicks*, is even at his wits end in this Instrument, which he must necessarily use continually.” If only some farmer of industry and ingenuity could combine the best of all such inventions and “set down exact *Rules* for the making of this most necessary, yet contemned *Instrument*.” Such free communication might advance English husbandry to the same prestige as the recent expansion of English shipping, which “within *these 6 years* [has] outstripped our selves, & gone beyond all *Nations*” (Legacie 6-7). “And why may we not in this?” Hartlib asks, “this” being agricultural expertise.

English farmers had also neglected proper digging: “it is a deficiency in *Husbandry*, that it is used no more.” One good digging would dramatically improve the quality of earth, aerating the soil, burying weeds, and encouraging greater harvests. Hartlib relates that 50 years ago, “about which time *Ingenuities* first began to flourish in *England*; This *Art* of *Gardening*, began to creepe into *England*, into *Sandwich*, and *Surrey*, *Fulham*, and other places” (Legacie 11). A few of the older inhabitants in Surrey remember when “the first *Gardiners*” arrived to their district, they began planting “*Cabbages*, *Colleflowers*, and to sowe *Turneps*, *Carrots*, and *Parsnips*, to sowe *Raith*, *Rape*, *Pease*, all which at that time were great rarities, we having few, or none in *England*, but what came from *Holland* and *Flaunders*” (10-11). But although these Gardeners produced much wealth and profit from a plot of rented ground, “yet the *Gentleman* was not content, fearing they would spoile his ground; because they did use to dig it. So ignorant were we of *Gardening* in those dayes.” And while farmers in some parts of England have taken up the Flemish innovation, yet Hartlib instances “divers other places, both in the *North* and *West* of *England*” in which the “name of *Gardening*, and *Howing* is scarely knowne, in which places a few *Gardiners* might have saved the lives of many poor people, who have starved these dear years” (12).

English soil was “a godly and chemical treasury whose profits could be made available through the work of reasoned natural philosophy” (Shaffer 128). Agriculturists and natural historians had faith that science would penetrate the mysteries of the world and unlock untold treasures. As Dymock boldly stated, “our *Native Countrey*, hath in its bowels an (even almost) infinite, and inexhaustible treasure; much of which hath long laine hid, and is but new begun to be discovered” (Essay 3). Dymock adds that “Men take him for a foole or a mad man, that having store of wealth in his trunck, doth yet complain of want. What though the key be rusty for want of use?” As Dymock claimed “we enjoy not, know not, use not, the one tenth part of that plenty or wealth or happinesse, that our Earth can, and (*Ingenuity* and *Industry* well encouraged) will (by Gods blessing) yield” (Essay 3). England agriculture literally was an unmined treasury; little work had been done; little had been investigated, and as a result, small harvests were reaped.

Though northern lands were not naturally as fertile as more southern regions, the want in soils could be supplied by proper digging, watering, and, especially, by manuring. Proper manure and fertilisers were an essential ingredient to better soils and improved harvests, and with the science of soil fertility, England’s climate was not completely irrelevant. James Donaldson, for example, ascribes the growth of vegetables to “the Salt or hot quality” in the earth: “where this quality is wanting altogether, Barrenness cannot but ensue,” and, Donaldson is forced to admit, “this quality is that which is most frequently deficient in our Cold Climate” (8). As Donaldson explains:

That which is principally required to bring the Ground to a Fruitful Condition, is to assist this Hot or Salt Quality, and seeing by GOD’s Providence, we Inhabit this place of the Earth, which is naturally more cold than many other places thereof, in respect it lyeth more remote from the Sun’s Heat, let us therefore endeavour to help by *Art*, that wherein Nature is defective. (53)

You see Heat is one principal cause of the growth of Grain, and other things the Earth bringeth forth; And seeing that Providence has alotted us to live in this cold Climate, we must (by Art) endeavour to help that wherein *Nature* is defective, as is said. Which is done in two ways, *viz*: First, by restraining external Cold, and next, by strengthening or assisting the internal Heat that is in the Earth. (57)

Like Donaldson, the majority of agricultural improvers were chemical philosophers, who maintained that earth was composed of heterogeneous agents such as salts and mineral particles. John Evelyn reckons there were no less than “[o]ne hundred seventy nine million one thousand and sixty different sorts of Earths” (Philosophical 11). Some grounds were moist and cold, others hot and dry, the difference being ascribed to the proximity of the sun, which was thought to bring forth more salts. Yet by harnessing the potential of the “Ferments of the Earth,” by knowledgeably combining them and using them appropriately, the chemical agents in the soil would “concoct, digest, accelerate, and restore” infertile and barren ground (Evelyn, Philosophical 68).

Knowing a soil’s “primitive Constitution” was essential for remedying its deficiency. Fertilisers that make “cold and moist ground fertile,” Evelyn warns, “will destroy the contrary, as we see it in too free applications of salt; and therefore it requires no ordinary dexterity, to be able to direct where, and what remedies are to be administered” (Philosophical 69-70). Donaldson likewise compares soil fertilisers to medication: “For as in humane bodys there are a Composition of the four Elements, through the superfluity, or deficiency of any one or more of them, Diseases are contracted and fomented, so in the Earth there is the like Composition of qualities, and so far as heat, Moister, cold or dryness, exceedeth the bounds of a moderat temperatur, so far is she Diseased and rendered

unfruitful” (Donaldson 7-8). Agriculture was akin to the medical sciences: the proper prescriptions would yield abundant health.

