Abstract

Seeing Race: Techniques of Vision and Human Difference in the Eighteenth Century

Tyler James Griffith

2015

This dissertation examines the importance of geography, performance, and microscopy in the construction of theories of human difference in Europe in the eighteenth century, with a particular focus on "fringe groups" such as albinos with black parents and individuals with complexion disorders. It joins a growing discussion in history, the history of science and medicine, and critical racial theory about the social and philosophic bases of early-modern human taxonomic schemas. Collectively, the fields analyzed in this study share a common conceptual root in their dependence on transferable physical processes—techniques—as much as on the intellectual frameworks investing those gestures with meaning. The necessarily embodied processes of exploration, spectatorship, and microscopic visual analysis produced discrete ways of seeing human difference which influenced the conclusions that natural philosophers reached through those embodied experiences. Marginal groups of individuals with unexpected or "abnormal" complexions drew a disproportionate amount of attention in the eighteenth century, because they were not easily identifiable with pre-existing conceptions of human difference and consequently provided a strong impetus to reconsider those epistemic categories. Overwhelmingly, the perspectives of eighteenth-century natural philosophers were profoundly non-racial in nature; instead, they drew upon ideas as varied as monstrosity, morality, self-analysis, dramatic tragedy, entertainment, and imagination to position experiences of unexpected human diversity in a distinctly valuative and sensational understanding of human difference. Through the interrogation of new and underutilized sources, this dissertation argues for an enrichment of our understanding of the "history of race" by taking into account the diversity of the physical techniques that were used by eighteenth

century thinkers to arrive at ideas about human difference, while simultaneously demonstrating the centrality of hitherto understudied groups—such as albinos with black parents—in the formulation of systems of human difference.

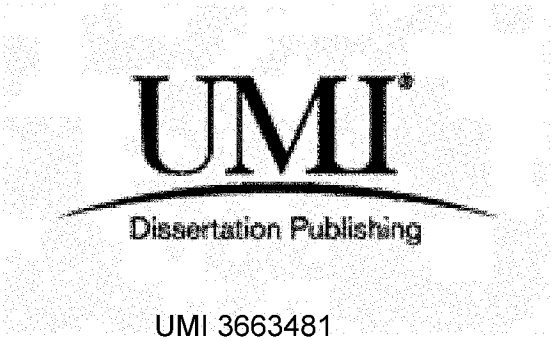
Seeing Race:
Techniques of Vision and Human Difference in the Eighteenth Century

A Dissertation
Presented to the Faculty of the Graduate School
of
Yale University
in Candidacy for the Degree of
Doctor of Philosophy

by
Tyler James Griffith

Dissertation Director: Paola Bertucci

May 2015



ProQuest LLC
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106-1346

Table of Contents

List of Figures

Acknowledgements

The author would like to thank the following individuals: Paola Bertucci, for her assistance at every step of the composition of this dissertation; Robert Bernasconi, for his guidance and support in the pursuit of this project; and John Warner, for his valuable recommendations as a reader and commentator.

"Haud credo vobis patroni optimi, mirum videbitur, me libellum exiguum, nullis ingenii, doctrinaeque dotibus conspicuum, atque insignem, vestro acerrimo iudicio tradere, vestrisque inscribere nominibus ausum fuisse."

-Dissertatio inauguralis medica de asparago ex scriptis medicorum veterum

Johannes Georgius Fridericus Franzius, Leipzig, 1778.

1. Introduction

This study fragments early-modern human categorization into a set of outcomes emerging from disparate and often unrelated fields of thought, arguing that the history of human difference can be seen as a history of techniques, rooted as much in the physical processes with which natural philosophers learned to see human diversity as in the theoretical structures investing that experience with meaning. By treating the fields of geography, spectatorship, and microscopy not simply as disciplinary cultures, but as experiences strongly shaped by physical techniques, this dissertation argues that the embodied process of studying human diversity in the eighteenth century resulted in a conception of human difference that was profoundly non-racial in nature.

While studies on the history of human difference emerge from a variety of backgrounds, all tend to be centered on the notion of "race" to the exclusion of other conceptions of human difference. In the 1950s – 1970s, scholars largely focused on the cultural, philosophical or anthropological aspects of eighteenth-century systems of human difference: Cedric Dover and Richard Popkin, for example, in their classic studies on eighteenth-century racism, concentrate less on the viewpoints of eighteenth-century thinkers in their own terms than on demonstrating how so-called "Enlightenment racism" ultimately led the way to late nineteenth- and early twentieth-century racism.[1] In sharp contrast, scholars such as Bentley Glass, John Greene, and Paul Honigsheim have attempted to "disarm" eighteenth-century ideas of human difference by

[1] E.g.: Cedric Dover, "The Racial Philosophy of Johann Herder," *The British Journal of Sociology* 3, no. 2 (1952): 124-133; Margaret T. Hodgen, *Early Anthropology in the Sixteenth and Seventeenth Centuries* (Philadelphia: University of Pennsylvania Press, 1964); Richard H. Popkin, "The Philosophical Basis of Eighteenth-Century Racism," in *Studies in Eighteenth-Century Culture: Racism in the Eighteenth Century*, ed. Harold E. Pagliaro (Cleveland: Case Western Reserve Univ. Press, 1973), 245-62.

illustrating their relationship to the emergence of other budding fields in natural philosophy, such as anthropology, animal taxonomy, and romantic understandings of nature and the world.[2] Throughout the course of the 1980s and 1990s, the historiography of human difference shifted to more neutral cultural snapshots of the times in which systems of human difference emerged: scholars such as Timothy Lenoir and Nicholas Hudson have demonstrated that an important shift occurred in the eighteenth century with regard to understandings of human difference, not just in terms of continuities with later theories of "race," but also in terms of the natural-philosophical activities contemporaneous with the theorists themselves. For Lenoir, this is apparent in the evolution of nomenclature away from literary and historical terms and toward natural-philosophical lexica.[3] Hudson, on the other hand, sees crucial links between the history of racial theory and mainstream natural-philosophical trends such as vital materialism.[4]

In the past ten years, scholars have begun to stress the coherent basis of systems of human difference vis-à-vis medical or natural-philosophical trends contemporary with the authors themselves. Alix Cohen and Siep Stuurman, for instance, demonstrate how Kant and Bernier used natural-philosophical methods to *reach* their conclusions about human difference, rather than assuming teleologically that racism was an inevitable outcome and natural history

---

[2] Bentley Glass, "Eighteenth-Century Concepts of the Origin of Species," *Proceedings of the American Philosophical Society* 104, no. 2 (1960): 227-234; John C. Greene, "The American Debate on the Negro's Place in Nature, 1780-1815," *Journal of the History of Ideas* 15, no. 3 (1954): 384-396; Paul Honigsheim, "Voltaire as Anthropologist," *American Anthropologist* 47, no. 1 (1945): 104-118.

[3] Timothy Lenoir, "Kant, Blumenbach, and Vital Materialism in German Biology," *Isis* 71, no. 1 (1980): 77-108. See also: Thomas Strack, "Philosophical Anthropology on the Eve of Biological Determinism: Immanuel Kant and Georg Forster on the Moral Qualities and Biological Characteristics of the Human Race," *Central European History* 29, no. 3 (1996): 285-308; Tzvetan Todorov, *On Human Diversity: Nationalism, Racism, and Exoticism in French Thought*, trans. Catherine Porter (Cambridge: Harvard Univ. Press, 1993).

[4] Nicolas Hudson, "From `Nation' to `Race': The Origin of Racial Classification in Eighteenth-Century," *Eighteenth-Century Studies* 29, no. 3 (1996): 247-264.

was recruited *ex post facto* to reach this conclusion.[5] Mary Terrall and John Gascoigne analogously question the development of racial theory by analyzing the ways that major thinkers and institutions sought to create order using natural philosophical methods from unfamiliar human categories.[6] Robert Bernasconi's recent anthology of facsimile copies of important eighteenth-century treatises dealing with human difference underscores the heightened interest in returning to primary sources in order to better understand how ideas of human difference fit into overarching trends of the eighteenth century; one work that has adopted this approach is Andrew Curran's *The Anatomy of Blackness: Science and Slavery in an Age of Enlightenment.*[7] Curran emphatically wishes to return to the sources to put together a "deep understanding" of how racial categories became constructed and transposed onto often unrelated social structures. Another author who offers a partial corrective is Renato Mazzolini, whose recent works on albinos from the seventeenth to nineteenth centuries offer many innovative approaches to ambiguous individuals as focal units in the shift of natural-philosophical knowledge and imagination.[8] Most recently, studies such as Kevin Siena and

---

[5] Alix A. Cohen, "Kant on Epigenesis, Monogenesis and Human Nature: The Biological Premises of Anthropology," *Studies in History and Philosophy of Biological and Biomedical Sciences* 37 (2006): 675-693; Siep Stuurman, "François Bernier and the Invention of Racial Classification," *History Workshop Journal* 50 (2000): 1-21.

[6] John Gascoigne, "The Royal Society, Natural History and the Peoples of the 'New World(s)', 1660–1800," *British Journal of the History of Science* 42, no. 4 (2009): 539–562; Mary Terrral, "Speculation and Experiment in Enlightenment Life Sciences," in Staffan Müller-Wille and Hans-Jörg Rheinberger, eds. *Heredity Produced: at the Crossroads of Biology, Politics, and Culture, 1500-1870* (Cambridge, Mass.: MIT Press, 2007), 253-275.

[7] Robert Bernasconi, *Concepts of Race in the Eighteenth Century*, 9 vols. (Bristol: Thommes Press, 2001); Andrew S. Curran, *The Anatomy of Blackness: Science & Slavery in an Age of Enlightenment* (Baltimore: Johns Hopkins University Press, 2011).

[8] Renato Mazzolini, "Albinos, leucoaethiopes, Dondos, Kakerlakken: sulla storia dell'albinismo dal 1609 al 1812" in *La natura et il corpo: studi in memoria di Attilio Zanca*, eds. Giuseppe Olmi and Giuseppe Papagno (Firenze: Olschki, 2006); "Frammenti di pelle e immagini di uomini (1700-1740)" in *Natura-Cultura: l'interpretazione del mondo fisico nei testi e nelle immagini,* ed. Giuseppe Olmi et al. (Firenze: Olschki, 2000).

Jonathan Reinarz's edited volume, *A Medical History of Skin*, have analyzed understandings of "ethnic" skin characteristics in the broader context of clinical perceptions of skin as an indicator both of physical and mental health.[9]

Regardless of their discrete research goals, all studies on human difference use a shared lexicon and methodology centered on the concepts of "race" and "discipline." This dissertation builds on current historiography by shifting the analytic categories that have traditionally been used by historians to consider the creation of systems of human difference. Rather than focus on disciplines, discourses, or political agendas, this study examines the discrete physical gestures that produced ideas about the limits and possibilities of human taxonomy. Thus, the focal units of this study are not socially constructed disciplinary communities such as "anatomy," "natural history," or "anthropology," but rather distinct, learned processes such as "microscopy," "performance," and "exploration." The ways people encountered human difference were often deeply embedded in physical and intellectual processes that required the acquisition of specific gestures and embodied experiences transcending any hypothetical allegiance to disciplines or politics. This study treats the history of human difference fundamentally as a history of techniques: the complex topology of understandings, gestures, assumptions, and influences at play in bringing meaning to moments of human difference. Rather than look at human difference as a philosophical construct or abstract phenomenon, this study interprets ideas of human difference as the results of distinctly physical differentiating gazes: in doing so, the gaze becomes not simply a synonym for the act of looking by the viewer, but an epistemic procedure that operates on the viewer as much as it does on the viewed.[10] The

[9] Jonathan Reinarz and Kevin Siena, *A Medical History of Skin: Scratching the Surface* (London: Pickering and Chatto, 2013).

[10] The dialectical relationship of the gaze in the context of human taxonomy has just begun to bud as an historiographical field. Although framed in terms of society, civility, and civilization, scholar Snait Gissis

result is a constellation of histories that builds a nuanced treatment of the emergence of techniques of vision used to bring meaning to encounters of human difference within the realms of exploration, performance, and microscopy.

This dissertation offers another critical break from traditional historical accounts of human difference by addressing not static, preconceived human groups such as "black," "white," "aboriginal," and the host of other constantly evolving terms denoting one or more groups of world's inhabitants. Rather, this study focuses precisely on moments where convenient notions of human groupings break down, such as in the case of albinos, individuals with irregular pigmentation, and cases of complexion change. Instead of "black African," "white European," and "red Indian," the prosopographical characters of this study are fringe groups such as the "black albino," the "white piebald," and the "*blafard*." As scholar Eric Voegelin, whose 1933 *Die Rassenidee in der Geistesgeschichte von Ray bis Carus* points out, the compelling journey of what he calls "the internalization of body and person" was a century-long process codifying many preconceptions about race that can only be understood in the context of the vocabulary, philosophical perspectives, and unspoken biases of individual thinkers during the eighteenth century.[11] Conspicuously, natural philosophers focused on groups that had largely been marginalized in preceding systems of human difference. As natural philosophers learned to look at, and make sense of such abnormalities, new sets of techniques emerged dialectically with the new attention to fringe groups that were equipped with physical and social

---

has argued persuasively the necessarily link between visible features and discourses on society. See: Snait B. Gissis, "Visualizing 'Race' in the Eighteenth Century," *Historical Studies in the Natural Sciences* 41 (2011): 41-103.

[11] Eric Voegelin, *Die Rassenidee in der Geistesgeschichte von Ray bis Carus* (Berlin: Junker und Dünnhaupt, 1933). Unfortunately, Voegelin's work was not translated into English until 1998, and for that reason did not figure large in the historiography of the field until comparatively recently. See: Eric Voegelin, trans. Ruth Hein, *History of the Race Idea: from Ray to Carus* (Baton Rouge: Louisiana State University Press, 1998).

apparatuses that could bring meaning to these instances—often as central moments to decide larger questions—in a way not offered by historical precedents. The emergence of these techniques, centered on moments of classificatory anomaly, provided a new epistemic register which created new concepts of human difference.

In one sense, the geographic context of this study global: material for studies on human difference were "sourced" from all over the world, extending from the most exotic areas on earth—exotic in European eyes, that is—to relatively commonplace locations within Europe itself. Much of this material derived its importance precisely from its geographically global nature. In another sense, however, the geographic context is emphatically European: the vast majority of theories of human difference in the eighteenth century were vocalized by Europeans, and the few cases of non-Europeans articulating their own perceptions are couched in a profoundly European idiom. The eighteenth century witnessed a major—if unresolved—shift in perceptions and understandings of human difference, both as a topic of consideration in its own right and as an element in broader efforts of systematizing the natural world.[12] Coupled with new technology and increased activity by Europeans outside of Europe, natural philosophers found themselves confronted with a plethora of new examples of human variety, new means to analyze them, and new contexts in which their consideration was deemed appropriate. The result was that many long-held and strongly pedigreed notions of human difference no longer functioned effectively as ways to describe or understand human difference, requiring thinkers to build upon and reinterpret traditional paradigms to account for their experiences. By focusing primarily on the eighteenth century, this study responds to the sense of urgency surrounding questions of human difference in that era by contextualizing them both

[12] For general accounts of systematization in the early-modern world, see: Brian W. Ogilvie, *The Science of Describing: Natural History in Renaissance Europe* (Chicago: University of Chicago Press, 2008); James L. Larson, *Interpreting Nature: the Science of Living Forms from Linnaeus to Kant* (Baltimore: Johns Hopkins University Press, 1994).

within the "long" history of human difference dating back to antiquity and the more immediate historical precedents of the sixteenth and seventeenth centuries.

Key Terms and Concepts

This study employs a new set of terms to frame discussion around the embodied processes of observation and classification that shaped thought about the nature of human difference. Most conspicuous among these will be the almost total absence of the word "race," substituted with the intentionally vaguer—and as a result, more accurate—phrase "human difference." The reality is that the vast majority of eighteenth-century thinkers rarely used the word "race" to discuss groups we might retrospectively describe as such; and even when they deliberately employed the word, it seldom occupied a place of priority in their overarching observations and certainly lacked any sort of coherent, globally recognized significance.[13] Shifting the lexical register in this way presents a dialogue that simultaneously is more sensitive to the thought of eighteenth-century natural philosophers themselves and obviates the pitfall of grafting anachronistic interpretations of human difference onto the thought of the eighteenth century.

Readers will encounter phrases such as "cartographic vision" and the "dramatic gaze" to describe how the mediating apparatuses of maps and performances, respectively, had both limitations and benefits that shaped the way natural philosophers negotiated and rationalized contrasting moments of human diversity. By "cartographic vision," I mean the complex and mutually informative relationship between visual representations of the world on maps and the world as it was experienced in exploratory observation, both of which were shaped and guided by techniques acquired through exposure to other domains of learning. In the development of

[13] See below for a more detailed discussion.

ideas of human difference, cartographic vision functioned not only as a fulcrum for leveraging wonder and normality in order to produce distinctly moralistic stances on human difference, but it also developed into an independent rhetoric of its own that promulgated changing attitudes toward human difference in non-European worlds.[14] Similarly, the "dramatic gaze" can be conceptualized as the process by which moral perceptions and anatomical mechanics became grafted onto performative experiences through the recruitment of perspectives originating in the highly subjective world of drama, but intended to extract an objective truth about the nature and limits of human diversity.[15] As with cartographic vision, the dramatic gaze functioned as a dialectical mediator between staged representations of human difference and human difference as it was experienced in real-life interactions. Like many complex processes in epistemic history, the kaleidoscopic world of eighteenth-century perspectives on human difference benefits from a terminology compatible with its mosaic nature: as a fractured and interrupted concept in its own right, "human diversity" was studied from splintered and often oppositional epistemic stances ranging from maps to theater, exploration to academy.