In addition, different manures were better for different crops. The diligent farmer would be rewarded, and even earth that is “torrified into blackness, will exceedingly fructifie” (Philosophical 77). To “make the stubborn Clod relent” in marshlands “*Laxatives* are to be prescrib’d” such as sawdust and marle, and “Churlish Earth will be Civiliz’d” by a mixture of sand and fertilisers (80). Evelyn advises that farmers must be “well read in the *Alphabet of Earth and Composts*” and the “tempers” of plants, for while a plant “languishes and starves” in the wrong soil, in the right conditions, plants will “grow so luxuriate, as to change their very shapes, colours, leaves, roots, and other parts, and to grow almost out of the knowledge of the skilfullest [sic] *Botanists*” (48).

Although Evelyn is speaking about soil, his choice of adjectives makes it difficult not to read his agricultural advice in part as a metaphor for cultural improvement. He speaks of cultivating the “stubborn Clod” and “Churlish Earth.” By toil the “Soil may be so strangely alter’d from its former nature, as to render the harsh and most uncivil Clay obsequious” (69). Toil, diligence, and manure would indeed alter the character of the land and make English gardens abundantly fertile. Yet, the same words Evelyn uses to describe the soil were also deficiencies ascribed to the English character: stubborn, uncivil, churlish, harsh, and cloddish. However, it makes little difference whether Evelyn is discussing “Churlish” earth or humans since improving the land simultaneously effected transformations in character, which, properly fertilised and cultivated, might similarly “be strangely alter’d” from its former barbaric nature.

Managing Vineyards, Climates, and Character

Evelyn was one of the more idealistic agricultural reformers of his generation. In a letter to Thomas Browne written in 1660, Evelyn lays on a utopian plan for a small select community of “*Paradisi Cultores*, persons of antient [sic] simplicity, paradisean and hortulan saints ... a society of learned and ingenious men” to withdraw from society to create a garden for spiritual contemplation and experimental planting. Within such a “noble, princely, and universall Elysium,” even the air itself would “operat [sic] upon humane spirits towards virtue and sanctitie” (qtd. in Parry 135). Evelyn believed that such societies of ingenious and spiritual experimenters would discover “new confections of Earths and Moulds” and acquire the “skill to modifie also the *Air* about them” in order to acclimatise oranges, lemons, pomegranates, and figs, and other “precious,” “curious,” and “profitable” plants, “Strangers yet amongst us” within English gardens (Philosophical 48-49).

Although curable and despite such optimism, English indolence and ignorance proved grievously difficult to eradicate. Ever the agitator, Hartlib doesn’t hold back his antagonism against farmers who disregarded newly available crops or who refused to believe they could grow in England:

But some will object, that they will never grow here with us, for your forefathers never used them. To these I reply, and aske them, how they know? have they tryed? Idleness never wants an excuse; and why might not our forefathers upon the same ground, have held their hands in their pockets, and have said, that *Wheate, Barly*, would not have grown amongst us? and why should not they have beene discouraged from planting *Cherries, Hops, Licorish, Potatoes, Apricockes, Peaches, Melicotones*, and from sowing *Rape-seeds, Colliflowers, great Clover, Canary-seeds &c.* and many more of this kinde? and yet we know, that most of these have been brought to perfection, even in our dayes. (Legacie 79)

Neither does Hartlib shy away from discussing the potential for English vineyards, wine being an indubitable agricultural symbol of cultural distinction. Admittedly vineyards were difficult to grow in the English climate, but English would-be vintners certainly did not show much ingenuity. Hartlib offers two continental examples of admirably resourceful husbandmen. Normandy generated little wine, but in its stead produced an abundance of cider and *perry*, a pear liquor “they estimate equally to wine.” Wine was also scarce in Biscay in Spain, but here again, the resourceful farmers made use of their local sweet apples to make a delicious cider. “And truly here in England,” Hartlib encourages, “if we would make *Cider* and *Perry* of the best sorts of Fruits, which is rarely done ... we might make drinks no wayes inferiour to the *French wines*” (Legacie 25-26). The common complaint against English wines and beers was their excessive gassiness, which Hartlib chalks up to “want of use” for even Paris wines were as troublesome to him as English beer for a brief period until his stomach adjusted. Not all of his countrymen and women were so cynical and lazy, and Hartlib joyously catalogues a few ingenious efforts and discoveries by some admirably industrious people:

I must tell you, that I know an *Ingenious* man, who can without malting *Barly*, make a *drinke* not inferiour to *wine*, and a greater quantity of *Aqua-vitae* out of them, and with lesse cost, then by the ordinary way, by a peculiar *fermentation* of his own; which time will discover. There is another *Ingenious* man, who out of *Damsins*, and other fat and sweet *plums*, can make a *drinke* not a whit inferiour to the best *wines*, and abundance of *Aqua-vitae*. Many *Ladies* know how to make *Cherry*, *Raspes-wines* [sic]; and Sir *Hugh Plattes* in his *Closet for Ladies*, discloseth many secrets of this kind. [...] I have a kinsman, who can even out of *black-berries*, make a very pleasant *drinke* (26-27).

But blackberry and damson wine were only substitutes, and Hartlib was fully expectant that grapes would flourish in England. He notes that “*Rhenish-wines* grew within a

degree of the *West-southern* places of this Isle, & *Paris* is not 2 degrees *South* of us” (Legacie 30-31). If those climates could sustain vineyards, there was no reason for English vintners to blame England’s weather. “I say therefore that it is very probable, that if *Vines* have stept out of *Italy* into *Alsatia*, from them to these *places*, which are even as farre North as *England*,” then vineyards should also flourish in England “a 100 miles more or lesse causeth little alteration in heat or cold.” Hartlib even praises the delicacy of northern wines – “not *fuming* up to the head, and *Inebriating* as other *wines*” – and prefers their brisk taste to wines produced in more southern regions (31).

Hartlib counters every argument against the development of England’s vineyards. “But some will say that the wet weather destroyes us. It’s true, that the wet will destroy all things; *Sheepe*, *Corne*, &c. yet no man will say, that therefore *England* will not produce and nourish these Creatures.” Hartlib contends that England is not too damp, though “some abuse us, and call *England*, *matula Coeli*.”³ Besides, “This *Isle* is not subject to the nipping frosts in *May* as *France* is.” If extraordinary rains do fall, France wont escape suffering, and England vintners “by *Ingenuity*” will be able to extract – at the least – vinegar to pay costs. (Legacie 35)

Hartlib adds an additional encouraging prod to farmers by claiming that England had once enjoyed its own wines. English vintners had already been successful: “I dare say, it’s probably, that *Vineyards* have formerly *flourished* in *England*, & that we are to blame, that so little is attempted to revive them againe” (29). Writing in the twelfth century, William of Malmesbury noted vineyards around Kent as well in certain parishes in Gloucestershire, of which he claims “no Province in *England*, hath so many, or so good *Vineyards* as this County, either in fertility, or sweetness of the Grape. The wine whereof carrieth no

unpleasant tartness, being not much inferior to the French in sweetness.” The passage is quoted in William Camden’s Britannia, who discovered very little of the Edenic plenty William of Malmesbury had described. Yet Camden also disagrees with those idle and dissatisfied Husbands who believe

that the soil is wore out by its excessive fruitfulness in former Ages, and become barren.... [T]hat they yield none now, is rather imputed to the sloth and unactiveness of the Inhabitants, than the indisposition of the Climate. (232)

The theory that vineyards had once been plentiful was endlessly repeated. Harrison also blames idleness for the decline of English vineyards: “yet at this present have we none at all or else very little to speak of growing in this island, which I impute not unto the soil but the negligence of my countrymen” (264). Likewise in England Described: Or the Several Counties & Shires Thereof Briefly Handled (1659), Edward Leigh claims, “Many places in *Gloustershire*, and elsewhere in *England*, are called Vineyards, seeing it afforded Wine, and surely it may seem to proceed rather from the Inhabitants idlenesse, than any distemper and indisposition of the Aire, that it yeeldeth none at this day” (16-18). Similarly Barnabe Googe including instructions for the planting of vineyards, “though some of my freendes would have it omitted, as altogether impertinent to our countrey.” Yet if diligence and good husbandry were used, Googe was fully persuaded that

we might have a reasonable good wine growing in many places of this Realme: as undoubtedly we had immediately after the Conquest, tyll part by slothfulness, not liking any thing long that is painefull, partly by Civil discord long continuing, it was left, and so with time lost, as appeareth by a number of places in this Realme, that keepes still the names of Vineyards. (n.p.)

Googe notes several such places about England where the remains of vineyards can yet be seen, and as well as commending two noblemen who in recent years succeeded in

producing as fine a wine as “are in many places in France.” And if such wines do not meet every man’s expectations, the fault is not to be imputed

to any yll disposition, or fault of they soyle. For where have you in any place better, or pleasanter wines, then about Backrach, Colin, Andernach, and divers other places of Germany, that have in a manner the selfe same latitude and disposition of the Heavens that we have? Besides, that the nearenesse [sic] to the South, is not altogether the causer of good wines, appeareth in that you have about Orleans, great store of good and excellent wines: whereas, yf you goe to Burges, two dayes journey further to the South, you shal finde a wine not woorth the drinking. The like is ... of Paris, and Barleduke, the Towne being Southward, with noughty wines: the other, a great wayes farther North, with as good wines as many be. (n.p.)

If vineyards, that definitive sign of Mediterranean culture, could flourish in England, anything could. The idea that vineyards once had prospered reworked the chronicle of England’s rather arduous and uncertain progression away from barbarous non-agrarianism into a hopeful narrative in which success was guaranteed because it had already been accomplished. The narrative had a millenarian ring to it: an Eden regained. England’s farmlands had deteriorated, but they had once been abundantly fertile and would be again.

The two questions asked in the introduction, “what does cultivating pears or clover have to do with being English?” and “what would it mean for the English character if pears and clover could be cultivated in England?” can now answered. The answer to both is the same: it is the very act of cultivating pears and clover that keeps England’s barbaric past at bay. In husbanding the land, farmers were actively contradicting the classical package of stereotypical northern attributes. The connection between nation-building and the soil, so central to cultural authority in the eighteenth century, is therefore already being formulated in seventeenth-century agricultural improvement manuals. And, as England’s sense of nationhood was increasingly produced through the ever-expanding notion of empire, it is

important to note that the model of agricultural improvement as advocated in seventeenth-century reform manuals is inherently imperialistic. Agriculturally, England was Britain's first colony: the unruly and barbaric nomad (the aristocratic warrior) was domesticated into a settled, moral, and civilised agriculturist whose diligent labour was at the service of, and helped to forward, the general prosperity of the nation. And since the philosophies and methods associated with this "improvement" arose in part to rethink England's own innate barbarism, the success of these same cultivating technologies in colonial endeavours abroad seemed certain.

Hartlib's emphasis on character development as a fundamental key to agricultural improvement composed an even more radical statement than England's potential for vineyards. Underlying the claim that ingenuity, industry, and moral rectitude together would overcome any climatic or soil deficiencies was the belief that this new English character was not limited or defined by England's geographic situation. Hartlib's belief that English agriculture improved by cultivating virtues wanting in farmers – which implies that such virtues were not innate – suggests a separation between character and geography not justifiable by either Galenic or Paracelsian medicine. At least partially external to the prevailing climatic regime, the disposition of the English farmer was malleable by cultural forces. English character is extractable from the deleterious effects of the northern English climate, and, as such, is able to mould the environment. In turn the newly verdant and vernal conditions of the English landscape, a second Eden, would materially continue to represent moral rectitude and the classical ideals of civility.