A central lexical innovation of this dissertation—which is also a methodological intervention—is the idea of "techniques of vision." The idea of embodied technique originates with the *fin-de-siècle* sociologist Marcel Mauss (1872-1950), who defined it as a way to use the body to achieve a result such that the process can be transferred from one individual or group

[14] For studies on the rhetorical devices of maps, see: David N. Livingstone, "Cultural Politics and the Racial Cartographies of Human Origins," *Transactions of the Institute of British Geographers* 35 (2010): 204-21; David Turnbull, "Cartography and Science in Early Modern Europe: Mapping the Construction of Knowledge Spaces," *Imago Mundi* 48 (1996): 5-26; Simon Naylor, "Historical Geographies of Science: Places, Contexts, Cartographies," *British Journal for the History of Science* 38 (2005): 1-12.

[15] The concept of the gaze has a rich and multifaceted history. Its variegated nature and complicated relationship with power and knowledge are discussed at length in Lacan, Foucault, and Derrida. For a useful secondary overview, see: Marita Sturken and Lisa Cartwright, *Practices of Looking: An Introduction to Visual Culture* (Oxford: Oxford University Press, 2009).

to another and repeated to yield the same result.[16] Because technique is transferrable, it can be learned, and as a result it implicates both the physical and intellectual aspects of human beings. Mauss's conception of technique governed nearly every aspect of sociological man as he understood it: sleeping, eating, family patterns, and even self-expression.[17] Although this study has used Mauss's idea as a springboard and structural exemplar, technique as it is used here sharply contrasts with Mauss insofar as discussion confines the term to its relevance in epistemic systems claiming to generate or verify knowledge, particularly—as in the phrase "techniques of vision"—those processes used to convert visual experiences into meaningful epistemological events. Paolo Rossi, whose 1962 *I filosofi e le machine, 1400-1700* analyzed the importance of "mechanical arts" to mainstream natural philosophy, first articulated the idea that the presuppositions about physical work—particularly technical methodology—formed not simply the external apparatus of natural philosophy but actually determined the epistemological basis for the verification of theoretical knowledge.[18] Pamela Smith and Harold J. Cook, among others, have developed Rossi's original emphasis on physicality and verification to more holistic considerations of the importance of physical processes, ultimately arguing that technique and knowledge could be seen as a single conflated dynamic: *doing* was a way of *knowing*, and knowledge in the early-modern world can accurately be conceived of as a physical process as much as an intellectual.[19]

---

[16] See: Marcel Mauss, "Techniques of the Body," in Jonathan Craby and Sanford K. Winter, eds. *Incorporations* (New York: Zone, 1992).

[17] Mauss's complete account can be found in: Marcel Mauss, "Les techniques du corps," *Journal de Psychologie* 32 (1936): 271-293.

[18] Paolo Rossi, *Philosophy, Technology, and the Arts in the Early Modern Era*, trans. Salvator Attanasio (New York: Harper and Row, 1970), 20-43; Paolo Rossi, *I filosofi e le machine, 1400-1700* (Bologna: Feltrinelli, 1962).

[19] Pamela Smith, *The Body of the Artisan: Art and Experience in the Scientific Revolution* (Chicago: University of Chicago Press, 2004); Pamela Smith, Amy R. W. Meyers, and Harold J. Cook, eds., *Ways of*

This dissertation builds on the idea of embodied technique by tracing the physical processes of seeing human difference alongside the intellectual processes giving meaning to those visions. Seeing white skin, in itself, was an epistemologically empty experience. In order to become an event with potential significance for natural-philosophical knowledge, the "seeing of white skin" had to take place—as a physical process—in a manner that imbued it with potential epistemic value. In the case of geographic exploration, for instance, the physical coordinates of *where* and *how* a white body was observed relative to others determined its potential relevance to conceptions of generative laws; explorers could record, rationalize, and transfer the sequence of gestures affirming its epistemic value to other explorers, thereby creating a new technique of natural-philosophical vision. Assembling subsequent ideas of human difference required not just an intellectual framework governing natural-philosophical conclusions, but also a codified and meaningful set of physical gestures to produce a valid observation.

Outline of the Present Work

The chapters presented here operate as methodological interventions in addition to discrete research themes in their own right: each chapter argues toward an understanding of human difference that originated within the distinct parameters of the technique in question, although they were often related by key clusters of epistemological understandings. Each chapter engages with a radically different technique of vision, shifting the focus from topics as diverse as salon culture to ethnographic prints, skin samples to business-sponsored exploration endeavors.

Making and Knowing: the Material Culture of Empirical Knowledge (Ann Arbor: University of Michigan Press, 2014); Pamela O. Long, *Openness, Secrecy, Authorship: Technical Arts and the Culture of Knowledge from Antiquity to the Renaissance* (Baltimore: Johns Hopkins University Press, 2001).

Chapter Two, "Tradition and Innovation: Pre-Modern Techniques of Human Boundaries," outlines historical systems of human difference with a special emphasis on how the physical and intellectual techniques available to natural philosophers prioritized certain groups in the construction of groups boundaries. The humoral and geographic techniques of the Greek-language tradition created a notion of "ethnicity" that linked traits to physical spaces, but hesitated to make claims about the immutability of characteristics within ethnic groups. In stark contrast with modern theories of difference, skin and skin color played a negligible role in determining group identity, and cases such as "white Ethiopians" did not become centralized as anomalous or even particularly noteworthy. The Latin world applied the same techniques of the Greek world, but descriptive vocabulary morphed through the familial connotations of Latin lexicography and ultimately began accruing nuances of the transmissions of traits, sometimes in ambiguous ways. Supplemented by new medical techniques developed outside the Galenic tradition, the Middle Ages transformed human diversity into a quasi-medical condition that could be "diagnosed," through skin, with as much accuracy as the pharmacological qualities of a rose. Irregular cases of complexion or group identity, largely disqualified from consideration through misidentification or lack of evidence, rarely entered the natural-philosophical debate. In the early-modern world, the acceleration in exploration revealed unexpected traits in unexpected places: increasingly, it was the marginal cases such as albinos and individuals with irregular complexion that became centralized as crucial moments for building overarching systems of human difference. Subsequent chapters build from this base by demonstrating the dialectical relationship between new techniques of the early-modern world and the emergence of marginal groups as the *centralized* players in systems of human difference.

Chapter Three, "Exploring, Encountering, Envisioning," argues that the distinct gaze of the European abroad formulated and rationalized human difference in a way emergent from the

tropes and vocabulary of the cartographic tradition in the West. As interests in newly encountered peoples expanded, natural philosophers demanded more accurate physical and descriptive information that could be used to arrive at essentially non-visual conclusions. Drawing on their long familiarity with the monstrous tradition, cartographers began dislodging monstrosity from marginal areas of maps, such as legends, only to replace them with humans; at the same time, they centralized ambiguous and taxonomically dubious creatures—previously the characters of the margins of maps—in central regions that had traditionally been occupied by humans. As explorers negotiated regions previously thought to have been inhabited by monsters or non-human creatures, they developed a mode of seeing designed to cope with unexpected moments of human difference by contextualizing visual characteristics within a geographic, generational, and profoundly moral landscape. Of paramount importance for map-makers and explorers alike were fringe groups such as albinos and troglodytes: explorers were fascinated with and baffled by seemingly anomalous groups that exhibited traits unlike those of their parents. It was encounters with these people, above all, that contributed to the systemization of exploratory encounters within the moral landscape of human difference.

Chapter Four, "The Drama, Business, and Epistemology of Albinism in Paris and London," builds on the enacted experience of voyagers abroad by considering how modes of theatrical display could reprioritize and centralize human difference in natural-philosophical regimes of early-modern Europe. Considered as a technique of vision, performances were protean endeavors that appeared in a variety of contexts with many different epistemological ramifications: part object of analysis in their own right, part lens by which to see the world, the staging and directing of performances of human difference recruited techniques from fields as diverse as dramatic tragedy and the sensational pleasure of monstrosity. As a mixture of spectacle and repertoire, performances of human difference allowed natural philosophers to

"see" difference not simply as a morally neutral phenomenon, but as a moment both of entertainment and self-reflection. Focused on a series of case-studies in Paris and London, this chapter develops dramatic parallels emerging from a single famous case of albinism in 1744 while simultaneously examining the much broader business of black albinos at venues such as the Royal Society, the Bartholomew Fair, and private medical examinations.

Chapter Five, "Microscopes and the Threshold of the Body," springboards off the performance of liminal groups by turning discussion to the precise locus of embodied liminality: the skin. Beginning with the entry of the microscope into the natural-philosophical world in the seventeenth century, this chapter traces debates about the structure of skin and location of complexion within the anatomical world of early-modern Europe. Looking at skin under a microscope's lens is only one component of microscopic vision: researchers had a variety of preparation techniques to select in their analysis of human skin, and something as simple as sourcing skin from a live body or cadaver might produce—and did produce—totally different visual experiences. What philosophers saw in skin influenced what they thought about complexion: a researcher unable to access certain layers of skin, for example, would be *de facto* barred from locating complexion there. Yet even as theories about skin and complexion crystalized into general agreement, cases of irregular pigmentation repeatedly challenged the very notions they sought to explain. As with exploration and performance, marginal groups of human became the central point of interest for natural philosophers working within the realm of skin studies.

Chapter Six, "Coda: New Approaches to the History of Human Difference," is a conclusion and coda extrapolating the technique-based approach to the history of human difference into an enrichment of the history of "race." One of the central problems with researching the history of "racial" thought is that, for a very long time, "race" was not the

prevailing way of codifying human diversity. In the early-modern period, natural philosophers learned to see abnormalities as elements of an epistemic system that transcended pre-existing vocabulary and exhibited qualities requiring a new systemization of human difference. Throughout this process of learning, they developed a range of techniques centered predominantly on vision that produced epistemological and moral facts which were materially and qualitatively different from earlier natural-philosophical traditions. As later generations selected and developed certain techniques at the cost of others, they developed an essentializing concept of human difference that flourished in the nineteenth century: race as a descriptive and prescriptive identity largely aimed at differentiating subclasses of humanity in a fixed hierarchy.

***

Efforts at understanding human difference were not limited to the eighteenth century, nor were they confined to the techniques analyzed in this study. Quite on the contrary, thought about human difference extended well into antiquity and drew upon a range of techniques developed within the context of the cultures that created them. In order to understand the long pedigree of distinctly *non-racial* thought and the importance of techniques in formulating those ideas, this study begins by tracing the extent to which techniques shaped systems of human difference from antiquity to the cusp of the early-modern era. In addition to making a strong case for the value of a technique-based approach in understanding ideas of human difference, analyzing long-term historical precedents underscores the significance of many of the innovations developed in the eighteenth century. Although a cluster of ideas from antiquity continued well into the early-modern world, many peculiarities of the eighteenth century—such as the marked increase in "abnormal" categories such as albinos—are best understood through a contrastive approach that takes into account the development of techniques over time.

2. Tradition and Innovation: Pre-Modern Techniques of Human Boundaries

Αἷμα: καὶ τὸ γένος.
Blood: the same as race.[1]

While it is true that natural philosophers have always divided humanity into categories and subcategories, the criteria determining the location and ramifications of boundaries varied substantially depending on the epistemological perspectives governing what constituted legitimate differentiation. Visible traits, how humans fit into their ecosystem, and what determined valid grounds for establishing relationships between human groups differed according to the outlooks and processes available to observers. Similarly, the lexicon of human difference varied extensively across time and space: although the concept of "race" has been employed for centuries as a shorthand for describing human difference, observers long saw *nation*, *tribe*, *variety*, *species* and a host of related terms in numerous languages quite distinct from the modern conception of race as a subdivision of the human species.[2] It was not until the end of the eighteenth century that Immanuel Kant (1724-1804) contentiously advanced a static notion of race similar to popular use of the term today, and the equation of Kant's conception of

[1] *Suidae Lexicon* vol. 1 (Cambridge: Typis Academicis, 1705), 66. For more on the *Suda*, see below, 39-40.

[2] An introduction to the changing trends in nomenclature in a pan-European, early-modern setting can be found in: Hudson, "Racial Classification," 247-264 (see chap. 1, n. 4).

race with subsequent notions of human difference proves, upon closer inspection, to be tenuous at best.[3]

The vocabulary of human difference enters as a thematic or epistemological unit across nearly every type of extant written document, but this inquiry does not attempt a wholesale delineation of ideas of human difference across all intellectual disciplines; instead, it confines discussion to considerations that augment the particular struggles facing thinkers within medical and natural-philosophical traditions. One noticeable omission is the field of distinctly non-naturalistic literary genres such as rhetoric and poetry: although these genres frequently drew upon the lexicon of human difference for their own cultural purposes, they made no claim at epistemological precision and rarely overlapped at the technical level.[4] It is hoped that confining the study of human difference to works with explicitly natural-philosophical aims will focus the inquiry on descriptions of human difference within the world of science and medicine, the primary focus of subsequent chapters of this dissertation: whether in exploration, spectacle, or microanatomy, seeing human difference drew on and developed techniques with links to

[3] Kant explains that providence inserted in the human form "numerous seeds and natural predispositions" which became expressed as races (*Rassen*) when bodies were placed in different climates at the hypothetical moment of racial determination. Although the "seed theory" of human difference reappeared well into the twentieth century, few went to so far as to assert the neo-humoral mechanisms of suppression and expression that Kant voices. See: Immanuel Kant, *Von den verschiedenen Racen der Menschen zur Ankündigung der Vorlesungen der physischen Geographie im Sommerhalbenjahre 1775* (Königsberg: bei G.E. Hartung, 1775), 8; Pauline Kleingeld, "Kant's Second Thoughts on Race," *The Philosophical Quarterly*, 57 (2007): 573-592; Wolbert Smidt, *Afrika im Schatten der Aufklärung: das Afrikabild bei Immanuel Kant und Johann Gottfried Herder* (Bonn: Holos, 1999).

[4] By their very nature, rhetoric and poetry are more expressive and thus more inclined to charged and valuative interpretations of human difference. Traditionally, the concepts expressed in them have been seen as "racist," although that nomenclature seems out of date. See above, chap. 1, for general histories of race; for racism in the ancient world, see: Benjamin Isaac, *Invention of Racism in Classical Antiquity* (Princeton: Princeton University Press, 2006); for the Medieval context, see: Geraldine Heng, "Invention of Race in the European Middle Ages I: Race Studies, Modernity, and the Middle Ages," *Literature Compass* 8 (2011): 315-31; for the early-modern period, see: Miriam Eliav-Feldon, ed., *Origins of Racism in the West* (Cambridge: Cambridge University Press, 2009).

historical modes of vision while simultaneously developing new physical processes of epistemic analysis.

Many of the key factors allowing the construction of a system of human difference are learned processes, meaning that they can only be accessed through the acquisition of specific intellectual and physical techniques. Consider the hypothetical belief that there exists an inner difference between human groups based on how the environment influences their bodies, a theme commonly debated throughout the history of human difference. Within the context of humoral and astrological medicine, this conclusion could only be arrived at through the technical training required to see humors as elements within a cosmic environment and detect, through medical diagnostic techniques, the ways humors influence the body. Within the context of nervous physiology, however, the same conclusion could be produced through a much different set of techniques: anatomic dissection and microscopic viewing might allow individuals to see and analyze the way heat or light affected the physiological system and draw conclusions about the relationship between environment and physiology accordingly. In both cases, the techniques are acquired through physical gestures and intellectual movements that allow a natural philosopher to translate a visual experience into an essentially non-visual statement about the world: as techniques, they are both efficacious of intellectual results and transferable as learned processes.[5] Either inductively or deductively, arriving at our hypothetical conclusion requires an acquisition of techniques to negotiate each step of the epistemological progression.

[5] The transferability of techniques is crucial for their success as tools, and in this respect they overlap with the notion of "habitus" described by Bourdieu and others. By definition, techniques need to be learnable by others. See: Gilbert Rist, "La notion médiévale d'habitus dans la sociologie de Pierre Bourdieu," *Revue européenne des sciences sociales* 22 (1984): 201-21.

By default, all systems of differentiation are sophisticated—not necessarily in the positive sense of the word, but in the sense that they involve very demanding technical and intellectual training to arrive at conclusions that transcend, often in substantial ways, the constitutive elements used to reach those conclusions. This is a salient theoretical pattern that must be mentioned at the outset: throughout the entire "long history" of human difference, taxonomic and descriptive techniques tended to emerge from a common struggle with sets of inherited epistemic prejudices inadequate for dealing with new moments of taxonomic thought. In the ancient world, where human taxonomic considerations were either little valued or not valued at all, the priorities were not so much on finding criteria for group differences *per se* so much as moments of symptomatic truth *via* skin. The Middle Ages developed equations of skin/color, blood, and ethnicity that alerted readers to categorical differences between human beings, while simultaneously essentializing lexicographic elements with new connotative force. The subsequent boom in exploration, from 1500 to 1800, forced thinkers to struggle with questions of human division and create new terms to describe what they interpreted as valid taxonomic criteria. As increasingly sophisticated techniques of vision emerged in the eighteenth century, discussion crystallized around a set of techniques that developed into a unique type of looking: the ability to see surface, interior, past, and potential all at a single glance.