The theory that the English character can overcome environmental limitations is vague in seventeenth-century agricultural tracts, a body of literature that, as we have seen,

was motivated to disprove and deny traditional prejudice against northern natures and peoples. In the eighteenth century, racial ideology, colonialism, and the Enlightenment developed the idea into a formidable discourse. The Enlightenment project promised that “we can remake ourselves, whether through the reform of our political institutions, our education or our morality” (Stepan 139). The promise of individual and national improvement, however, was not racially inclusive.

The assumption that different races responded differently to climatic conditions became a dividing line of racial categories. Jim Egan describes a refashioned British identity in the mid-eighteenth century as a product “curiously immune to the effects of environment” while Africans were considered “effects of climate.” The ability of the “British colonialists – and European in general – to adapt to any climate might even be said to be the very quality that differentiates them as a distinct group of people. The Africans are ruled by their bodies, or, perhaps more accurately, are unable to rule their bodies, while the British are ruled by culture and are able to regulate their bodies” (Egan 197). English culture is distinguished not by climate but by its ability to manipulate environmental conditions.

CONCLUSION:

In a letter to William Parker, Esq., published in Richard Bradley's A General Treatise of Husbandry and Gardening (1726), Bradley describes his pleasure at seeing Parker's "curious Garden" at Healing. Observing many foreign plants "naturalized to our Climate," Bradley compliments various ingenious "Houses of Shelter" of Parker's own design for preserving plants during their first two or three English winters "till they have got Strength ... and as soon as they come to such a State, as to be a little acquainted with our Climate by being harden'd by Degrees" (160). In particular, Bradley was impressed with Parker's introduction of "Coffee-Trees, and the great Design you are carrying on, of bringing forward the delicious Fruits of the warmer Parts of the World, by Stove, or Hot-houses" (161). Acclimatisation was a complicated and exacting science requiring skill, ingenuity, diligence, and a thorough knowledge of global climates. In the spirit of free communication, Bradley in turn offers a few inventive methods for successfully introducing coffee plants to England's climate. He describes in detail the construction of certain glass cases and hothouses he observed while in Amsterdam; he suggests that the leaves should be cleaned with "wet Spunges" to take off the "Dust that stops the Pores of the Leaves" (163); he provides a list of global spring seasons so that gardeners would not "give our Plants Heat at a wrong Season, and weaken them, perhaps, beyond recovery" (162).

For eighteenth-century naturalists, new knowledge of the world's resources offered a wealth of new economic and imperial opportunities. As the example of Bradley's and

Parker's interest in domesticating coffee plants suggests, natural history developed as a key to national wealth. Botanists participated in broader debates over the relative value of local and global plants, debates that questioned the definition of the nation as a natural entity and the limits of its dependency on particular natural resources. As Emma Spary explains, at stake "was not whether nature was a resource for mankind, but rather how the natural world was properly to be exploited. Legitimisations of this hinged on the relationship between the natural economy laid down by Providence and its variations across the globe, and the national economy of wealth and resources" ("Peaches" 22). The eternal laws of nature's economy existed in a self-regulating homeostasis. Yet, nature's variety existed for humankind's contemplation and use, and with proper knowledge and management, the balance and distribution of nature's treasures could be manipulated for national benefit. Controlling the economy of nature regulated the national economy by reducing dependency on other nations.¹

England's successful mobilisation of plant seeds and specimens around the world involved managing networks of travellers, botanists, gardeners, experimental gardens, and other institutions as well as a host of local particulars and knowledges. For example, Kew Gardens developed under Joseph Banks' guidance as a central site in which as much information and materials as possible were systematically accumulated in a form that materially represented the breadth of the empire. The transference of plants towards the centre of England's botanical network was balanced by a dispatch outwards. This botanical exchange was an important aspect of imperialism from the second half of the eighteenth century onwards. In the effort to establish the self-sufficiency of a maritime empire on a

global scale, such plantations and botanical gardens provided refreshments and resources for expeditions and colonialists alike.

Under the influence of Banks, satellites of Kew developed around globe – botanical gardens at Jamaica and St. Vincent in the West Indies; at St. Helena in the South Atlantic; at Calcutta and Madras in India; at Sydney and Parramatta in New South Wales. Staples, medicines, and other useful plants with economic significance were moved around the empire and adapted to local situations: seedlings and plants of breadfruit from Tahiti and cotton from Persia to British plantations in the West Indies, or cochineal insects from South America and tea plants from China to India. Amongst the horticultural cargo Banks determined colonisers should carry with them to New South Wales were specimens from England as well as other colonial plantations. These included seeds for vegetables and salad greens, herbs including basil, fennel, marjoram, thyme, chives, mint, and parsley, and grains such as wheat, barley, and oats. The fruit vines, shrubs, and trees included raspberries, gooseberries, strawberries, grapes, oranges, lemons and limes, apple, peach, nectarine, pear, plum, apricot, and cherry. Other plants of more economic significance were also included such as hemp, flax, rhubarb, tobacco, and potatoes.

The introduction of foreign plants into England and the exportation of English plants to colonial plantations raise the question as to what is the nature of English nature. One approach to answering this question is to explore the relation between England and Britain and, by extension, English nature and British nature. As Willy Maley states, from the early seventeenth century onwards “it is the non-English elements of the British Isles, represented as colonies or regions, that define and circumscribe Englishness.” The issues and identities of the colonial margins are crucial to the construction of the “centre, “not least of all because

the 'centre' of English culture, its pretensions to statehood, is located precisely in those margins" (12). This "centre" is not the latitudinal centre of ancient humoral medicine, but a centre as a new world-system.² As much as Englishness was imagined as independent and prior to the notion of Britishness, England came to be defined against and through the identities constructed of the "margins" of the British Empire. More specifically, England developed as the administrative centre of the British Empire and through the management of that centrality. English (and after 1707, British) culture came to knowledge of itself through the "cultivation" and "improvement" of territories, populations, and resources, which were deemed neglected, backwards, and undeveloped.