One central outcome of this study is to demonstrate that, during the eighteenth century, the traditional penchant for dividing humans into separate groups emerged from fields as diverse as spectatorship, microscopy, and exploration. Unlike historical precedents, however, eighteenth-century thought was shaped by focusing on groups and concepts that were marginalized in previous systems of human differentiation, particularly unexpected moments of white skin and irregular pigmentation. By interrogating historical methods of human division—sometimes as chronological precursors to one another, sometimes as alternative techniques

within the same temporal window—this precursory chapter traces the shifts in techniques and perspectives in systems of human difference with a particular attention to the co-developmental relationships established between technique, center and periphery in the "long history" of human difference. As the abilities and presumptions of natural philosophers developed, conclusions about the possibility of interior differentiation, the extent to which visible traits such as skin revealed this differentiation, and where boundaries within schemes of classificatory systems ought to be drawn all emerged as prominent themes in theories of human difference. Beginning with the earliest extant sources, Greek-language "ethnic" groups provide the historical starting point.

The Ancient Context: Greek-Language "Ethnic" Groups

Modern studies on human difference in the ancient world privilege social and political understandings of difference, generally not analyzing human difference from the vantage point of science and medicine, encompassed in the ancient world by the phrases of φυσιολογία or *philosophia naturalis*.[6] Yet the descriptive language of ancient medicine and natural philosophy was fundamentally related to natural-philosophical modes of seeing. More importantly, the cognitive perceptions at play in ancient natural-philosophical vocabulary—for instance, that black Africans were the only people with colored *bodies*—fed into and spurred many of the ideologies of subsequent centuries, having ramifications well into the time of Carl Linnaeus (1707-1778).[7]

---

[6] For the Greek context, see: Diskin Clay, "Greek Physis and Epicurean Physiologia," *Transactions and Proceedings of the American Philological Association* 100 (1969): 310-47; Jerome J. Bylebyl, "The Medical Meaning of Physica," *Osiris* 6 (1990): 16-41.

[7] See below, 42.

Greek-language notions of human difference spanning from Hippocrates (c. 460 – 370 BC) to Ptolemy (c. 90 – c. 168 AD) ultimately derived from techniques of humoral vision: Ptolemy summarizes the basic units of the traditional Greek-language world of humans, τῶν ἀνθρώπων γένος, when he describes the "ἔθνη καὶ χώρας καὶ πολεῖς" of the world, literally the "ethnicities, lands, and towns."[8] Lands comprised general geographic units, each inhabited by a different local ethnicity, an "ἔθνος" which may or may not be organized into urban centers, "πολεῖς."[9] Ptolemy, along with Strabo (64 BC – 24 AD) and many other ancient natural philosophers, catalogues several hundred ethnicities ranging over Europe, Asia, and Africa, all with an equal claim to be considered valid ethnic units.[10] As Ptolemy's division suggests, the notion of "ethnicity" contained within it an assumed cultural unity as well: in the Greek-language tradition, ethnicity, land, and customs were largely coterminous concepts.[11] Groups of humans comprised not only the ethnicity of the people themselves, but also the land they inhabited and the customs by which they lived.

Ancient sources readily ascribe different qualities to different ethnicities: personality traits, moral tendencies, physical attributes, and a host of other qualities were intimately linked to ethnic derivation. In spelling out the differences between Europeans and Asians, for example, Hippocrates, observes that:

---

[8] Ptolemy, *Tetrabiblos* 2.1. For "the human race," see also: Polybius, *Histories*, 18.15.16 et passim.

[9] On the importance of the role of the polis in Greek thought, see: Arthur W.H. Adkins and Peter White, eds., *The Greek Polis* (Chicago: University of Chicago Press, 1986). An interesting and more recent counterpoint is provided in: Kostas Vlassopoulos, *Unthinking the Greek Polis: Greek History beyond Eurocentrism* (Cambridge: Cambridge University Press, 2007).

[10] Ptolemy, *Tetrabiblos*, 2 et passim; Strabo, *Geography*, 14.5 et passim.

[11] The authoritative account of the *ethnos* in ancient Greece is: John M. Hall, *Ethnic Identity in Greek Antiquity* (Cambridge: Cambridge University Press, 2000), although it ends well before the time of the Roman Greeks. An account of Greek-Roman identity in particular, though not from the natural-philosophical perspective, can be found in: Erik Nis Ostenfeld, ed., *Greek Romans and Roman Greeks: Studies in Cultural Interaction* (Aarhus: Aarhus University Press, 2002).

> concerning Asia and Europe, I intend to demonstrate how they are completely different from one another, and how the ethnicities (ἔθνη) in particular differ from one another in terms of physique (μορφή)...everything in Asia is much bigger and more beautiful, both in terms of humans (τῶν ἀνθρώπων) and vegetation. It is also less wild than [Europe], so the natures (τὰς φύσιας) of the people is milder and gentler... the reason for this [diversity] is the variations of climate, which account for dullness of mind and cowardice as well.[12]

For Hippocrates, ethnic differences were intimately linked with environmental factors: physique, beauty, and inner nature coalesce in the concept of ethnicity, but they remained separate categories determined by "variations in climate." Physique and cowardice may be universally correlated owing to climatic causes, but, for Hippocrates, they share no causal relationship between each other as traits.

External environmental factors were simultaneously astrological and humoral factors; general climate (περιέχων) included not only the ecosystem of a particular χώρα, but also the astrological ambient of fixed stars and the subsequent physical interaction of humoral essences (αἴτια, lit. "causes") with human nature.[13] Similarly, particular climate—the daily flux of temperature and moisture—functioned simultaneously as a physical phenomenon, an astronomical phenomenon, and a humoral phenomenon. Ethnic characteristics such as those spelled out by Hippocrates above simultaneously responded to, and developed from "environment" in its broadest sense, encompassing not only ethnic heritage, but also

---

[12] "βούλομαι δὲ περὶ τῆς Ἀσίης καὶ τῆς Εὐρώπης δεῖξαι ὁκόσον διαφέρουσιν ἀλλήλων ἐς τὰ πάντα καὶ περὶ τῶν ἐθνέων τῆς μορφῆς, ὅτι διαλλάσσει καὶ μηδὲν ἔοικεν ἀλλήλοισιν. περὶ μὲν οὖν ἁπάντων πολὺς ἂν εἴη λόγος, περὶ δὲ τῶν μεγίστων καὶ πλεῖστον διαφερόντων ἐρέω ὡς μοι δοκεῖ ἔχειν. τὴν Ἀσίην πλεῖστον διαφέρειν φημὶ τῆς Εὐρώπης ἐς τὰς φύσιας τῶν συμπάντων τῶν τε ἐκ τῆς γῆς φυομένων καὶ τῶν ἀνθρώπων. πολὺ γὰρ καλλίονα καὶ μέζονα πάντα γίνεται ἐν τῇ Ἀσίῃ, ἥ τε χώρη τῆς χώρης ἡμερωτέρη καὶ τὰ ἤθεα τῶν ἀνθρώπων ἠπιώτερα καὶ εὐοργητότερα." Hippocrates, *Airs, Waters, Places,* 12.

[13] For the humors in general, see: Vivian Nutton, *Ancient Medicine* (New York: Routledge, 2004); for the influence of astrology and humors on Galen and Ptolemy in particular, see: Glen M. Cooper, "Galen and Astrology: A Mésalliance?" *Early Science and Medicine* 16, no. 2 (2011): 120-146; on astrological medicine in general, see: Louise Hill Curth, "Astrology and Astrological Medicine," in *'A Plaine and Easie Waie to Remedie a Horse'* (Leiden: Brill, 2013), 89-113.

macrocosmic climate and local "tempermental" interactions.[14] Seeing the macrocosmic/microcosmic correlation was a fundamental building block of Greek conceptions of human difference, and there existed a constant tension between characteristics developed over the long-term and *ad hoc* development of characteristics within a single individual's lifetime; indeed, the Greeks themselves acknowledged this tension, and individual abnormalities were widely acknowledged to exist even within stable ethnic groups. Continuing his contrast of Europeans and Asians, Hippocrates readily acknowledges that even "Asians greatly differ among themselves," but doctors and natural philosophers never recruited individual anomalies within ethnicities into overarching theories of human difference.[15] Within the realm of Greek humoral techniques, ethnicities were by no means predetermined; they were the result of a synergistic system that was in constant flux, one that included, like the word "ethnos" itself, a commingling of human and external elements. By Greek technical training, individual anomalies served to reinforce environmental and humoral interpretations of ethnic difference rather than challenge them, because local differences in climate or cosmos could be readily employed to rationalize such anomalies.

Although scholars widely discuss the concept of ancient ethnicity, very little attention has been paid to the definitional terms of human difference in the Greek-language tradition, such as what Hippocrates actually meant when he described Asians as "large," "feeble," or "dark-skinned." Considered from a categorical standpoint, ethnic characteristics emerged from the domain of qualities known as "ἐθνικά ἰδίωμα" literally "ethnic particularities," although a translation as "ethnic idioms" would offer an interesting slant on the phenomenon. It is these

[14] The classic treatment of the Greek concept of temperaments emerging from ethnicity and humoral balance can be found in: René Allendy, *Les tempéraments* (Paris: Vigot, 1922); see also: George Sarton and Erika von Erhardt-Siebold, "Remarks on the Theory of Temperaments," *Isis* 34, no. 3 (1943): 385-399.

[15] Hippocrates, *Airs, Waters, Places*, 16.

ἰδίωμα that authors describe when they discuss skin, hair, or size; it is a category of characteristics limited to the visible, as ethnic essences, "φύσεις" would be used to describe hypothetical interior states and character qualities.[16] Ptolemy, for example, has an entire chapter in his *Tetrabiblos* "Concerning the particularities of people in different climates," beginning with the division of ethnic traits according to latitude; the very first quality he points out is the colors of inhabitants.[17]

Nonetheless, there is some ambiguity about where, within the schema of available medical techniques, these ἐθνικά ἰδίωμα occurred. Different groups of "ethnicized" people had different relationships with their ethnic traits: Ptolemy describes equatorial people as having "τά σώματα μέλανες," literally "black bodies," whereas Northern Europeans are more abstractly "λευκοί τε τα χρώματα"—"white in color." Similarly, Mediterranean people are described as "χρώμασι μεσοῖ"—"middling in color."[18] It is telling that only black Africans are embodied by their color; for no other group of ethnicities do Greek-language authors use the word σῶμα—body—synonymously for visible coloration.[19] The wholesale conflation of blackness with embodiedness in the case of Africans offers a telling contrast to Ptolemy's careful preoccupation to attribute the lighter colors of non-African people to some abstract and detached predicate rather than embodying it within their physical existence; although seemingly

[16] As Hippocrates above.

[17] On the general scientific quality of the *Tetrabiblos*, see Mark Riley, "Science and Tradition in the *Tetrabiblos*," *Proceedings of the American Philosophical Society* 132, no. 1 (1988): 67-84.

[18] Ptolemy, *Tetrabiblos,* 2.2.

[19] One scholar suggests that regional groups in Africa themselves self-identified as "black bodied;" see: D. Selden, "How the Ethiopian Changed His Skin," *Classical Antiquity* 32, no. 2 (2013): 322-377.

trivial to modern ears, the difference between embodiment and predication had monumental consequences according to the precepts of Aristotelian logic.[20]

Importantly, neither Ptolemy nor any other Greek-language author discusses skin *eo ipso* as a valid unit for ethnic characteristics—even when ethnic appearances occur as what we might intuitively think of as "skin color." The terms δέρμα and ἐπίδερμα—the "skin" and "upper skin" were indeed discussed in the medical tradition, but never as a locus of ethnic coloration.[21] More than that, authors openly assert that the very nature of skin color was inaccessible within the realm of Greek medical techniques; Sextus Empiricus (c. 160- 210 AD) goes so far as to assert that "our own color is seen to be one shade in warm air, another in cold air, and what our color *actually* is—well, we cannot even speculate; we can only see it under each of these conditions."[22] Part of the hesitancy to locate color, as an ethnic trait, in the skin emerges from Greek medical understandings of the skin itself. Skin was not understood as an organ, "ὀργάν," which, by definition, managed the assimilation or disposal of "nutriment" and participated in the overall balance of the natural faculties of the human body; rather, it was conceived of as a "membrane," a "ὑμή," and as such was denied any active role in the human system.[23] Skin was essentially a passive receptacle of temporary traits—symptoms—and its

[20] The notion of embodied color has special significance vis-à-vis the color theories of Ptolemy and Galen; "color" did not have an identity-value as such, but only a congruence value. See: A. Mark Smith, "The Psychology of Visual Perception in Ptolemy's Optics," *Isis* 79, no. 2 (1988): 189-206; Rudolph E. Siegel, "Principles and Contraditions of Galen's Doctrine of Vision," *Sudhoffs Archiv* 54, no. 3 (1970): 261-276; Daryn Lehoux, "Observers, Objects, and the Embedded Eye: or, Seeing and Knowing in Ptolemy and Galen," *Isis* 98, no. 3 (2007): 447-467.

[21] Skin was exclusively a diagnostic tool for other diseases. See, for instance: Aretaeus, *Treatment of Acute Diseases*, 1.7 et passim; Galen, *On the Natural Faculties*, 3.13.

[22]"Το γουν εμετερον χρομα αλλοιον μεν οραται εν αλεεινοι αερι αλλοιον δε εν τοι ψυχηροι, και ο υκ αν εξοιμεν ειπειν οποιον εστι τει πηψσει τοχρομα ημων, αλλα ηοποιον συν ηεξαστοι τουτον θ εορειται." Sextus Empiricus, *Pyrrhonic Sketches*, 1.125

limited interaction with interior systems confined its visible appearance to certain diseases like leprosy.[24] Insofar as ethnic particularities were the result of natural law, they had to "take place," by definition, elsewhere than in the skin.

The technical basis of the Greek-language tradition helps to explain the distinct lack of rigorous notions of ethnic normality, even one premised on visible traits such as color. As a result, it is not surprising that the discussion of irregular complexion offered no particularly momentous occasion for Greek natural philosophers to reflect on the nature of human diversity. For authors in the Greek-language tradition, the only noteworthy "white" group was the Leukaethiopes, an ethnicity of "white Ethiopians" located variously in central Libya (sc. the continent of Africa, rather than the Roman province), and many, if not all, of the major Greek geographers remarked upon them.[25] In Greek eyes, Leukaethiopes were simply one of many different ethnicities—their ethnic traits merged with their geographic situation to provide a simple and adequate metric by which to establish their ethnic independence. It is easy to understand why these people were not particularly worthy of attention: lacking no viable criteria for ethnic normality, Greek-language authors could not cogently considerer them as a challenge to existing boundaries within human categories, as existing philosophical techniques had already provided a rationale for their existience.

---

[23] For a rigorous outline of the distinctions between organs and membranes within the context of the Galenic circulatory system, see: Michael Boylan, "Galen: On Blood, the Pulse, and the Arteries," *Journal of the History of Biology* 40, no. 2 (2007): 207-230. For the nature and function of membrane in the Galenic system, see: Galen, *On the Natural Faculties*, 1.6-13.

[24] Leprosy in particular was seen to emerge from a lack of "adhesion" of nutriment to the skin, one of the four stages of organic processes. Galen, *On the Natural Faculties*, 1.11.

[25] For Libyans and Libya in general within the context of ancient human difference, see: Richard L. Smith, "What Happened to the Ancient Libyans? Chasing Sources across the Sahara from Herodotus to Ibn Khaldun," *Journal of World History* 14, no. 4 (2003): 459-500.

Partially albinotic people, however, did have nuances of difference not present in a group such as the Leukaethiopes, although they were not deeply integrated into natural-philosophical frameworks, possibly owing to their rarity. The first recorded mention of a mixed-complexioned individual occurs in the second-century AD work, "Literary Prometheus" by Lucian of Samosata (c. 125 – 180 AD). He writes:

> Ptolemy Lagus brought two remarkable things into Egypt; one was a totally black Bactrian camel, the other a bi-colored man, half totally black and half uncannily white, the two colors equally distributed. He invited the Egyptians to the theater, and made a show with these two, expecting to astonish everyone. But the audience was terrified by the camel... and as for the man, a few laughed at him, but most shrank as from a monster... the camel died forgotten, and the bi-colored man became the reward of Thespis the flute-player for a successful after-dinner performance.[26]

Foreshadowing future theatrical spectacles of individuals with unexpected complexions, Ptolemy I Soter intended to show his black camel and piebald man for the entertainment of the theater audience.[27] Partially derided but mostly shunned, the bi-colored slave was both horrible as a monster but desirable as a trophy: although no discrete word existed for this type of person, the event is important in the history of human difference as the first example of what would later be termed "the blafard."[28] Tellingly, however, this individual or others like him never

---

[26]"Πτολεμαιοσ οσ λαγοσ δυο εγινα εσ αιγψπτον αγων, καμελον τε βακτριανιον παμμελαιναν, και δι ξρομον ανθρωπον, ωσ το μετα ημισθμαν αωυτου ανριζωσ μελαν ειναι, τοδετερον εσ ιπερζολε υκουνον, επισεσ δε μεμεσισμενον , εσ το θεατρον συναγαγων τουσ αιγψπτιουσ, επεδειξνοσ αυτοι σ αλλ ατε τπολλα θεαμαζα, αρα το τελουταιον και ταυζαωροσ δε τανθρωπον, οι μιλη πολλοι εγε λων, οι δε τινεσ ωσ επι τεπαζι εμψσατιονουσ, αλλε μελι καμελοσ, απελανεν αμελουμενε, τανθρω πον δε τιδιτιον, Θεσσιδι τωι αυλεδε εδωπεσαδ καλωσ αυλεουσλι ωσπετερ τωποδω." Lucian, *Opera* 1 (Amsterdam: Blaeu, 1687), 15.

[27] Of course, the display of exotic animals had a rich history in the Roman tradition, within both the Greek and Latin linguistic spheres; less is known about human displays. See: Harry M. Hubbell, "Ptolemy's Zoo," *The Classical Journal* 31, no. 2 (1935): 68-76. For Ethnic identities in Ptolemaic Egypt in particular, see: Philippa Lang, "Medical and Ethnic Identities in Hellenistic Egypt," *Apeiron* 37, no. 4 (2004): 107-131.

[28] For monsters in the Greek world, with a special consideration of their relationship to humans, see: Dominique Lenfant, "Monsters in Greek Ethnography and Society in the Fifth and Fourth Centuries BCE,"

entered into dialogue with medical or natural-philosophical concepts of human difference; the implication is that irregular pigmentation of this sort was somehow excluded from consideration as a valid element for systematizing human difference.

Events like these demonstrate that the Greek world was one of *ethnes* within a human *genus*, distinctly non-racial in the sense that it lacked an epistemic system capable of validating concepts of human taxonomy that equated ethnic potential with visible appearances. Although color and complexion were frequently addressed as characteristics falling within the domain of ethnic particularities, they did not generically differ from any other of the host of ethnic characteristics. Ancient Greek perceptions of skin as a membrane fundamentally precluded it from adoption as a taxonomic category; without this relationship between visible color and interior potential, no notion of interior human difference premised on visible color could reasonably exist.[29] Above all, human diversity affirmed a rationalistic world-view by virtue of the relationship between ethnicity and environment: traits were acquired because of environmental and astrological factors, and it was only in cases where environment and appearance did not seem to correlate (such as the bi-colored man) that nuances of irregularity entered natural-philosophical descriptions. Ancient Greeks developed significant technical training to understand and observe the function of humors, but they had few other physical techniques to employ in analyzing the bases of human difference.[30]

---

in Richard Buxton, ed., *From Myth to Reason? Studies in the Development of Greek Thought* (Oxford: Oxford University Press, 1999), 198-214.

[29] That is, from the natural-philosophical standpoint. For Greek notions of human difference as a rhetorical or cultural phenomenon, see: Isaac, *Invention of Racism*; François Hartog, *Mirror of Herodotus: the Representation of the Other in the Writing of History* (Berkeley: University of California Press, 1988); Frank M. Snowden, *Before Color Prejudice: the Ancient View of Blacks* (Cambridge: Harvard University Press, 1983).

[30] For a general discussion of the technical limits of natural philosophy in the Greek world, see: G. E. R. Lloyd, "Methods and Problems in the History of Ancient Science: The Greek Case," *Isis* 83 (1992): 564-77.

The Move to Latin-Language "Genetic" Groups

The ancient Latin-language tradition, beginning with Pliny (23-79 AD) and extending into the third century AD with Solinus (fl. 218), mirrors the Greek tradition in its broad contours, but offers several key departures owing to translation or reconceptualization of Greek terms within the distinct connotative landscape of Latin-language culture. Like the Greeks, Latin authors evince a preoccupation with the link between land and traits, but they tend to structure their observations around a vocabulary that is simultaneously familial and humoral, rather than simply humoral or macrocosmic.[31] Although they consciously followed Greek medical traditions and in many cases were chronologically concomitant, they were nonetheless more hesitant to think in dichromatic terms of black and white—while simultaneously espousing a highly normalizing value system that asserted, much more strongly than the Greek-language tradition, the superiority of European peoples. Combined with their interest in the transmission of visible characteristics, Latin authors drew on a cluster of medical techniques to create nuances of the generative origins of human groups in a way unlike the Greek world. Because the descriptive vocabulary of Latin came to form the backbone of European theories of human difference well into the eighteenth century, the study of the lexicography of difference offers a particularly valuable in-roads to later conceptions of taxonomic division.[32]

---

[31] Some recent scholarship in Roman classics has begun to chart out the importance of land and family in Roman conceptions of identity. See, for instance: M. George, ed., *The Roman Family in the Empire: Rome, Italy, and Beyond* (Oxford: Oxford University Press, 2005); Keith R. Bradley, "Dislocation in the Roman Family," *Historical Reflections / Réflexions Historiques* 14 (1987): 33-62.

[32] For changes in Latin within the medical context, see: Wouter Bracke and Herwig Deumens, eds., *Medical Latin: from the Late Middle Ages to the Eighteenth Century* (Brussels: Koninklijke Academie voor Geneeskunde van Belgie, 2000).

At the most basic level, the Latin tradition had no equivalent for the Greek notion of "ethnicity."[33] Instead, the language preferred classifications with generative valences, such as found in the words *gens* or *genus*. The Greek equivalent of the latter, "γένος," was used as a reference to the human race as a whole, but the former, "φυλή," was reserved exclusively for familial groups and never, in the medical or natural historical context, linked to broader ethnic groups.[34] Even at the lexical level, the "genetic" nomenclature of Latin privileges an interpretation of human difference that includes ideas such as interbreeding, a concept that reemerges in other aspects of Latin perceptions of human difference.[35] However, the link between family and generation did not preclude a simultaneous link with environment: training along Greek medical precepts taught Latin-language authors to contextualize traits strongly within the environment that those traits were found: Pliny, for example, exactly mirrors the landscape and vocabulary of Ptolemy in Book VII of the *Natural History*, which, like Ptolemy's Book II, begins with a description of "the world and its lands, people [gentes], rivers, islands, cities, and so forth."[36] As with ἔθνη and χώρας in Ptolemy and Hippocrates, the Latin world clearly linked the constitutive unit of human difference, in this case *gens*, with the territory it inhabited.

The similarity is more than coincidence, because Latin-language conceptions of "genetic" characteristics strongly depended upon techniques developed in the Greek medical

---

[33] A brief comparative consideration of Latin and Greek understandings of personal difference can be found in: Erich Greun, "Did Ancient Identity Depend on Ethnicity? A Preliminary Probe," *Phoenix* 67, no. 1/2 (2013): 1-22.

[34] For a discussion of Greek familiar terms, see: M. B. G. Keurentjes, "The Greek Patronymics in -(ι)δας / -(ι)δης," *Mnemosyne* 50 (1997): 385-400.

[35] See below, 33-34.

[36] "Mundus et in eo terrae, gentes, flumina, insignia, insulae, urbes ad hunc modum se habent." Pliny, *Natural History*, 7.1.

and natural-philosophical tradition. Pliny himself confesses admiration for Greek medicine and encourages others "not to be so stubborn as to ignore the Greeks, who have shown far greater industry—or at least, more long-term interest" in the topic.[37] As a result, it is unsurprising to find that Pliny's discussion of *gens* echoes many links between characteristics and ethnicity found in the Greek tradition: temperament, morality, as well as physical characteristics were linked to a person's *gens* just as much as they were, in the Greek-language tradition, to a person's ethnicity.[38] Also like the Greeks, the Latin tradition never explicitly links visible complexion with skin *per se*; Celsus (fl. 177) seems to suggest a knowledge of the layers of skin when he defines the "pella superba" as the uppermost layer of skin, but what is most telling is that there is never any wholesale equation of color with skin, as for instance in the phrase "nigra cutis" or some equivalent.[39] Less is known about anatomical understandings of skin in the Latin-language world than the Greek, although the strong dependence on Greek medicine suggests that the same medical techniques that caused Greeks to see skin as separate from the interior of an individual owing to its status as a membrane equally applied to the Latin case.[40]

Nonetheless, color did play an important role elsewhere in Latin conceptions of human difference, and it is here that one can see a principal break with the Greek tradition. Unlike

---

[37] "Modo ne sit fastidio Gracos sequi tanto maiore eorum diligentia vel cura vetustiore." Ibid.

[38] *Gens* also had a legally defined meaning within family law. The overlap of usages frequently caused confusion: George Willis Botsford, "Some Problems Connected with the Roman *Gens*," *Political Science Quarterly* 22, no. 4 (1907): 663-692; for the constellation of related terms, see: Max Radin, "Gens, Familia, Stirps," *Classical Philology* 9, no. 3 (1914): 235-247.

[39] As far as I have been able to locate, the first occurrence of the idea of "nigra cutis" in the Latin-language tradition appears in the twelfth- or thirteenth-century medical poem *Regimen sanitatis Salernitanum*, which describes "nigra cutis, durus pulsus, tenuisque urina" as symptoms of excess melancholy. See: Sir John Harington, *The School of Salernum: Regimen Sanitatis Salernitanum* (London: Oxford University Press, 1922), 211. The phrase appears in other medical treatises of the same period, but always as a symptomatic trait.

[40] For the relationship between Greek and Roman medicine, see: Lawrence J. Bliquez, "Greek and Roman Medicine," *Archaeology* 34 (1981): 10-17 and John Scarborough, "Romans and Physicians," *Classical Journal* 65 (1970): 296-306.

Greek authors, Latin authors seldom described Europeans as "white" in a sense equivalent to the Greek λευκός; rather, authors tend to describe the genetic groups from Britain to Asia as having "light colors" or being "clear and cool," no doubt a veiled allusion to the humoral predisposition of light skin to moist and cool humors.[41] Vitruvius (c. 80 – 70 BC), for instance, remarks that northern Europeans "have been conformed with light colors and big bodies," while Pliny describes them as "candida et glaciali."[42] Moreover, Latin authors seldom described dark-skinned groups as "black," but rather as "dark" or "burnt." Vitruvius notes that people near the equator have been made, through the sun's influence, "of a dark color" (*colore fusco*), and Pliny writes that Ethiopians in particular have been "tanned by their proximity to the sun."[43] This element of climatic determinism is inextirpable from Latin lexicography, although no natural philosophers offer a physiological explanation for its validity: we may speculate that the Romans, like the Greeks, believed the macrocosmic humoral system correlated environment with traits in a synergistic, rather than purely reactive way. Interestingly, both Vitruvius and Pliny tend to essentialize darkly colored groups by tacitly admitting only one dark color, while readily acknowledging many shades of light colors; neither went so far as to embody blackness in an individual body along the lines of the "σώματα μέλανες" of the Greeks.

Perhaps owing to the familial and generative valences of its lexical elements, Latin language authors expressed a persistent interest in the transmission of characteristics—notably complexion—over generations. This contrasts with the Greek tradition, which asserted that individual anomalies were a routine and uninteresting aspect of ethnic peculiarities that could

---

[41] As, for instance, in leprosy.

[42] Vitruvius, *On Architecture*, 6.1.3; Pliny, *Natural History*, 2.189. For Vitruvius' potential status as a natural philosopher, see: Robert D. Dripps, "Rethinking Vitruvius," *Journal of Architectural Education* 40, no. 2 (1987): 19-20.

[43] "Vicini sideris vapore torreri adustisque simles gigni." Pliny, *Natural History,* 2.189.

be explained in terms of local influence, as in the case of Hippocrates' Asians. It is here for the first time that skin enters the conversation as potentially—although ambiguously—a feature that was not related to the environment, but instead derived from the transmission of inherited traits. Pliny, for example, writes that:

> [b]y this time, it is well known that deformed people (*trunci*) can be born from normal people (*integri*), and normal people from deformed people, and also people with the same deformity from deformed parents. Even marks like scars or moles are replicated... an incontrovertible example is Nicaeus, a noble of Byzantium, whose bastard child born from an Ethiopian was no different in color from the rest [of his children], but whose grandson was once again born Ethiopian.[44]

Pliny's observation is riddled with the confusion prevalent in many Latin theories: if black skin was an acquired trait (from the scorching of the sun), how could it be passed on in exactly the same way as other, admittedly non-acquired "deformities" such as moles and scars? This predicament was never fully solved in the ancient tradition, although it came to form the crux of later investigation during the period when generative laws were seen to be the entrée into comprehensive systems of human differentiation.[45] From an external standpoint, we can see that Pliny's techniques of viewing skin within the context of humoral determinism were breaking down, and as a result he recruited understandings from other knowledge domains in order to bring epistemic coherence to an otherwise problematic example.

Whereas the Greek-language medical and natural-philosophical traditions seldom took a distinct stance on the relative worth of different ethnicities, the Latin tradition adopted more of

---

[44] "Iam illa vulgate sunt: varie ex integris truncos gigni, ex trucis integros eademqe parte truncos; signa quaedam naevosque et cicatrices etiam regenerari... indubtatum exemplum est nicaei nobilis pyctae Byzanti geniti qui adulterio Aethiopis nata matre nihil a ceteris colore differente ipse avum regeneravis Aethiopem." Pliny, *Natural History,* 7.11.

[45] Very little research has been conducted on the idea of hereditary traits in the ancient world. See: Owen Kember, "Anaxagoras' Theory of Sex Differentiation and Heredity," *Phronesis* 18, no. 1 (1973): 1-14.

a normative stance on *gentes*; European groups were "normal," "better" and often even "pure." That Europeans—more specifically Peninsular Romans—were "normal" or "expected" can be evidenced by common reactions of disbelief or surprise among Romans at first seeing non-European individuals; Pliny plays on this occurrence when he quips "Whoever believed in Ethiopians before he actually saw one?"[46] Without much clarification, Pliny also expresses that clear and light complexion was considered categorically a "better color" in babies, although this may have less to do with genetic considerations and more with the skin as a symptomatic device.[47] Roman notions of purity largely centered on the appearance of traits not found in other genetic groups; to this end, Tacitus (c. 56 – 117 AD) describes the Germans as "a distinct, pure, and wholly unique *gens*" never "infected" with interbreeding.[48] However, Latin authors' notion of European superiority did not necessarily diminish the genetic standing of other *gentes*. That is to say, although light-colored Europeans may be "normal" and have desirable traits for a *gens*, "surprisingly" dark Persians or Africans had an equal claim to being valid *gentes* within the human *genus*. Following the Greek model, fringe groups such as white Africans did not present a conceptual problem worthy of focused attention; they were simply another *gens*, the Leukaethiopes, who had a certain array of conspicuous genetic traits but were otherwise unremarkable. There are no examples, in the extant Latin literature, of individuals with mixed or bi-colored complexion.

In addition to *gens* and *genus*, Latin employed two other influential terms in their speculations on human difference: *populus* and *natio*, both of which carried distinct political

[46] "Quis enim Aethiopas ante quam cerneret credidit?" Pliny, *Natural History*, 7.1.

[47] Pliny, *Natural History*, 7.6.

[48] "Ipse eorum opinionibus accedo, qui Germaniae populos nullis aliis aliarum nationum connubiis infectos propriam et sinceram et tantum sui similem gentem exstitisse arbitrantur." Tactitus, *Germania*, 1.4.

connotation.[49] These words, like the Greek φυλή, were seldom used by natural philosophers or doctors, and were chiefly reserved for instances that required distinct legal or political connotations. The Romans, for example, are almost exclusively described as a "*populus*" or a "*natio*," not a *gens*; similarly, the Germans may be considered a *populus* in one instance (such as when they enter a treaty), but a *gens* in another sense (such as when Taciticus describes their being pure).[50]

If the Greek world was one of *ethnes*, the Latin world was predominantly one of *gentes*, which had both "genetic" characteristics and specific environmental parameters defined by their particular land. It remained unclear if the genetic characteristics were hereditary or acquired, and the line between them was not distinct as a medical or natural-philosophical phenomenon. Despite their tolerance for *gentes* as a whole, Latin authors were comfortable normalizing colors and characteristics around, essentially, a Roman sense of superiority: these prejudices, however, had no concrete link to medical theory, which was still essentially Greek. Even if Latin authors were comfortable moralizing difference, they did not attempt to recruit medical diagnostic techniques into their explorations for why, for instance, it was "better" to be born with a light color than a dark color. Even by Pliny's reckoning, there should be no *medical* surprise at the dark color of Ethiopians; their status as surprising or unexpected was built upon a different set of cultural values quite separate from medical understandings of the time. More so than the Greek tradition, Latin authors developed techniques within the familial and generational domains that allowed natural philosophers to complement techniques of humoral vision to arrive at new understandings of human difference.

---

[49] For the use of *populus* in particular, see: George Willis Botsford, "The Social Composition of the Primitive Roman Populus," *Political Science Quarterly* 21, no. 3 (1906): 498-526.

[50] Tacitus, *Germania*, 1.4.

Congenital Temperaments and "The Black Man" in the Middle Ages

The "Middle Ages"—conceived of here principally as the Christian-dominated Western tradition in Europe from the 5th to the 15th centuries—built upon but also complicated the human-descriptive traditions of the ancient world. One problem was the disappearance of authoritative Greek texts in the West, or their absorption into Latin equivalents; a transition which was not always easy from the lexical standpoint. A further complication arose from the Christian dogmatic tradition of human exceptionalism, which asserted that human beings shared a unique relationship with the divine that excluded them from taxonomic or geonomic divisions to which other animals were subject.[51] This section investigates the evolution of ancient concepts of human difference during this critical period, not only in the Latin and vernacular contexts, but also through Byzantine Greek-language sources, which themselves shaped Latin lexicography and its translation of Greek terms.[52] Although descriptions and understandings of human difference grew from the techniques of ancient thought, the conceptual functioning of human taxonomy changed substantially with the development of new anatomical and philosophical techniques.[53] The Middle Ages witnessed a heightened sensitivity to external color as a barometer for internal states; a more direct linkage of the medical concept

[51] For the bestiary tradition and human exceptionalism, see: Debra Hassig, *Medieval Bestiaries: Text, Image, Ideology* (Cambridge: University of Cambridge Press, 1995); Wilma George and Brunsdon Yapp, *The Naming of Beasts: Natural History in the Medieval Bestiary* (London: Duckworth, 1991).