A particular form of this management of people and nature was the enclosure in its various manifestations – the plantation, the colony, the country estate – a structure which was metonymic of the British Empire itself. As Bruce Mcleod argues, the country house and the colony are conflated by the ethos of "benign" management: "Improving the uncultivated linked land (and people) management at home and abroad" (91). In addition, enclosures in England (at least until the end of the seventeenth century) and abroad were structures motivated to eradicate barbarism, incivility, and indolence. As strongholds of civility, moral rectitude, industrious labour, and productivity, the country house is an essentially colonial paradigm. The righteous appropriation of resources and land due to the superior status of the coloniser or landowner structures the ideology of both the country house and the colony: "If God and nature intended certain elites to rule over paradise at home, indeed their rule creates paradise, then it only follows that other places that can be cultivated into a paradisiacal state are rightfully theirs" (86). In this respect English nature is subsumed into British nature through the general management of all the empire's resources.

There is another, although not altogether different, approach to defining the Englishness of English nature. English nature came to be understood not as what was indigenous to England's geography but what the English gardener and agriculturist were able to naturalise, that is, nationalise within English gardens. Further, the limits on what can be acclimatised is not so much dependent on what the soil and climate are able to support but on what English industry and ingenuity are able to foster and cultivate. Planting new crops, discovering and perfecting arboricultural techniques such as hoeing and fertilising to increase yields and grafting to produce finer yields, and new chemical analysis of the qualities of various soils and waters, are all at the service of broadening the corpus of English plants.

The abundant and fertile garden, then, is not only material evidence of the geographic breadth of the British Empire, but also a sign of the gardener's character and personal cultivation. In other words, the Englishness of English nature is constructed through, and is therefore inseparable, from the English character. For example, although Darwin admits that many of the plants in the Waimate plantation belong to a "warmer clime," nevertheless he makes no distinction between apples, rhubarb, olives, English oaks, grapes, gooseberries, and peaches: all have come to stand for English nature through their naturalisation within the "English" farm transplanted to New Zealand (379). Englishness is made materially evident in the construction of gardens.

Only particular characters were able to elicit such malleability from nature, or at least only under the watchful gaze of benign domestic management were the civilising capacities inherent in the act of cultivating English agriculture achieved. Under the auspices of improvement, the plantation is transformed into a microclimate of Englishness:

When I looked at this whole scene, I thought it admirable. It was not merely that England was brought vividly before my mind; yet, as evening drew to a close, the domestic sounds, the fields of corn, the distant undulating country with its trees might well have been mistaken for our fatherland: nor was it the triumphant feeling at seeing what Englishmen could effect; but rather the high hope thus inspired for the future progress of this fine island. (507-8)

Both the cultural and agricultural cultivation that “Englishmen could effect” in New Zealand was dependent of the exportability and transplantability of certain English characteristics. As briefly discussed at the end of chapter five, the model of agricultural improvement developed in the late seventeenth century offered the promise that through the cultivating of the land, the English farmer would overcome any injurious effects of climate. English character is envisioned as able to overcome the deleterious effects of the northern English climate, and, as such, is able to mould the environment. Through the management of one’s own self, one’s lands, resources, and labour forces, whether in England or New Zealand, the potential for “future progress” was without limits. Allowing fields to lie uncultivated and wild, that is, unpossessed, was morally reprehensible, barbaric even.

Darwin’s sentimental moment suggests, however, that “our fatherland” was more than an effect of management. The evocative image of the “blessed plot” hints at an inherent inconsistency in the cultivation of English character through agricultural improvement. While a defining feature of Englishness is its ability to extract itself from climatic exigencies (in distinction to other groups of people who remained mired and determined by climate), at the same time, Englishness is inseparable from England’s geography. This contradiction was first vaguely conceived in chorographies: it was the land that conferred identity, but it was through possession of the land that identity was secured. A similar argument is made in agricultural manuals: it is only by fully internalising the natural characteristic endowed by

England's geography that the English character is able to rise above it. Identity is derived from territory while simultaneously constructed through an individual's ability to make the land malleable.

Perhaps the most obvious example of this inconsistency – both of the land and above the land – is evident in eighteenth- and nineteenth-century racial medical discourse in which strength and susceptibility are both signs of England's superiority. The perceived contrast between the abilities of Europeans and non-Europeans to withstand particular climatic conditions presented ample opportunity for racial commentary. Travel narratives are littered with laments and hardships coupled with wonder at indigenous populations' durability and endurance. Lucy Bending's investigation into representations of bodily pain in Victorian culture describes how white, civilised, Christian Europeans were able to "construct a sense of self by saying, I feel pain therefore I am not a savage" (208). From at least the eighteenth-century, susceptibility to pain became an index of social position, culture, and race, a type of neurological elitism that offered a progressive scale of refinement and civilisation separating lower from higher species, women from men, poor from rich, and savage from civilised (Bending 180).

The presumed refinement of European neurological and general physiological structures blinded many European travellers to the hardships of native carriers laden with cases of specimens, equipment, supplies, and even Europeans themselves. As concepts of race solidified with polygenist assumptions in the nineteenth-century, earlier optimism about acclimatisation in tropical or otherwise relentless climates diminished: "Europeans came to regard themselves as exotica in foreign soil: feelings of superiority and vulnerability were two sides of the same imperial coin" (Harrison 70). Medical manuals such as James

Johnson's Influence of Tropical Climates on European Constitutions (1813) concluded that Europeans' "seasoning" to tropical climates was possible only to a limited degree; the deleterious effects of climate could be mitigated but ultimately not conquered.

This pairing of superiority and susceptibility continued into the early twentieth century. Ellsworth Huntington dedicates an entire work appropriately titled Civilization and Climate (1915) to determine the extent of climate's influence over various races. "Whatever may be the cause, it is generally agreed that the native races within the tropics are dull in thought and slow in action," Huntington states emphatically, and in "tropical countries weakness of will is unfortunately a quality displayed not only by natives, but by a large proportion of the northerner sojourner" (36, 41). Although practically every northerner finds tropical climates "delightful" and stimulating on first arrival, little by little, however,

even though he retains perfect health, he slows down. He does not work so hard as before, nor does the spirit of ambition prick him so keenly. On the low, damp seacoast, and still more in the lowland forests, the process of deterioration is relatively rapid, although its duration may vary enormously in different individuals. In the dry interior the process is slower, and on the high plateaus it may take many years. Both in books and in conversation with inhabitants of tropical regions one finds practically unanimity as to this tropical inertia, and it applies both to body and mind. (39-40)

Huntington's projection is informed by a host of later scientific, cultural, and racial prejudices and constructions, but more than a hint of the seventeenth-century Paracelsian notion of health and homeland remains. Despite all assurances of the English ability to adapt to, manipulate, and manage any environment, nevertheless optimal English health is still found in England's geography. English climate, character, and nature remained connected.

In conclusion, the ultimate achievement of northerners in their use of climatic determinism is not their appropriation of the ideal latitudes from the Mediterranean nor their

development of sciences that rationalised this shift northwards. Their greatest success is not even the use of these new sciences to legitimate colonial applications of cultural and environmental “improvement.” Rather, it is the silence that surrounds the cultivation of the northern character that is impressive.

In every respect the new English character was developed in contradiction to ancient climatic models for explaining human and natural variation. By attempting to disprove the philosophy that the English were a rude, undomesticated, non-agrarian people and by manipulating their natural environment as material evidence of their reformed character, early modern English writers succeeded not only in overcoming deeply ingrained insecurities. They also, and more impressively, naturalised the processes by which they themselves were “civilised” to such a degree as to render those processes invisible, thereby transforming pears and clover into symbols of English civility.

ENDNOTES.**Introduction:**

¹ Darwin visits New Zealand on the Beagle's journey from Tahiti to Australia.

² For example, Humboldt affirmed and strengthened the binary between north and south by shifting attention away from the division between Old and New Worlds and towards discriminating between northern and southern biospheres. His innovation of isothermal lines and plant geography divided the globe into bands of distinct climatic environments, the more southern of which were not conducive or even capable of producing "superior" cultural forms, logic, of science. For Humboldt, the very fertility of the soil "retards the progress of nations towards civilisation" and "intellectual faculties unfold less rapidly than under a rigorous sky" (qtd. in Stepan 42).

³ These studies include Glacken, Hodgen, J. W. Johnson, and Tooley. Among the works that deal specifically with early modern England include Z. S. Fink, Visconsi, and Bovilsky.

⁴ This absence of research might be explained by the particularly vicious history of climatically derived racial philosophies as wielded by the white northerner and by the very recent development of critical interest in climatic theory. In a world marked by the Holocaust, Apartheid, and colonialism, examining how such climatic theories developed is perhaps a less pressing issue than examining how they were manipulated.

Chapter I.**English Names for Ancient Herbs:****William Turner and Renaissance Botanical Science**

¹ The following style will be adhered to throughout this manuscript. English nomenclature including sixteenth- and seventeenth-century spelling will not be italicised. All non-English botanical names will be italicised. The Latin alphabet will be used for Greek terms unless the Greek alphabet is used in a quotation.

² The dropsy was a morbid condition arising from the accumulation of watery fluid in the body tissues. The pleurisy was a similar disease, likewise characterised by an excess of humoral fluid.

³ It would seem Turner's sustained attack on Mattioli stemmed more from professional jealousy than serious academic critique. Mattioli's reputation far exceeded Turner's. He enjoyed the favour of Cardinal Clesio, Bishop and Prince of Trent. Emperor Ferdinand I appointed Mattioli as physician to his son, Archduke Ferdinand, and conferred on him the title of nobleman. It was during his residence in Prague that Mattioli published his widely acclaimed Italian translation of Dioscorides, *Commentarii*. The publication was in fact an edited version of Ruel's translation, supplemented by woodcuts and Mattioli's own commentaries. The work became the standard reference book on medicinal botany for physicians through Europe in the latter half of the seventeenth century, constantly reprinted with subsequent translations into French, German, and Bohemian.

⁴ The translator was Silio Gregorio Giraldo Ferrariense (fl. 1530s) and his edition of Sethi's work was published with both Latin and Greek text at Basel in 1538.

⁵ Until the end of the sixteenth century, naturalists' accounts from the New World drastically lagged behind other efforts to collect and digest information about the natural world. Henry Lowood has argued that this disinterest was in part due to an unrestrained typographic culture, which eroded the textual reliability of phenomena that was itself ontologically dubious or unbelievable to European naturalists. With so many reasons to bypass exploration accounts – dilution of original narratives, poor excerpts and translations, and pirated woodcuts mismatched with texts – “naturalists turned to evidence they themselves could directly experience and their artists could illustrate ‘from life’” (316-17).

⁶ In the preface to his De historia stirpium commentarii insignes (1542), Fuchs claims “nostræ ætatis etiam medici sic ab eo [studium stirpium] abhorreant, ut inter centum vix unum qui pauculas saltem herbas exacte cognitas habeat” (n.p.).