[52] For the Byzantine tradition in particular, see: Gerhard Baader, "Early Medieval Latin Adaptations of Byzantine Medicine in Western Europe," *Dumbarton Oaks Papers* 38 (1984): 251-259; Elizabeth W. Mellyn, "Passing on Secrets: Interactions between Latin and Vernacular Medicine in Medieval Europe," *I Tatti Studies in the Italian Renaissance* 16, no. 1/2 (2013): 289-309.

[53] For the relationship between medieval and ancient anatomy, see: Andrew Cunningham, *The Anatomical Renaissance: The Resurrection of the Anatomical Projects of the Ancients* (Aldershot: Scolar Press, 1997); for an analysis of techniques new to the medieval world, see: P. Charlier et al., "A Glimpse into the Early Origins of Medieval Anatomy through the Oldest Conserved Human Dissection," *Archives of Medical Science* 10 (2014): 366-73.

of skin to internal temperament; and the conflation of previously discrete ethnic groups with broad categorical traits, physical and moral. Although the transmission of ancient systems of human difference retained many of the same lexical elements in the Middle Ages, all of them changed and acquired new meanings in the context of a human ideology centered on European (or at least, non-African) normality.[54]

Although the Greek-language tradition ensconced blackness within African bodies and the Latin tradition evinced a sensitivity to color as a regional and potentially familial phenomenon, the ancient tradition as a whole made no intellectual assertions that the ethnic color of a body could reveal anything about its hypothetical interior states. As discussed above, the inability to link visible coloration with ethnic interiority emerged from epistemological barriers created by humoral techniques within natural philosophy itself. During the Middle Ages, however, a new technique arose within the realm of pharmacology that radically repositioned the importance of visible coloration as a diagnostic phenomenon: color, unlike odor or taste, was believed to be the only sensory unit that drew upon all four "qualities" associated with humoral balances.[55] Through a proper analysis of color, one could arrive not only at the relative levels of the four "qualities," but also determine the overall temperament emerging therefrom. This technique was profoundly visual in nature: visible color, unlike other sensations, could be used to reveal interior states. Aëtius of Amida (fl. 480-550), writing in the sixth century AD, describes the phenomenon as follows:

---

[54] An interesting examination of the intersection of Christianity and European identity in the ninth century can be found in: Natalia Lozovsky, "Roman Geography and Ethnography in the Carolingian Empire," *Speculum* 81, no. 2 (2006): 325-364.

[55] For the development of studies on the senses in the Middle Ages, see: Simon Kemp and Garth Fletcher, "The Medieval Theory of the Inner Senses," *American Journal of Psychology* 106 (1993): 559-576; Peter Lautner, "Γνωστικῶς and / or ὑλικῶς: Philoponus' Account of the Material Aspects of Sense-Perception," *Phronesis* 58 (2013): 378-400. For pharmacology in general, see: Theodore Koppanyi, "The Rise of Pharmacology," *Scientific Monthly* 41 (1935): 316-324.

> That odors provide no certain information about temperament derives from their unbalance of matter; we cannot, therefore, use the odor of a rose to make conjectures about all of its qualities... instead, we can conjecture about them more effectively and in no better way than through colors. For hot, cold, dry and moist are found uniquely in colors. Therefore, it is possible to presume an indication of temperament from color in individual families of seeds, roots, even juices.[56]

Possibly stemming from ancient urological perspectives linking urine color to humoral balance, Aëtius' pharmacological technique departed from ancient techniques by allowing natural philosophers to make a critical link not simply between color and humoral balance, but between qualities and generative processes: in Aëtius' words, it "is possible to presume an indication of temperament from color in individual families of seeds."[57] Stated another way, natural philosophers could be *trained* to look at color and see humoral balance, then make presumptions about the temperamental balances of *subsequent individuals within that family.* In Aëtius' theory, the phenomenon of color signified more than the immediate humoral balance accessible through, for instance, uroscopy; it revealed qualities about the inherent "seeds" of the body in which those colors were exhibited.

Aëtius' theory of colors and temperaments had far-reaching ramifications in later theories of medicine, particularly the *Canon of Medicine* of Avicenna (980-1037), which itself

---

[56] "Quod vero nihil certi de termperamento indicent odorata, in caussa est inaequalitas substantiae ipsorum. Et propterea in Rosa ex odore coniecturam facere non possumus de omnibus in epsa qualitatibus...Amplius vero nihilo magis ex coloribus coniicere possumus, de iisdem. In singulis enim coloribus inveniuntur et calida et frigida, et sicca et humida. Possibile tamen est in singulis generibus aut seminum, aut radicum, aut succorum, etiam ex colore indicationem quondam sumere temperamenti." *Aetii Medici Graeci Contractae* (Basil: 1544), 7.

[57] The practice of uroscopy in particular seemed to disappear during the sixth century, making Aëtius' link all the more compelling. See: Gerhard Baader, "Early Medieval Latin Adaptations of Byzantine Medicine in Western Europe," *Dumbarton Oaks Papers* 38 (1984): 251-59; for the transmission of ancient urological techniques through the Middle Ages, see: Joanne Jasin, "The Transmission of Learned Medical Literature in the Middle English Liber Uricrisiarum," *Medical History* 37 (1993): 313-329.

became an important treatise in the Western tradition.[58] Although Galen and other ancient Greek-language authors linked what we might call "psychological" states to temperament, none went so far as Aëtius in linking color with temperamental—rather than humoral—balance.[59] As a technique, using color as a temperamental indicator for humans was accomplished by Paul of Aegina (625-690), whose *Medical Compendium in Seven Books* contained the sum of all medical knowledge up to the seventh century.[60] Elaborating from Aëtius's base, Paul defines not just any color, but skin color in particular as one of the chief ways to *diagnose* temperament. Hot temperaments could be detected by their "off-red complexion;" cold temperaments by their "tawny complexion;" hot-dry by their "dark skin;" cold-humid by their "soft and white skin."[61] Even more remarkably, in a radical break from ancient tradition, Paul distinguishes between "συμφυται κράσεις," literally "congenital temperaments," as opposed to those acquired by "μακροῦ λαβῇ," long habit.[62] He notes, for instance, that obesity can be acquired by habit, whereas other traits and dispositions are *inseparable from the temperament as such.*[63] The idea that one could be born with inalienable temperaments, detectable through skin color, was a new and critical technique in the medical thought of the seventh century: it allowed doctors to distinguish between inherent characteristics and acquired characteristics using, at least partially,

---

[58] For Avicenna's reinterpretation of Greek medical thought, see: Mazhar Shah, *The General Principles of Avicenna's Canon of Medicine* (Karachi: Naveed Clinic, 1966).

[59] For a general comparative analysis of ancient Galenic theory with its Medieval incarncation(s), see: Vivian Nutton, "From Galen to Alexander: Aspects of Medicine and Medical Practice in Late Antiquity," *Dumbarton Oaks Papers* 38 (1984): 1-14.

[60] Paul of Aegina, *Septem Libri* (Berlin: Teubner, 1921).

[61] Ibid., 1.61.

[62] Ibid.

[63] Although virtually no research has been conducted on Aëtius or Paul, a dictionary of some of their new terms can be found in: Richard J. Durling, "Addenda Lexicis, Primarily from Aëtius of Amida and Paul of Aegina," *Glotta* 64, no. 1/2 (1986): 30-36. See also: Timothy S. Miller and Rachel Smith-Savage, "Medieval Leprosy Reconsidered," *International Social Science Review* 81, no. 1/2 (2006): 16-28.

skin colors analyzed through a set of techniques developed independently of ancient humoral techniques. Skin, in a word, acquired a new technical importance.

While it would be presumptuous to equate Paul's temperamental diagnosis *via* skin with a categorical ethnic theory, his theories did carry weight in the medieval medical tradition by overtly equating "congenital temperaments"—limitations and predispositions inalienable from the fabric of one's being—with skin, particularly its color. In other ways, too, he prefigured trends that attempted to access interior potential through external traits: his phrenological theory, although totally unstudied, shares stunning resonances with later ideas of character analysis based on the physical features of the skull.[64] Taken together, Aëtius and Paul represent a shift in medical thinking, whereby skin and skin color became newly prioritized building blocks of techniques to access internal, congenital temperaments of individuals and families. As late as 1771, Paul and Aëtius were being sourced as authorities for medical diseases of the skin and intestinal system.[65]

At the same time, there was a growing tendency in the Middle Ages toward the wholesale equation of blood with hereditary group.[66] In the Galenic medical tradition, blood was a transportation system of nutrients and little else; ethnic traits were governed by a different set of fluids under the umbrella terms of "seeds" or "germs."[67] The *Suda*, a tenth-century encyclopedia widely distributed throughout the Byzantine world and instrumental for

---

[64] Paul of Aegina, *Septem Libri*, 1.61.

[65] See, for example, *Medical Essays and Observations*, 5 vols. (Edinburgh: John Balfour, 1771), 1:204.

[66] For perspectives on blood in general, see: Marcel Fauré, ed., *Le Sang au Moyen Age* (Monpellier: Université Paul-Valéry, 1999); for the late Middle Ages in particular, see: Jean E. Feerick, *Strangers in Blood: Relocating Race in the Renaissance* (Toronto: University of Toronto Press, 2010).

[67] Michael Boylan, "Galen's Conception Theory," *Journal of the History of Biology* 19, no. 1 (1986): 47-77; Michael Boylan, "The Galenic and Hippocratic Challenges to Aristotle's Conception Theory," *Journal of the History of Biology* 17, no. 1 (1984): 83-112.

translating many medical treatises into Latin, sidesteps the entire Galenic tradition of blood and defines it as: "Αἷμα: καὶ τὸ γένος." That is to say, "Blood: the same as race."[68] Alongside the growing importance of blood, medieval authors lost something of the comfort with diversity as their ancient counterparts; the elision of "Ethiopian"—formerly a discrete ethnic group among many "black bodied" ethnicities—with the "black man" *eo ipso* had already been accomplished by the tenth century. Thus, the *Suda* defines "Aethiops" not as a particular ethnicity from a region in Africa, but simply as "a black man," effectively aborting Ethiopians' claims to be a distinct ethnicity.[69] Yet if "the black man" emerged as an abstract concept, so too did "whiteness" appear as an abstract phenomenon in the Middle Ages: in a curious twist of the traditional Aristotelian demonstration of predication, the *Suda* extrapolates whiteness into an essential element of "what makes people white."[70]

Concomitant with lexical conflations of Ethiopians with black men, there was a tangible rise in prejudicial thought toward, specifically, black men. George the Monk (842-867), for instance, relates a story of the disgust of Origen (184-253) at being given a black man as a sex-slave in the following words:

---

[68] The *Suda* is one of the most important sources of Byzantine medicine. John Scarborough, "Early Byzantine Pharmacology," *Dumbarton Oaks Papers* 38 (1984): 213-232; Oswei Temkin, "Byzantine Medicine: Tradition and Empiricism," *Dumbarton Oaks Papers* 16 (1962): 95-115. See also: Giuseppe Zecchini, ed., *Lessico Suda e la memoria del passato a Bisanzio* (Bari: Edipuglia, 1999). On Byzantine ethnography in general, see: Michael A. Hoffman, "The History of Anthropology Revisited: A Byzantine Viewpoint," *American Anthropologist* 75, no. 5 (1973): 1347-1357; Averil Cameron, "Thinking with Byzantium," *Transactions of the Royal Historical Society* 21 (2001): 39-57.

[69] On the various roles and interpretations of the black African in Medieval Europe, see: Tom Meisenhelder, "African Bodies: "Othering" the African in Precolonial Europe," *Race, Gender and Class* 10, no. 3 (2003): 100-113; T.F. Earle and K.J.P. Lowe, eds., *Black Africans in Renaissance Europe* (Cambridge: Cambridge University Press, 2005); Peter Mark, *Africans in European Eyes: the Portrayal of Black Africans in Fourteenth and Fifteenth Century Europe* (Syracuse: Syracuse University Press, 1974).

[70] "If one begins with the basics and asks a man if it seems that Good makes people good, just as White makes people white and Warmth makes people warm..." [ἂν δὲ ἀπὸ τῶν κοινῶν τε καὶ ἐνδόξων ὁρμώμενος ἐξετάζῃ αὐτὸν εἰ μὴ δοκεῖ αὐτὸ τὸ ἀγαθὸν ἀγαθοὺς ποιεῖν, ὥσπερ καὶ τὸ λευκὸν λευκοὺς καὶ τὸ θερμὸν θερμούς.] *Suda* e.1468. An interesting vein of scholarship is developing on the "history of whiteness." See, for instance: Nell Irvin Painter, *The History of White People* (New York: Putnam, 2010).

> They prepared for him an Ethiopian for the abuse of his body. He, however, being unable to bear such a filthy idea, screamed loudly, and with two choices put before him, he agreed to make a sacrifice [to Pagan gods].[71]

Origen chose to put by the wayside his staunch Christian religious principles so as to avoid intimacy with a black man—simultaneously stressing the horrific nature both of sodomy and black men in the Middle Ages. Origen's reaction invests the black man with a concept of disgust specifically crystallized around the sexual act that was, in heterosexual unions, the source of generative power.

Even though links between skin color and difference were concretizing throughout the course of the Middle Ages, authors had little to say about the potential importance of fringe groups such as the Leukaethiopes. The lack of discussion about Leukaethiopes emerges, I believe, from a curious conflation during the Middle Ages of the "white-haired" Albanians of Pliny with the "dog-headed" race of cynocephali reported outside of Europe, principally in Africa and India. In describing the Albanians, Pliny relates that "[t]he same man [i.e., Isigonus Nicaeensis] writes that in Albania there are born individuals with eyes like owls, who have white hair right from childhood, and who see better at night than during the day;" a tradition echoed by Aulus Gellius (c. 125 - 180 AD) in his *Attic Nights* and Solinus in his *Polyhistoria*.[72] One variant of the Latin spelling of cynocephali, "canicephali," seems to have absorbed the "canus capillus"

---

[71] "Αἰθίοπα γὰρ αὐτῷ παρεσκεύασαν εἰς παράχρησιν τοῦ σώματος αὐτοῦ. ὁ δὲ μὴ φέρων τὴν τοσαύτην βδελυρὰν ἐπίνοιαν ἔρρηξε φωνήν, ἀμφοτέρων προτεθέντων αὐτῷ πραγμάτων, καὶ καθωμολόγησε θῦσαι." George the Monk, *Chronicon*, 457.21-458.2.

[72] "Idem in Albania gigni quosdam clauca oculorum acie, e pueritia statim canos, qui noctu plusquam interdiu cernant." Pliny, *Historia Naturalis* 8.2. Aulus Gellius writes, "In ultima quadam terra, quae Albania dicitur, gigni homines qui in pueritia canescunt, et plus cernunt oculis pernoctem, quam inter diem." Aulus Gellius, *Noctes Atticae,* 9.4. Solinus writes: "Albo crine nascuntur, canitiem habent auspicium capillorum; ergo capitis color genti nomen dedit: clauca oculis inest pupula; ideo nocte plus quam die cernunt." Solinus, *Polyhistoria*, 15.

of the Albanian tradition into the "canis cephalus" tradition of the dog-faced men—*canus*, white, having no relation to *canis*, dog.[73] This would partially explain, in the tradition as late as Linnaeus, the confusion of the cynocephalus in his various incarnations with the albino.[74] One important effect of this misidentifictation was that Leukaethiopes were relegated to the realm of the monstrous, thereby excluding them from consideration in specifically human schemas of classification.[75]

Irregular pigmentation never explicitly enters the natural-philosophical dialogue. The single eye-witness account of what appears to be partial albinism does not occur in the European tradition at all, but instead appears in the Baghdadi physician and historian Abd al-Latif al-Baghdadi (1162-1231 AD), whose 1201 *Historiae Aegypti Compendium* contains the following anecdote:

> Amongst the tricks of Nature, this is one reason why we may wonder greatly: an infant, certainly at the same time [as other events narrated], in the year 97 [AH], was born with two heads: another infant—whom I myself saw—was born with white hair; [his hair] was not so much the white of old age, but rather approached a color that was red.[76]

---

[73] Maciej Miechowita, writing in the fifteenth century, describes the "canicephali" as follows: "Amplius plures antiqui historici presumptuose scripserant in huiuscemodis longissimis povinciis septemtrionis esse homines monoculos...nonnullos canicephalos, id est canina capita habentes." Maciej Miechowita, *Tractatus de duabus Sarmatiis* (Cracow: 1521), 215.

[74] See: Carl Linnaeus, "Anthropomorpha," A*moenitates Academicae*, 6 (1760): 76.

[75] For the idea of exceptionalism in the Middle Ages, see: Andrew Gillett, ed., *On Barbarian identity: Critical Approaches to Ethnicity in the Early Middle Ages* (Turnhout: Brepols, 2002); see also David Abulafia and Nora Berend, eds., *Medieval Frontiers: Concepts and Practices* (Aldershot: Ashgate, 2002).

[76] "Inter naturae lusus, est cur hunc maxime miremur: infantem scilicet eodem temporis intervallo, anno nonagesimo septimo, natum fuisse cum duobus capitibus; alium item infantem, quem quidem ego viderim, natum esse cum capillis albis; qui tamen adeo non referent albedinem canitiei, ut quadantenus vergerent ad colorem qui rufus esset." *Historiae Aegypti Compendium* (Oxford, 1800), 279. On Arabic-language theories of monstrosity and disease, see: Sami Hamarneh, "Sources and Development of Arabic Medical Therapy and Pharmacology," *Sudhoffs Archiv* 54, no. 1 (1970): 30-48; for perspectives on African ethnography, see: John O. Hunwick, "A Region of the Mind: Medieval Arab Views of African Geography and Ethnography and their Legacy," *Sudanic Africa* 16 (2005): 103-136.