⁷ Botanical gardens were established at Bologna (1568), Vienna (1573), Leipzig (1580), Leyden (1587), Montpellier (1593), and Oxford (1621).

⁸ “Those physicians who completely reject this attention to botanical knowledge, scorn it, and consider it worthless, deservedly then incur our great reproof and rebuke and that of many good men. [...] For no one of them is able to heal successfully or devise medication, or to use properly and appropriate medicines already discovered without having an accurate knowledge of simples.”

⁹ Travel literature is, of course, a broad term encompassing a diverse body of writings. Here I use the term generally to mean early modern accounts of travels and adventures abroad narrated in the first person singular.

¹⁰ Steven Shapin has recently shown that trust was a critical foundation for factual knowledge (see The Social History of Truth and “The House of Experimentation”). Although Shapin circumscribes early modern use of trust to a small circle of gentlemanly experimenters, the virtuosi and information storehouses such as the Royal Society were frequently dependent on the testimonies of decidedly non-gentlemanly travellers: sea captains, merchants, and sailors. The concern for reliable knowledge prompted Robert Boyle, Robert Hooke, John Woodward and many other Royal Society members to circulate lists of “General Inquiries,” which instructed travellers on what and how to observe, what questions to ask, and what to collect and bring home. These instructions were set out with the hope of disciplining travellers’ reports into some sort of standard template as well as perhaps acquiring multiple commentaries on the same subject.

¹¹ “as we know almost every region brings forth its own particular plants”

¹² “And why should well known and common plants be so condemned by us, when more often their potency is greater than those which are from remote and foreign parts of the world, not to be had without great cost and expense? What is more common than Polyonum? What more contemptible? It is trodden under foot by all. But if, however, you wish to test its strength in stopping blood flow, you will say nothing is superior to it.”

¹³ The philosophical reasons for physicians’ animosity towards vernacular translations of medical works will be discussed in chapter four.

¹⁴ Despite his lack of esteem for English, Ascham did not deny English the capacity for erudition: even in the “rudest countrie and most barbarous mother language, many be found [who] can speke verie wiselie” (117).

¹⁵ Establishing a national botanical vernacular was a slow and arduous process. In the mid-seventeenth century, Nicolas Culpeper, a vociferously patriotic author of popular herbals whom we will meet at greater length in a subsequent chapter, states that considering “divers Shires in this Nation give divers Names to one and the same Herb, and that Common Names which it bears in one Countrey, is not in another; I shall take the pains to set down all the Names that I know of each Herb: pardon me for setting that Name first which is most common to my self.” Of crow-foot, for example, Culpeper claims that “many are the Names of this furious biting Herb hath obtained, almost enough to make up a *Welshmans Pedigree*” (English Physician 80).

¹⁶ According to A. G. Morton, Turner listed thirty-seven new plants “not in any olde ancient wryter” (Morton 150 n.11).

Chapter II.
Writing the Land:
Chorography, Authorship, and Territorial Possession

¹ For a closer look at the accumulative achievement of county maps and the particular contribution made by John Norden, William Smith, and John Speed, see “Mapping Country and County” in Delano-Smith and Kain, especially pp. 51, 71-75.

² Woad is a herbaceous plant which produces a strong blue dye akin to indigo. Woad was used by ancient Britons to paint their bodies blue to frighten opponents, and the Roman soldiers referred to these people as Picts, which is Celtic for “painted.”

Chapter III.
Geographies of Health, Race, and Nation

¹ Seasonings are attacks of fevers, sweats, spasms, and chills associated with the more or less agonising process of seasoning or acclimatising to a strange climate, especially when travelling or taking up abode in tropical regions. Cachexy is a wretched condition perhaps akin to scurvy in which the consequences of deficient nutrition are everywhere visible. Scorbucal Dropsies, in distinction from the regular sort, are associated with scurvy-like symptoms. And lastly, Gripes are merely spasmodic pains in the bowels.

² The calenture or burning fever was a disease incident to sailors within the tropics, characterized by delirium in which the patient apparently fancies the sea to be green fields and desires nothing more than to leap into it. Fluxes occur when the body is over-chilled or over-heated, or has an excess or deficiency of phlegm.

³ In contrast to the barbaric “Scytho-Celtic model,” Irish philologists, antiquarians, and naturalists constructed their own noble ancestry and ancient pedigree. General Charles Vallancey, Henry O’Brien, and Sir William Betham amongst others advocated the model particularly forcefully in the eighteenth century. Drawing from readings and misreadings of ancient Roman texts and Gaelic myths, the “Phoenician model” argued that the Celts had migrated from the East by sea along the Phoenician trade route, around the southern edge of Europe to Spain, and then onwards to the British Isles. As Joep Leersen explains:

The presumption was that ancient Ireland had had a native tradition of high civility, which was now lost. [...] In the opposition between civility and barbarism, the Anglocentric view saw the Irish as savages and the English presence as a force of civility; the Phoenician hypothesis turned the tables, and predicated civility on native Gaels while bracketing the English presence with the Viking spoliation, seeing them as violent disruptions (Remembrance 74).

For further studies on Irish-Phoenician ancestry see Leersen, Remembrance and Imagination, pp. 68-157; Leerson, Mere Irish & Fíor-Ghael, pp. 333-335; Joseph Lennon, “Irish Orientalism: An Overview.”

⁴ See Mary Floyd-Wilson’s “Temperature, Temperance, and Racial Difference in Ben Jonson’s *The Masque of Blackness*” for an excellent discussion of English and Scottish law as they pertain to race.

⁵ For discussion of the term “denial of coevalness,” see Fabian.