Although it is impossible to tell the ethnicity of the parents' complexion in Abd al-Latif's example, the white-rose hair of the child seemed noteworthy enough to describe as a "trick" of nature equivalent to a two-headed child.[77] Other contexts suggest there was an acceptance of irregularly colored people in European culture, although we must take them with some skepticism; Babrius's versions of the fables of Aesop, for example, contains an allegorical account of some "wolves" addressing some "dogs," in the following language: "[s]ome of you are white, some are black; some part black, part ashen; others are yellow and spotted."[78] The "wolves"—read here as members of static human groups—did not seem to have any particular problem confronting complexional differences, although it is uncertain to what degree this allegorical tolerance mapped onto the world of human diversity.[79]

As one moves into the early-modern era, the field of what had been Greek "ethnic particularities" and Roman *gentes* gradually became more polarized into "black" and "non-black" categories, to the exclusion of other groups of historical importance, such as Asians; skin and color became linked to temperament in a way that they had not been in the ancient world; and "skin color" developed into a practical diagnostic tool. Doctors could be trained to see interior states based on external appearances, particularly skin color. The old words such as "gens," and "genus" continued to be used to refer to cultural groups, but by the time of 1500, speaking of a "black man" was much different than in 300 A.D because of the accruing moral overtones. At the same time, the conflation of Leukaethiopes and bi-colored people with non-

---

[77] S. M. Stern, "A Collection of Treatises by 'Abd Al-Latif al-Baghdadi," *Islamic Studies* 1, no. 1 (1962): 53-70; Kamal Hafuth Zand, *The Eastern Key: Kitab al-ifadah wa 'l-I'tabar of 'Abd Al-Latif al-Baghdadi"* (London: George Allen and Unwin, 1965).

[78] "Διάργεμοι: πῇ μὲν λευκοί, πῇ δὲ μέλανες. ἀλλ' οἱ μὲν ὑμῶν μέλανες, οἱ δὲ τεφρώδεις, ἕτεροι ξανθοὶ καὶ διάργεμοι στήθη." Babrius, *Fables,* 85.14-15.

[79] For Babrius in the Medieval context, see: John Papademetriou, "Some Aesopic Fables in Byzantium and the Latin West: Tradition, Diffusion, and Survival," *Illinois Classical Studies* 8 (1983): 122-36.

human groups exempted them from humanity and, as a result, sidelined them as unusable categories within human taxonomy. To a large extent, the specific techniques available to natural philosophers determined the importance of individuals and their attributes: in addition to determining the natural-philosophical significance of particular characteristics, techniques shifted boundaries and repositioned individuals within those boundaries. In the next several centuries, discussion of human taxonomy increased as Europeans encountered new lands and peoples for the first time, and the struggle successfully to make sense of the encounters spurred thinkers from many perspectives to develop new ways of seeing human difference. One critical shift was the re-situation of previously marginalized groups such as Leukaethiopes and individuals with irregular complexion into a centralized location of systems of human difference.

Centralizing the Margins: New People and the Liminal Albino, 1500-1700

By the time of the first voyages to the Americas in the late fifteenth century, Europeans were equipped with a long tradition of seeing and describing human difference. The ancient era depended primarily on techniques acquired from humoral understandings of the world, resulting in flexible metrics of difference that situated groups synergistically within a cosmic and local environment. In effect, the ancient system self-corrected for "unexpected" humans by immediately rationalizing their existence within a dynamic natural-philosophical framework: white Ethiopians, for instance, could be considered as equally valid a category as black Ethiopians. Conspicuously, the few recorded cases of extreme complexion irregularity, such as Ptolemy's bi-colored man or Nicaeus of Byzantium's white Ethiopian son, garnered no momentous natural-philosophical interest, implying that contemporaries did not see them as a threat to pre-existing models of human division or lacked the technical means to convert them

into useful epistemological events. The Middle Ages developed new techniques, especially within the field of medicine, that allowed natural philosophers to access internal states based on external appearances while simultaneously essentializing difference around abstract and static concepts separate from humoral conceptions of the world. Whether through misidentification or deliberate epistemological disqualification, groups of humans such as Leukaethiopes offered neither challenge nor enrichment to the understanding of human difference in the Middle Ages, because their affiliation with potentially monstrous creatures exempted them as useful taxonomic units.[80]

Beginning at the end of the fifteenth century, voyages to the New World prompted a surge in public discussion about the breadth and ramifications of human diversity. Accompanied by new perspectives in medical literature such as Andreas Vesalius' *De Corporis Fabrica* (1543) and new legislation in international law governing relationships with so-called "Saracens and infidels," European thinkers were presented with questions that their inherited taxonomies were ill equipped to answer. Confronted with a plethora of "new" people to describe, natural philosophers and explorers struggled with ways to integrate them into the natural-philosophical schemas that their existence seemed to suggest. Unlike previous systems built upon the traditional and long-known civilizations in the Old World, thinkers in the early-modern period encountered new people in what they had assumed was essentially a closed system of human difference. Yet the lack of cogency among traditional traits used to delineate human groups rendered them insufficient for this purpose: skin color in particular exhibited a great variety. As a more intense focus on the body became the basis of comparative anatomy, the reappearance of traits that were thought to be exclusive to certain groups complicated mainstream understandings of human boundaries. Previously marginalized people, especially Leukaethiopes

[80] See above, 40-41.

and individuals with irregular complexions, became critical for the consideration of human difference at large through the creation of new techniques of deriving meaning from those attributes. In a counterintuitive way, managing borderline cases caused natural philosophers to solidify their ideas of static groups as much as challenge them: centralizing abnormality reinforced the normal as much as it defined the abnormal.[81] In contrast to the handful of examples dating from antiquity to the Middle Ages, the literature of the early-modern period displays a persistent and exponentially amplified interest in cases of abnormal or unexpected skin coloration.

The focus on irregular skin emerged with the very first documents recounting travels to the Americas. Hernán Cortéz (1485-1547), in his 1532 *De Insulis nuper inventis Narratio*, offers the first description of unexpected white-skinned natives in the New World; although not a natural philosopher himself, he observes with understated surprise that "[Montezuma] had in the apartments of this palace men, boys, and women who, from birth, are white in face, body, hair, eyebrows and eyelashes," a simple if telling observation on the unexpected physiognomy and status of these individuals.[82] Georg Marggraf (1610-1644), in his compendious natural history of Brazil, notes that he saw "an African woman who was not black, but had a clear ruddy skin, and red hair and eyebrows. I could not gather which region she was from, since the rest of

[81] The radical repositioning of albinos in the historiogrpahic tradition—by virtue of their own repositioning in the early-modern world—has begun to emerge as a focus of modern scholarship. See: Curran, "Rethinking Race History," 151-79.

[82] "In huius palatii particulis tenebat homines, pueros, feminasque a nativitate candidos in facie, corpore, capillis, superciliis, et pallebris." Hernán Cortéz, *De Insulis nuper inventis Narratio* (Cologne: Mouesiani and Birckman, 1532), C. v. verso. For a more general account of the role of published exploratory accounts in the sixteenth century, see: Elizabeth Spiller, *Reading and the History of Race in the Renaissance* (Cambridge: Cambridge University Press, 2011).

'blackdom' could not understand her."[83] He goes on to say that many old Ethiopian men—the geographical language is ambiguous—had white hair and beards, and moreover that he even saw "a young man eighteen years old who was totally white, totally white eyebrows, totally white eyelashes, totally white skin, with a broad nose in the Ethiopian fashion, who was born here from a 'blackie' mother and father."[84] Lionel Wafer (1640-1705), whose *New Voyage and Description of the Isthmus of America* is taken up elsewhere in this dissertation, reports on a "complexion so singular" in Central America that his "account will seem strange;" the next three pages of his work describe a "white" people in stark contrast with the "copper-coloured" inhabitants that formed the demographic standard.[85] Within a single generation of travel, the number of examples of unexpected complexion had more than doubled from the sum of the previous two thousand years.

There was also a revisiting of traditional locales of suspected abnormality, especially Africa and India. Andrew Battel (fl. 1580-1615) writes of central Africa that "[t]here are sometimes born in this country [of Loango]... of Negro Parents, white Children, as fair as *Europeans*. These are presented always to the King, and are called *Dondos*."[86] John Ogilby (1600-1676) observes that in Lower Ethiopia "[t]here sit also certain white men by the king, with skins on their heads, and indeed at distance seem like our Europeans, having not only grey eyes, but red or yellow hair; yet coming nearer, the discovery grows easie, for they have not a lively

[83] "Vidi hic Africanam foeminam, non nigram, sed russa plane cute et pilis ac capillis russis. Ex qua regione esset, non potui intelligere, name linguam eius non intelligebant reliqui Nigritiae." Georgius Margravius, *Historiae Rerum Naturalium Brasiliae* (Amsterdam: Elzevirium, 1648), Lib. VIII, 268.

[84] "Vidi hic etiam plane albissimum juvenem octodecim annorum, pilis crispis albissimis et superciliis albis, cute albissima, naso plane more Aethiopum, qui natus hic e patre et matre Nigritis." Ibid.

[85] Lionel Wafer, *A New Voyage and Description of the Isthmus of America* (London: James Knapton, 1699), 133-36.

[86] Andrew Battel, *A Description of the Kingdoms of Loango, Kongo, Etc.* in *A New General Collection of Voyages and Travels*, vol. III, (London: 1746), 221.

colour, but white, like the skin of a dead corps [sic]."[87] Isaac Vossius (1618-1689) observes, "that true white Ethiopians, or Leukaethiopes, as they are called by the ancients, are located not only in the aforementioned kingdoms south of the source of the Nile, but are found scattered about in the central regions of Africa. This is so certain as to be undeniable... other Ethiopians run away from them, from which I believe we can deduce that they are actually lepers."[88] In the East Indian sphere, Bartolomé Leonardo de Argensola (1562-1631) describes that in the Moluccas "[a]mongst such a black people there are some as white and ruddy as Germans. They avoid the sun and never look at it, lest they go blind. In Spain, we call them albinos; but some are born strong and learn to see any object."[89] On the island of Ceylon, John Ribeyro (fl. 1650-1700) records that a race of "Bedes" are "white like Europeans, and there are even redheads among them."[90]

In addition to a focus on anomaly abroad, interest in irregular pigmentation grew within Europe itself. The first mention of a potentially albinotic race in Scandanavia occurs as early as 1555, with the *Historia de gentibus septentrionalibus* of Olaus Magnus (1490-1555); although he focuses on the individuals' alleged night vision more than their pigmentation, he links them to a tradition of albinism ultimately deriving from a misreading of Pliny's *Natural History*.[91] In the

---

[87] John Ogilby, *Africa, being an Accurate Description of the Regions of Egypt, Barbary, Lybia, etc.* (London: Johnson, 1670), 508.

[88] "Albos vero Aehtiopes, sive Leucoaethiopes, uti a veteribus vocantur, non tantum in praedictis regnis ultra Nili fontes austrum versus sitis, set et passim in mediterraneis Africae reperiri tam est certum, quam quod certissimum... fugiunt alii Aethiopes, unde, ut puto, colligi potest vere esse leprosos." Isaac Vossius, *De Nili et Aliorum Fluviorum Origine* (Hag. Com. 1666), 67-69.

[89] "En medio de tan negra gente ay algunos tan blancos y rubios como los Alemanes. Estos saliendo al sol, aunque no lo miren, quedan ciegos. En España los llamamos albinos, bien que algunos nacen Fuertes y habiles para ver qualquier objecto." B. L. de Argensola, *Conquista de las Islas Malucas* (Madrid: Maulia, 1609), Lib. II, 71.

[90] John Ribeyro, *History of Ceylon Presented to the King of Portugal in 1685* (Ceylon: Colombo, 1847), 79.

[91] Olaus Magnus, *Historia de gentibus septentrionalibus* (Rome: 1555), Lib. II, 76.

Netherlands, the first account of a bi-colored baby occurs in 1656 in the medical diary of Jobi a Meek'ren (fl. 1630-1660), published posthumously in 1682. Remarkably, Meek'ren's account supplies the first known visual depiction of such a case [fig. 2.1]. He writes that on November 9, 1656, "with the help of a public midwife, a certain woman 'squeezed out' a son whose face and right arm with the hand were of a blackish color, perhaps because she saw a passing Ethiopian just at the time of birth."[92] Conspicuously unnamed, the woman was presumably of European descent, hence the noteworthiness of having seen a passing Ethiopian.[93] In France, Horace-Bénédict de Saussure (1740-1799), Gottlieb Storr (1749-1821) and others remarked upon the albino brothers of Chamouni, who were advertised later in their career as having "hair...as white as snow and as strong as horse hair...their eyebrows, eye-lashes, and beards are also perfectly white."[94] Olaf von Dalin (1708-1763), nearly two centuries after Olaus Magnus, continued the tradition of albinotic people in Scandinavia with his *Tal om Swerige* of 1767.[95]

[92] "*Anno 1656.*9 Novembris, justo pariendi tempore, mulier quaedam, quod Aethiopem forte occurrentem adspexisset, *filium* exclusit ope obstetricis publicae, cuius faces, et brachium dextrum cum manu, coloris errant nigricantis; venter acqua distentus adeo ut eius clarae, flavescentisque libras duas dissectus exhiberet, inclusa ea membranae viscidae; viscera omnia bene se habebant, excepte linie qui exiguos valde, firmus, obscuri colore, Renes corrupti. Vesica ovalis, acqua gelatinosa repleta. In Thorace Cor solidum, bene constitutum, auriculae eius durae, coeruleae, ventriculus dexter sinistro multo amplior." Jobi a Meek'ren, *Observationes medico-chiurgicae* (Amsterdam: Boom, 1682), 351.

[93] The idea that simply seeing an Ethiopian could cause generative anomalies in white mothers ultimately derives from Strabo, *Geography*, 15.5ff.

[94] *London World*, 30 April 1789, L1; see also below.

[95] Olaf von Dalin, *Tal om Swerige* (Stockholm: 1767), B. II.2, 122-23.

Figure 2.1 – Meek'ren's mixed-complexion baby of 1656. This appears to be the first visual representation of an individual with a complexion irregularity. Meek'ren serviced clients of all types in Amsterdam throughout the seventeenth century. The illustrations in Meek'ren's book include not simply medical cases, but also instruments, procedures, and symptoms for a wide range of abnormalities and diseases. Source: Jobi a Meek'ren, *Observationes medico-chiurgicae* (Amsterdam: Boom, 1682), 351.

Why the increased focus on unexpected moments of irregular complexion? On the one hand, the increased scrutiny of irregular pigmentation in the early-modern world assumes a

strengthening of expectations for individuals to fall into pre-existing human groups, even if these were ideological constructs to which natural philosophy ascribed loose concrete boundaries. On the other hand, it indicates a phase of epistemological uncertainty about the nature of these individuals vis-à-vis larger attempts to classify and describe human difference, an uncertainty that other historical epochs did not face. All lexica of difference provided some degree of consonance with the range of epistemological techniques that constituted the chief tools for natural-philosophical observation: for the ancients, these were techniques built upon humoral understandings of the world; for medieval natural philosophers, it was the ability to access interior states through exterior appearances. Yet in neither case did albinos or irregular pigmentation provide sufficient momentum to challenge popular schemas of human division. Scholars have traditionally argued that the early-modern period faced a confluence of factors that contributed to a reassessment of human differentiation: theology, social theory, politics, anatomy, and law required more precise methods of categorization, and terms such as *variety*, *nation*, and *race* provided the discrete, specialized, or loaded values needed as discursive networks shifted.[96] While this observation certainly advances our understanding of the larger cultural shifts responsible for the interest in human taxonomy in the early-modern world, it leaves two critical questions unanswered: what was it about irregular pigmentation that attracted so much interest? And what physical and intellectual techniques did natural philosophers use—or create—to allow them to extrapolate moments of irregularity into conclusions about static phenomena?

---

[96] See, for instance, Richard Fogarty and Michael A. Osborne, "Constructions and Functions of Race in French Military Medicine, 1830-1920," in *The Color of Liberty: Histories of Race in France*, eds. Sue Peabody and Tyler Stovall (Durham: Duke University Press, 2003), 206-208; Pietro Corsi and Paul J. Weindling, "Darwinism in Germany, France, and Italy," in *The Darwinian Heritage*, ed. David Kohn (Princeton: Princeton University Press, 1985), 683-729.

The rest of this inquiry focuses on precisely on these questions. There was significant change over time in the techniques available to natural philosophers from the ancient world to the pre-modern, and the interest in irregularity was deeply enmeshed with the physical processes available to viewers: in the same way that pre-modern techniques of vision disqualified marginal groups from challenging theories of human difference, the ability to centralize previously marginalized groups emerged from changes and developments in early-modern physical techniques themselves. The relationship is profoundly dialectical: new techniques created the ability to reinterpret albinos, and albinos' relevance subsequently shaped the development of new techniques. Perhaps there is no better place to start than with the domain that furnished the most first-hand accounts of unexpected human difference: the world of exploration.

3. Exploring, Encountering, Envisioning: Seeing Human Difference in Maps and Travel

> AS to their *Bodies,* observe the *features, shapes,* and *proportions* of them; but more particularly the features of their *faces:* their *Eyes* whether large, or small: their *noses* whether flat and low, or sharp and raised: their *Hair* long, or short and curled or woolly: the *colour* of their *Skin* whether white, brown, tawny, olive, or black: the *colour* of their *Infants* when first born: whether *white people* removing into *hot Countries* become by degrees *browner,* &c. and *Blacks* removing into *cold Countries,* paler: whether *People* that inhabit the Countries which are *hottest,* be in Complexion of all the *blackest:* whether there be true *Negroes* Natives of any parts of the *world,* besides *Guinea,* and the adjacent parts of *Africa.* Observe also the *size* or bigness of their *Bodies:* their *strength, agility,* &c: and to what *age* they commonly live. Observe likewise whether they *paint* their bodies: *what parts* of them they paint, what *colours* they lay on: what *figures* they paint: and *how* they do it.[1]

Focusing predominantly on sober advice and practical information, John Woodward's 1696 *Brief Instructions for Making Observations in All Parts of the World* is more a list of themes and equipment than an actual instructional pamphlet. At under ten pages of main text, it functions primarily as a field-guide and to-do list for would-be voyagers about to embark on a research trip abroad.[2] Yet the work's extended title, *Brief Instructions for Collecting, Preserving, and Sending over Natural Things: being an Attempt to Settle an Universal Correspondence for the Advancement of Knowledg* [sic] *both Natural and Civil,* reveals its author's deeper natural-philosophical pretensions: not only is it a guide "for making observations," but it is also an exhortation to incorporate field work, specimen preservation, socially-moderated exchange

[1] John Woodward, *Brief Instructions for Making Observations in All Parts of the World* (London, 1696), 8-9.

[2] For a general survey of instructional pamphlets at the turn of the eighteenth century, see: Gascoigne, "The Royal Society," 539-562 (see chap. 1, n. 6); Charles Withers, "Geography, Natural History and the Eighteenth-Century Enlightenment: Putting the World in Place," *History Workshop Journal* 39 (1995): 136-63.

networks, and moralistic notions of epistemological advancement into exploratory practices at the turn of the eighteenth century.[3] Its wide sweep and no-nonsense practicality situate the work as a radical attempt to codify a "universal correspondence"—metaphorically and lexically—of both the physical and epistemological worlds through a wholesale standardization of natural-exploratory practices.[4] Not simply for a hypothetical elite, Woodward's pamphlet could be used by anyone with a natural-philosophical leaning in his or her preparations for a voyage abroad.[5]

Despite the work's radical practicality, Woodward adopts a remarkably conservative methodology: separating the spatial division of the world into the traditional cartographic units of Sea, Sea-Shore, and Land, his epistemological structure similarly divides observation into the academically conservative units of "appearances" and "qualities."[6] His geo-spatial and categorical division excels in its application to inanimate and relatively static objects such as rocks and plants, but the method's shortcomings become apparent when addressing mobile,

---

[3] The new emphasis on "field work" in eighteenth-century exploration is the focus of Marie-Noëlle Bourguet and Christian Licoppe, "Voyages, mésures et instruments: une nouvelle experience du monde au Siècle des lumières," *Annales* 52e, no. 5 (1997): 1115-51. A fascinating if geographically tangential study of the preservation and circulation of exploratory specimens can be found in Bettina Dietz, "Mobile Objects: the Space of Shells in Eighteenth-Century France," *British Journal for the History of Science* 39 (2006): 363-382.

[4] The concept of scientific standardization has been discussed at length in the context of late-eighteenth century debates about the metric system, principally in the French context and largely from the standpoint of the physical sciences. See, for example: Ken Alder, *The Measure of the World* (Washington, D.C.: Smithsonian, 2003); C. Doris Hellman, "Legendre and the French Reform of Weights and Measures," *Osiris* 1 (1936): 314-40. Within the context of eighteenth-century natural-philosophical nomenclature, see: Britt-Louise Gunnarsson, *Languages of Science in the Eighteenth Century* (New YorkL De Gruyter Mouton, 2011). The standardization of exploratory practices has been less thoroughly studied.

[5] A good work demonstrating some of the social complexities of professional and amateur intersections in eighteenth-century expeditions can be found in: Kristian Nielsen, ed., *Scientists and Scholars in the Field: Studies in the History of Fieldwork and Expeditions* (Aarhus: Aarhus University Press, 2012).

[6] Appearances and qualities were the cornerstone of Aristotelian science, particularly in the academic vein. See: Patrick Singy, "Huber's Eyes: The Art of Scientific Observation before the Emergence of Positivism," *Representations* 1 (2006): 54-75; Joseph M. Magee, "Sense Organs and the Activity of Sensation in Aristotle," *Phronesis* 45 (2000): 306-30.

living groups such as human beings.[7] Woodward makes this clear in his "Appendix relating to the Natives of Guinea, Monomotapa, and other the less known parts of Africa: of the East, and West Indies: Tartary, Greenland, or any other remote, and uncivilized, or Pagan Countries," which provides strategies that could be used not simply within each discrete geographical unit and categorical feature, but across, outside, and beyond them as well. More importantly, it is in the collection of data about human beings that his advice moves away from strategies aimed at gathering information about simple appearances and qualities and focuses instead on less easily qualifiable facts that would, in reality, be inaccessible to an explorer without relying on second-hand information. The passage above illustrates this point nicely: although Woodward initially guides readers simply to "observe the features, shapes and proportions" of newly encountered people, his emphasis quickly elides into a fixation on "the face" and, most conspicuously, "the colour of their skin." Both of these special categories are suggestive: the monoculi, the acephali, and the many offshoots of the centaur-manticore category, for instance, could be distinguished immediately by their anomalous heads and faces.[8] But his fixation on skin color—it takes up more than half of his passage on human observation—most forcefully illustrates the shortcomings of the traditional methodology espoused elsewhere in his work. For in the consideration of skin color above all else, Woodward is ready to admit that explorers will be dealing with a potentially dynamic characteristic requiring not simply observations based on

[7] For the particular change in observational practices with regards to human observation in instructional voyage pamphlets, see: Antonella Vannoni, "Verso la scienza dell'uomo: le instruzioni per I viaggiatori da Boyle a Degérando," *Ricerca Folklorica* 32 (1995): 13-19.

[8] The face was a topic of special consideration in ethical realms since antique times. See, for instance: George Boys-Stones, ed., *Seeing the Face, Seeing the Soul: Polemon's Physiognomy from Classical Antiquity to Medieval Islam* (Oxford: Oxford University Press, 2007); Joseph Ziegler, "Philosophers and Physicians on the Scientific Validity of Latin Physiognomy, 1200-1500," *Early Science and Medicine* 12 (2007): 285-312. The most celebrated eighteenth-century exponent of face-based ethical evaluation was Johann Kaspar Lavater. For a general introduction, see: Ellis Shookman, ed., *Faces of Physiognomy: Inderdisciplinary Approaches to Johann Caspar Lavater* (Columbia, S.C.: Camden House, 1993).

immediate experiences, but also data derived from a wide temporal and geographical spectrum, ranging from dermatological pigmentation at birth to genealogical patterns of pigment transmission after relocation to new climates.[9] In order to assemble a "universal correspondence" for human diversity by Woodward's standards, an explorer would have to be equipped with methods and visions—conceived of here as techniques—far exceeding those which any purely physical observation could yield at the moment of encounter.

Scholars such as Winthrop Jordan have pointed out that moments of first encounters—often mediated through the use of pamphlets such as Woodward's—produced what he describes as the "attitudinal accretion" that installed, at times, highly irregular ideas about human difference as the mainstream outlook.[10] Indeed, Woodward's tacit admission that observation could reveal both physical appearance and non-visible natural-philosophical facts reflects that viewers could operate with a peculiar understanding of the gaze that affected not only the *way* they saw human beings, but also *what* they saw across time and space. The subjective observation of a "broad nose" might, by Woodward's rubric, transcend its immediate status as a "feature" occurring synchronically within a single individual and become a diachronically produced feature that had existed over time and space, with potential links to

[9] The dynamism of skin pigmentation became a popular topic of natural-philosophical consideration over the course of the eighteenth century, but was still a topic of some debate at the time of Woodward's *Brief Instructions*. See, for instance, John Mitchell, "An Essay upon the Causes of the Different Colours of People in Different Climate," *Philosophical Transactions of the Royal Society* 43 (1744): 102-150.

[10] Winthrop Jordan's *White over Black: American Attitudes toward the Negro* centers precisely on the problematic elision of "racial science" with cultural racism, and it continues to be a valuable resource and handbook for the range of attitudes that North Americans held toward black Africans and their descendants throughout the eighteenth and nineteenth centuries. See: Winthrop D. Jordan, *White over Black: American Attitudes toward the Negro, 1550– 1812* (New York, 1977). Following closely the central ideas of Jordan are scholars such as William Cohen, who applies Jordan's methodology—although, it must be said, to a deliberately less encyclopedic degree—to the French context. See: William B. Cohen, *The French Encounter with Africans: White Responses to Blacks, 1530-1880* (Bloomington: Indiana University Press, 1980).

qualities totally separate from the nose *per se*.[11] In the context of global exploration, Woodward's assemblage of observation and speculation suggests an epistemological interplay among external features, internal states, cultural customs, and even moral standing that is both reflected in, and emergent from exploratory practices throughout the seventeenth and eighteenth centuries.[12] As interest within the natural-philosophical community polarized into establishing norms and divergences in the natural world, philosophers like Woodward and his readers sought out a form of observation that could reveal facts about *invisible* phenomena through their *visible* articulations.

The fixation on the normal and the abnormal, on extreme differences and extreme commonalities across time and space had the potential to expand the European domain of natural facts as well as contract it: complexions across continents, for instance, might be used by the adherents of one method to prove theories of universalist human creation, yet harnessed by another to argue for radically separate taxonomic groupings.[13] In order to arrive at a fuller understanding of the particular "look" of human difference under the specific conditions of European map-making and geographic exploration, one must take seriously the tension created in Woodward's "universal correspondence" of commonality and uncommonality in human

---

[11] The field of physiognomy developed over the course of the eighteenth century to include an array of correlations between traits and behaviors or "dispositions." Although initially limited primarily to the face, physiognomy began to comprise traits that were themselves the focus of considerable attention in establishing human taxonomical groups. See: Julio Caro Baroja, *Historia de la fisiognómica: el rostro y el carácter* (Madrid: Ediciones ISTMO, 1988); Rüdiger Campe and Manfred Schnider, eds., *Geschichten der Physiognomik* (Freiburg im Breisgau: Rombach Verlag, 1996).

[12] See, for instance, Charles Withers, *Placing the Enlightenment: Thinking Geographically about the Age of Reason* (Chicago: University of Chicago Press, 2007); Antonio Barrera-Osorio, *Experiencing Nature: the Spanish American Empire and the Early Scientific Revolution* (Austin, TX: The University of Texas Press, 2006); John Gascoigne, "The Royal Society," 539–562.

[13] A famous example of multiple natural philosophers using the same data to reach much different conclusions regarding human taxonomy is the debate between Voltaire, Linnaeus, and Kant at the end of the eighteenth century. See: John C. Greene, "Some Early Speculations on the Origin of Human Races," *American Anthropologist* 56 (1954): 31-41.

observation.[14] Although the motivations of explorers and cartographers varied, thinking about cartographic vision and the exploratory gaze as processes of technical accretion that resulted in a distinct understanding of human difference allows us to approach the question of the history of human variety from a contrastive angle, because exploration and the discrete techniques of vision that emerged therefrom formed the backbone of other modes of seeing without necessarily sharing in their goals or social networks.[15] Because theories of human difference recruited just as much information from second-hand accounts as first-hand exposure, geographic exploration fueled many of the systematizing accounts of human difference in the eighteenth century: recent scholarly works, such as Charles Withers's *Placing the Enlightenment: Thinking Geographically about the Age of Reason*, have persuasively re-centered geography in eighteenth-century learned culture. [16] Withers convincingly argues that the study of lands and mapping had an influential and underappreciated effect on the mental landscape not just of epistemic spaces, but of natural philosophers' understanding of their own existential place in the world. It is true that exploratory accounts were widely used by theorists who never travelled themselves, creating a phenomenon that historian Andrew Curran has called the emergence of "the textualized body."[17]

In order to allow for an analysis of the exploratory gaze as technique, this chapter privileges two types of sources: maps and travel accounts. Although much different from one another as forms of media, maps and travel accounts have a particularly rich dialectical

---

[14] The standard if methodologically conservative work on exploration in the eighteenth century is Glyndwr Williams, *Expansion of Europe in the Eighteenth Century* (New York: Walker, 1967).

[15] The role of exploration in mainstream natural philosophy is touched on, for instance, in Christopher Fox, Roy Porter, and Robert Wokler, eds. *Inventing Human Science: Eighteenth-Century Domains* (Berkeley: University of California Press, 1995).

[16] Charles Withers, *Placing the Enlightenment* (see above, n. 12).

[17] Curran, *Anatomy of Blackness* (see chap. 1, n. 7), 29-72.

relationship illustrating both the creative power of representation and the delicate contingency of human interaction. The chapter begins by arguing that the gaze of explorers was deeply entangled with the cartographic tradition, particularly the appearance and codification of monsters in early-modern mapping. Focused predominantly on maps as visual and epistemological media, the inquiry centers on a case-study of changing representations of Africa from the sixteenth to eighteenth centuries. The case of African royalty is a particularly powerful story, because the visual shifts deployed by map-makers have clear echoes within the cartographic tradition and were often entwined with natural-philosophical developments from outside the field of cartography proper. In many branches of cartography, monstrosity and physical region were viewed as intimately related, and this relationship influenced modes of looking when explorers went to new areas historically supposed to be inhabited by monsters.

The second half of the chapter tables the discussion of static taxonomic groups by focusing specifically on encounters with "the other other:" white natives abroad.[18] Beginning with Cortéz's sixteenth-century report of the court of Montezuma and extending well into the nineteenth century, explorers were fascinated with—and baffled by—seemingly anomalous groups of people that exhibited traits unlike those of their parents and community. This section investigates accounts by voyagers who went abroad themselves, shifting the scene from Africa by settling on three representative examples of travel accounts from the equally "exotic" East and West Indies. This section does not attempt an analysis of how travel accounts were subsequently recruited by theorists operative in academic circles abroad. This is not to suggest that the latter was unimportant or uninfluential: on the contrary, it was largely the theoretical

[18] For the ground-breaking idea of the "autre autre," I am indebted to Roger Little, *Nègres blancs: representations de l'autre autre* (Paris: L'Harmattan, 1995). Although Little's study is essentially an analysis of "black albinos" in the twentieth century, the phenomenological link with Levinas has proven formative for this historical analysis.

analyses of non-explorers such as Kant and Buffon that shaped mainstream ideas of human difference. However, as I hope to demonstrate, the ways *explorers* saw human difference was assembled in a much different pattern than that of theorists without first-hand exposure to the cultures, peoples, and climates under investigation. Developed as techniques, the ways explorers responded to human difference were crafted in order to provide precisely the types of answers that someone like Woodward—with his interest in the practical value of first-hand information—would demand from encounters with unexpected human groups.

Maps, Monsters, and Men: Cartographic Vision and New Human Types

> Pliny, that genius of nature, says of satyrs in Book 7, chapter 2 [of *Historia Natrualis*]: "There are also satyrs, a most pernicious animal, in the eastern regions and mountains in the Indies; sometimes they walk on all fours, sometimes they run upright with a human appearance and face. But because of their speed they are not captured unless old or sick." But what warrants greater admiration is the fact that I myself have seen some examples of both sexes walking erect, and a female satyr genuinely conceal herself from unknown men; and also, covering her face with her hands (if you want to call them that), express plaintive cries, mournful wailing, and other human actions; so that one might say that no human feature eluded her except speech. The Javanese say that [the satyrs] can speak, but they refrain from doing so lest they be put to work—ridiculous. They give the name "Ourang-Outang" to them, which means "man of the forest," and they assert that they are born out of the desire of Indian women who mate in a loathsome lust with apes and monkeys.[19]

Monsters inhabited non-European spaces and liminal European zones for dozens of centuries.[20]

Well into the early modern period, antique geographies that isolated satyrs, for instance, to

---

[19] "Plinius, ille Naturae Genius, lib. 7, cap. 2, de Satyris dixit: Sunt et satyri, subsolanis in Indiis locis et montibus pernicissimum animal; tum quadrupeds, tum et recte currents humana specie et effigie, propter velocitatem non nisi sense aut aegri capiuntur. Ast quod majorem meretur admirationem, vidi ego aliquot utriusque sexus erecte incendentes, imprimis eam satyram foemellam tanta, verecundia ab ignotis sibi hominibus occulentem, tum quoque faciem manibus (liceat ita dicere) tegentem, ubertimque lacrymantem, gemitus cientem et caeteros humanos actus exprimentum, ut nihil ei human deesse diceres praeter loquelam. loqui vero eos easque possie, iavani aiunt, sed non velle, ne ad labores cogerentur; ridicule. nomen ei indunt ourang outang, quod hominem silvae significat, eosque nasci affirmant e libidine mulierum indarum, quae se simis et cercopithecis detestanda libidine miscent." Jacobus Bontius, *Historiae naturalis et medicae Indiae orientalis Libri Sex*, in Gulielmus Piso *De Indiae Utriusque re naturali et medica* (Amsterdam: Elzevirios, 1658), 84-85. On contemporaneous debates about the actual possibility of man-ape breeding, see Justin E. H. Smith, *Problem of Animal Generation in Early-Modern Philosophy* (Cambridge: Cambridge University Press, 2006); Carl Niekirk, "Man and Orangutan in Eighteenth-Century Thinking," *Monatshefte* 96 (2004): 477-502.