⁶ Of the four qualities, dry and hot were designated as the superior. The bias was manipulated to discriminate not only between nations but also between the genders. Men’s bodies were predominantly hot and dry, while those of women, as evinced by menstruation and breast milk, contained an excess of wet and cold humours. As the thicker humours in northern bodies produced a blockish and dull intellect, so too the excess of moisture in women bodies limited their intellectual capacity.

⁷ These cultural designations were by no means the only ones in circulation. It is important to accentuate the multiple and at times conflicting early modern racial identities of all nations. For example, Maley offers an insightful reading into early modern English writers’ conflation of Spanish, Scottish, and Irish barbarity as rationalised by their putative common Scythian ancestry; see pp 63-91.

⁸ Belief in the ontological existence of disease arose partly from recurrent epidemics of plagues and the devastating introduction of syphilis, which was incurable with traditional medicines.

⁹ “Forceful” is a benign reading of Paracelsus’ rejection of ancient learning. The vociferousness of his outburst against students of ancient learning, particularly physicians, has been immortalised in our adjective “bombastic,” derived from Paracelsus’ middle name: “Let me tell you this: every little hair on my neck knows more than you and all your scribes, and my shoe-buckles are more learned than your Galen and Avicenna, and my beard had more experience than all your high colleges” (qtd. in Debus Chemical Philosophy 52).

Chapter IV.
English Herbs for English Bodies:
Popular Herbals and Paracelsian Medicine

¹ “Empirics” was a term scathingly applied by educated physicians to all practitioners without university degrees.

² The establishment of an official pharmacopoeia in England was relatively late compared to Continental cities. The first official dispensaries were published in Italy at the end of the fifteenth century, Venice (1496) and Florence (1498). Municipal pharmacopoeias were composed in Nuremberg (1535), Basel (1555), Mantua (1559), Antwerp (1561), Augsburg (1564), Cologne (1565), and Bergamo (1580).

³ It should be noted that many physicians were deeply engaged in discovering new remedies. Some of the greatest herbalists of the sixteenth and seventeenth centuries were physicians. The division, then, is better understood as a split between scholars with philological commitments and empirically motivated natural historians.

⁴ As the name suggests, compounds were medicines composed of a variety of animal, mineral, and botanical parts.

⁵ Ostensibly in the name of freely communicating legitimate cures and reliable knowledge of imports, Peachey's pamphlets were in fact published at the behest of the importer. Such links between importers and health propagandists were common. For example, Cornelis Bontekope (1640-85) published a book on the restorative power of tea, recommending at least eight to ten cups a day, and up to fifty to two hundred as reasonable. Although it remains unproved, the "tea doctor," as Bontekope came to be known, had close connections with the Dutch East India Company (Cook, "Physicians" 95).

⁶ For excellent discussions of Paracelsian chemical theories and remedies, see both Pagel and Debus, The Chemical Philosophy: Paracelsian Science and Medicine in the Sixteenth and Seventeenth Centuries. For the use of chemical therapies in England see Wear, Knowledge and Practice in English Medicine, 1550-1680 and Debus, Medicine in Seventeenth Century England.

⁷ In addition, Paracelsian understanding of disease as an ontological entity rather than an imbalance curable by good living side-stepped physicians' paternalistic advice. No amount of pastoral care would purge a lethal contaminant.

**Chapter V. "*Idleness never wants an Excuse*":
Ingenuity, Industry, and Agricultural Reform**

¹ In addition to poor farming practices, the steady increase of common lands enclosed for private use from the twelfth century was seen as a significant contributor to England's agricultural problems. After the Black Death the demand for grain faltered as a result of high mortality, which also made labour scarce and caused wages to escalate. The major

movement by landlords to put down grass for sheep farming occurred shortly after, from 1440 to 1520. Since raising sheep required fewer hands, enclosures were seen as a prime agent in depopulating the land, reducing the percent of land for farming, and contributing to a rising percentage of unemployed, landless, poor, hungry, and potentially riotous vagrants. The revolts of 1536 and 1549 and to some extent those of 1554 and 1569 were in reaction to enclosures, and further uprisings of 1596 in Oxfordshire and 1607 in the Midlands were also motivated by agricultural grievances (Tate 67).

² English noblemen were thought to be no less riotous than the common rabble. Perhaps they were even more given to lawless violence and barbarous behaviour. In Of Nobilitie (1563), Laurence Humphrey, for example, summarises the preferred lifestyle of the restive nobility: “hawkyng, huntynge, pastimes, mightye power, vayne vauntes, traynes of horse, and servauntes, ryot, myschyfes, bravery, roysterings porte, or greate lyne” (qtd. in Shuger 505).

³ A rough translation of *matula coeli* is “piss-pot of heaven” although *matula* was also a term of abuse for a simpleton.

Conclusion:

¹ For further on the perceived interrelations between natural and national economy in eighteenth-century France see Spary’s Utopia’s Garden: French Natural History from Old Regime to Revolution and “‘Peaches Which the Patriarchs Lacked’: Natural History, Natural Resources, and the Natural Economy in France.” Koerner provides a clear analysis of how

Linnaeus desired to regulate the Swedish economy through the management of native and domesticated imports such as tea plants.

² I take this concept from Enrique Dussel, "Beyond Eurocentricism: The World-System and the Limits of Modernity." Dussel argues for the construction of "world-system" launched by Columbus' Atlantic journey. "It begins with the *simultaneous* constitution of Spain with reference to its 'peripheries' (first of all, properly speaking, Amerindia: the Caribbean, Mexico, and Peru). Simultaneously, Europe ... will go on to *constitute* itself as centre ... over a growing periphery" (4). Modernity, Dussel goes on to explain, "is not a phenomenon of Europe as an *independent* system, but of Europe as a center," and of, more specifically, the management of that centrality (4-5).

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