[20] The literature on monsters in the early-modern world is extensive. Some useful books with an eye toward maps and exploration are: William Wes, *Monsters and their Meanings in Early-Modern Culture* (Oxford: Oxford University Press, 2011); A. W. Bates, *Emblematic Monsters: Unnatural Conceptions and Deformed Births in Early-Modern Europe* (Amsterdam: Rodopi, 2005); Peter G. Platt, ed., *Wonders, Marvels, and Monsters in Early-Modern Culture* (Newark: University of Delaware Press, 1999); Leif Søndergaard and Rasmus Thorning Hansen, eds., *Monsters, Marvels and Miracles: Imaginary Journeys and Landscapes in the Middle Ages* (Odense: University Press of Southern Denmark, 2005); Asa Simon Mittman, *Maps and Monsters in Medieval England* (New York: Routledge, 2006).

"eastern regions" and "mountains in the Indies" proved dominant in forming natural philosophers' mental maps of monstrosity, normality, and taxonomic grouping.[21] For most of the Middle Ages, sidelining wondrous creatures to far-away lands functioned effectively as a means of avoiding concrete proof of anomalous groups while simultaneously normalizing the European experience around traits and appearances produced within European culture itself.[22] This changed subsequent to the series of voyages west of Spain, the discovery of the "new world," and the expansion of knowledge about Southern and Eastern Asia throughout the fifteenth and sixteenth centuries; the confinement of monsters to "exotic" places like Africa and the Indies proved to be less reliable as a means of preserving and protecting these dubious, but historically pedigreed taxonomic categories.[23] However, rather than abandon the concept of monstrosity, geographers and explorers reinterpreted and resituated monstrous groups within new paradigms of thought about the natural world. The results were bifurcated: on the one hand, groups previously confined to purely textual accounts of natural philosophy such as satyrs, anthropophagi, monopeds, and monoculi were given *visual* existence on maps [fig. 3.1]; on the

---

[21] The concept of the "mental map" itself forms a substantial body of histiographical research. For the eighteenth century, see: Paul Richards, "Kant's Geography and Mental Maps," *Transactions of the Institute of British Geographers* 61 (1974): 1-16. Even maps aiming at epistemological neutrality continued addressing the possibility of monsters within these historically monstrous regions. See: Lucy P. Chester, "The Mapping of Empire: French and British Cartographies of India in the Late-Eighteenth Century," *Portuguese Studies* 16 (2000): 256-75.

[22] A compelling study on the place of the monstrous tradition in university pedagogy can be found in: Roling von Bernd, *Drachen und Sirenen: die Rationalisierung und Abwicklung der Mythologie an den europäischen Universitäten* (Leiden: Brill, 2010). One debate about the reliability of data claiming to support the existence of monsters is traced in the seventeenth-century context in Joe Nigg, ed., *Fabulous Animals at the Court of Science: a 17th Century Debate between Sir Thomas Browne and Alexander Ross* (Wakefield: Longwood Academic, 1991).

[23] Monstrosity and exoticism intersected in numerous branches of eighteenth-century European thought, and they became a motif reiterated in different geographical imaginations. See: Mathew Boyd Goldie, *The Idea of the Antipodes: Place, People, and Voices* (New York: Routledge, 2010); Andrew Curran and Patrick Graille, "The Faces of Eighteenth-Century Monstrosity," *Eighteenth-Century Life* 21 (1997): 1-15; Alan Kors, "Monsters and the Problem of Naturalism in French Thought," *Eighteenth Century Life* 21 (1997): 23-47.

other hand, monsters were given *physical* existence in the real world through the identification with *actual* groups of *actual* human beings.[24]

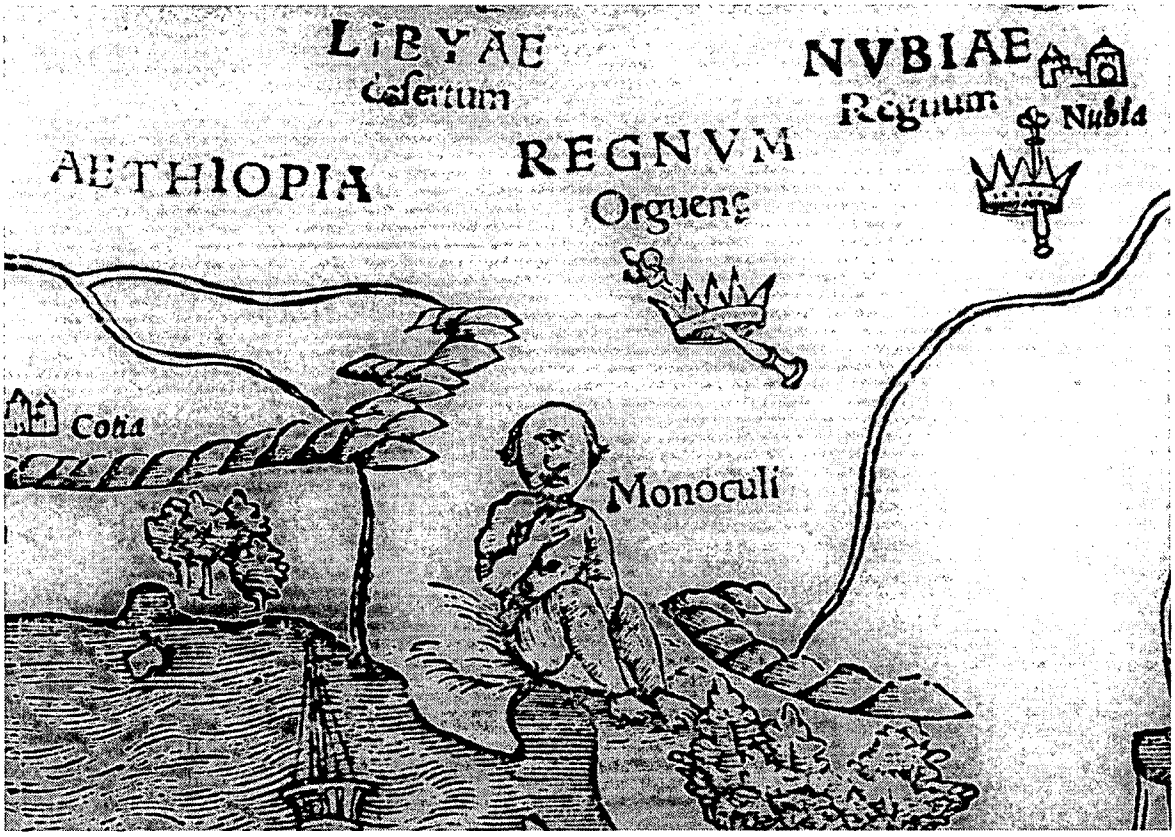


Figure 3.1 - Sebastian Münster, *Africa, Libya, Morland, mit allen kunigreichen so zu unsern zeiten darin gefunden warden* (Basel: S. Münster, 1550), detail. Woodcut map of Africa from an early edition of Münster's *Cosmographia*, first published in 1540; the image of the monoculi reappears in all editions of his *Geographia* and *Cosmographia*.

The recruitment of monstrous knowledge by map-makers presupposes not only a deep knowledge of the European monstrous tradition, but also a certain sympathy with it: monstrous

[24] On the place of monsters specifically in maps, see: David Wengrow, *Origins of Monsters: Image and Cognition in the First Age of Mechanical Reproduction* (Princeton: Princeton University Press, 2014); Joseph Nigg, *Sea Monsters: A Voyage around the World's Most Beguiling Marine Map* (Chicago: University of Chicago Press, 2013); John Block Friedman, *The Monstrous Races in Medieval Art and Thought* (Cambridge, Mass.: Harvard University Press, 1981); Yara Frateschi Vieira, "Emblematic Monsters in Portuguese Pamphlets of the Eighteenth Century," *Portuguese Studies* 4 (1988): 84-99.

identifications were somehow valuable as a means of translating geographical ideas of human difference into epistemologically meaningful and lexically transferable encounters. Geography was far from a purely factual discipline, and many well-regarded accounts of travel and geography contained a large amount of fantasy and imagination, both tacit and explicit. Joyce Oldham Appleby's *Shores of Knowledge: New World Discoveries and the Scientific Imagination* is the most recent—and comprehensive—attempt to demonstrate how the particular effects of geography as an intervention within schemas of human taxonomy recruited imaginative thought to structure and root its meaning.[25] More descriptive than theoretical, Applby argues that the geographic gaze functioned as a unit in a sophisticated system of exchange that produced marketable ideas in learned cultures from exploratory accounts of newly encountered lands. The Spanish and Portuguese historiographical traditions offer particularly rich forays into the importance of fantasy in shaping the distinct gaze of the geographer: Juan Pimental's *Testigos del mundo: ciencia, literatura y viajes en la ilustración* analyzes the importance of the medieval bestiary tradition, among other things, at the time when explorers first encountered new people and sought to systematize the experience in terms of pre-existing epistemological structures.[26] Martim de Albuquerque's recent *Fantasia e objectividade nos descobrimentos* echoes much of Pimental's findings by investigating how the tradition of imaginary monsters such as the Unicorn and the Amazon spurred many explorers to undertake their expeditions and formed the basis of the imaginative vocabulary to adequately capture the wonder at new people—a great challenge

[25] Joyce Oldham Appleby, *Shores of Knowledge: New World Discoveries and the Scientific Imagination* (New York: Norton and Company, 2013).

[26] Juan Pimentel, *Testigos del mundo: ciencia, literature y viajes en la illustración* (Madrid: Marcial Pons Historia, 2003).

given their concurrent attempt to relate objectively to readers what could fundamentally not be related.[27]

In the language of this dissertation, the *technique* of seeing human difference on maps built upon—rather than jettisoned—previously held notions of monstrosity in order to arrive at new understandings of human taxonomy.[28] I provisionally term this phenomenon "cartographic vision:" the complex and mutually informative relationship between visual representations of the world and the world as it is experienced in exploratory observation, both of which were shaped and guided by techniques acquired through exposure to other domains of learning. In the development of ideas of human difference, the cartographic tradition functioned not only as a fulcrum for leveraging wonder and normality in order to produce distinctly moralistic stances on human difference, but it also developed into an independent rhetoric of its own that promulgated changing attitudes toward human difference in non-European worlds.[29] Drawing on the historical change in representations of Africa in particular, explorers adapted their modes of seeing to produce a conception of human difference compatible with prevailing ideas of the time.

Studies focusing on the position of monsters in European map-making are relatively few in number, and those that do exist tend to limit their inquiry to the period before the sixteenth century without any detailed inquiry into potential links between monstrosity and concepts of

---

[27] Martim de Albuquerque, *Fantasia e objectividade nos descobrimentos* (Lisbon: Alêtheia Editores, 2006).

[28] See also: Andrew Curran, "Rethinking Race History," 151-79; Bronwen Douglas, "'Terra Australis' to Oceania: Racial Geography in the 'Fifth Part of the World,'" *Journal of Pacific History* 45 (2010): 179-210; Bronwen Douglas, "Seaborne Ethnography and the Natural History of Man," *Journal of Pacific History* 38 (2003), 3-27.

[29] For studies on the rhetorical devices of maps, see: David N. Livingstone, "Cultural Politics and the Racial Cartographies of Human Origins," *Transactions of the Institute of British Geographers* 35 (2010): 204-21; David Turnbull, "Cartography and Science in Early Modern Europe: Mapping the Construction of Knowledge Spaces," *Imago Mundi* 48 (1996): 5-26; Simon Naylor, "Historical Geographies of Science: Places, Contexts, Cartographies," *British Journal for the History of Science* 38 (2005): 1-12.

human difference.[30] Alongside geographic studies, one particularly rich avenue of research in the history of human difference has been in the field of aesthetics; although not intuitively sharing any link with natural-philosophical thought, works such as David Bindman's *Ape to Apollo* argue persuasively that natural philosophy and aesthetics were, in fact, deeply unified in underpinning natural philosophical outlooks on human difference.[31] As Bindman's research demonstrates, studying the intersection and interrelation of monsters and humans in the cartographic tradition often includes the analysis of prejudicial representations of non-European cultures, particularly when tracing change over time: in numerous instances, map-makers use images to imply the degeneration of formerly respectable cultures into monsters and subhumans, whereby the symbolic representation of non-European kingdoms shifts from royal enthronement to mysterious quasi-human animal. Although it is tempting to equate this transformation with "racism" as it came to be known in the nineteenth century, to do so would be anachronistic; if we take as a premise that map-makers were not only responding to, but also influencing changes in natural philosophy, the relationship between mapping and exploration becomes a more nebulous and telling complication to the history of human difference.

A particularly well-documented evolution of cartographic vision can be seen in the representation of African royalty—especially the Kings of Nubia and Ethiopia—from the sixteenth to the eighteenth centuries in maps printed in Europe by individuals spanning from Martin Waldseemüller (1470-1520) to Frederick de Wit (1629-1708).[32] Often genealogically

---

[30] A useful structural guideline was found in: Christine R Johnson, *The German Discovery of the World: Renaissance Encounters with the Strange and Marvelous* (Charlottesville: University of Virginia Press, 2008).

[31] David Bindman, *Ape to Apollo: Aesthetics and the Idea of Race in the 18th Century* (London: Reaktion Books, 2002).

[32] For Dutch cartographers in general, see: W. Redmond Cross, "Dutch Cartographers of the Seventeenth Century," *Geographical Review* 6 (1916): 66-70; for Africa in particular see: Luo Tončić-Sorinj, "Das Alte Afrika und der neue Globus," *Der Globusfreund* 10 (1961): 8-13.

linked to—or openly equated with—the legendary Prester John, the Kings of Nubia and Ethiopia underwent a wild metamorphosis in their visual representations over this period. Originally portrayed with dignified images of dynastic royalty, these rulers were gradually replaced by natural-historically informed portrayals of quasi-humanoid, satyrian figures familiar to Europeans from textual accounts of monstrosity such as Pliny. In some cases, map-makers openly acknowledged that their portrayals of Africans were informed by ideas originating in natural-philosophical circles, including within the maps themselves the imagery and theories prevalent at the time they created them.

To begin, consider Waldseemüller's *Carta marina navigatoria Portugallen* of 1516 [fig. 3.2]. This map, a follow-up to his successful if frequently inaccurate *Universalis Cosmographia* of 1507, incorporated many of the new data gathered by the Portuguese from their commercial and religious activity throughout Africa.[33] Much of this information had been carefully guarded by Portuguese sources so as to limit competition in exploration from a practical and political standpoint, and indeed Waldseemüller's map itself is a curious mix of practical navigational data, diplomatic information, and historical imagination.[34] In Waldseemüller's representation of Africa, the King of Nubia is portrayed within a mountain encampment, enthroned facing right, holding sword and Christian scepter. His realm—denoted by simplified Abyssinian crosses—

[33] Waldseemüller lists, in the textblock to his map, his contemporary sources: "...accounts of the brother of Ascelius, ...the brother of Odoricus de Foro, Julius de Parca Leonis, Peter de Alaicus, the brother of John de Plano Carpio, Massius and Marcus, Venetian citizens, Casper the Jew... Francis of Albiecheta, Januensus Ludovicus, and Vatomanus Bononien." *Carta Marina*, sheet 9, textblock. Most of these individuals were either missionaries or merchants under employment by the Kings of Portugal. For Waldseemüller in general, see: Eugen Oberhummer, "Die Karten Martin Waldseemüllers," *Geographische Zeitschrift* 11 (1905): 227-233; Henry Stevens Son & Stiles, *Brief Account of the Original Waldseemüller World-Maps of 1507 and 1516* (London: 1907); Marie Armand Pascal d'Avezac, *Martin Hylacomylus Waltzemüller, ses ouvrages et ses collaborateurs* (Paris: Challamel âiné, 1867).

[34] The *Carta marina* shows with equal interest geographical distances, spice prices in Calcutta, and feeding habits of rhinoceroses. Jeffrey C. Stone, "Imperialism, Colonialism, and Cartography," *Transactions of the Institute of British Geographers* 13 (1988): 57-64; Peter Whitfield, *New Found Lands: Maps in the History of Exploration* (New York: Routledge, 1994): 54-55.

covers not only Nubia, but also the two upper portions of Ethiopia, here described as "Ethiopia beneath Egypt" and "Middle Ethiopia;" the realm as a whole extends to the border of Lower Ethiopia. The text near the King traces his lineage back to the time of the legendary Prester John—allegedly a descendent of one of the Three Magi—and affiliates the rulers of the region with early Christianity while nodding to their legal authority to rule via the divine rights of kings.[35] Prester John himself [not shown here] rules over the upper and eastern parts of Ethiopia, and appears on the map directly eastward of the King of Nubia as a political neighbor despite the obvious chronological improbability. Iconographically, the image of enthroned royalty would have been familiar to European individuals through exposure to media such as currency and heraldry, and the map communicates the ideas of territory and legal authority in a visual lexicon identical to those used for European realms. Insofar as the map-maker is asserting anything about the taxonomic position of the king, it would seem to be royal, potentially divinely ordained, and by all accounts human.[36]

[35] On Prester John in general, see: Lev Nikolaevich Gumilev, *Searches for an Imaginary Kingdom: the Legend of the Kingdom of Prester John*, trans. R. E. F. Smith (Cambrdige: Cambridge University Press, 1987); Jacqueline Pirenne, *Légende du "Prêtre Jean,"* (Strasbourg: Presses universitaires de Strasbourg, 1992); Robert Silverberg, *Realm of Prester John* (Garden City: Doubleday, 1972).

[36] Waldseemüller was not averse to incorporating monsters in other places of his maps, particularly in Asia. See: Chet van Duzer, "A Northern Refuge of Monstrous Races: Asia on Waldseemüller's 1516 'Carta Marina,'" *Imago Mundi* 62 (2010): 221-31.

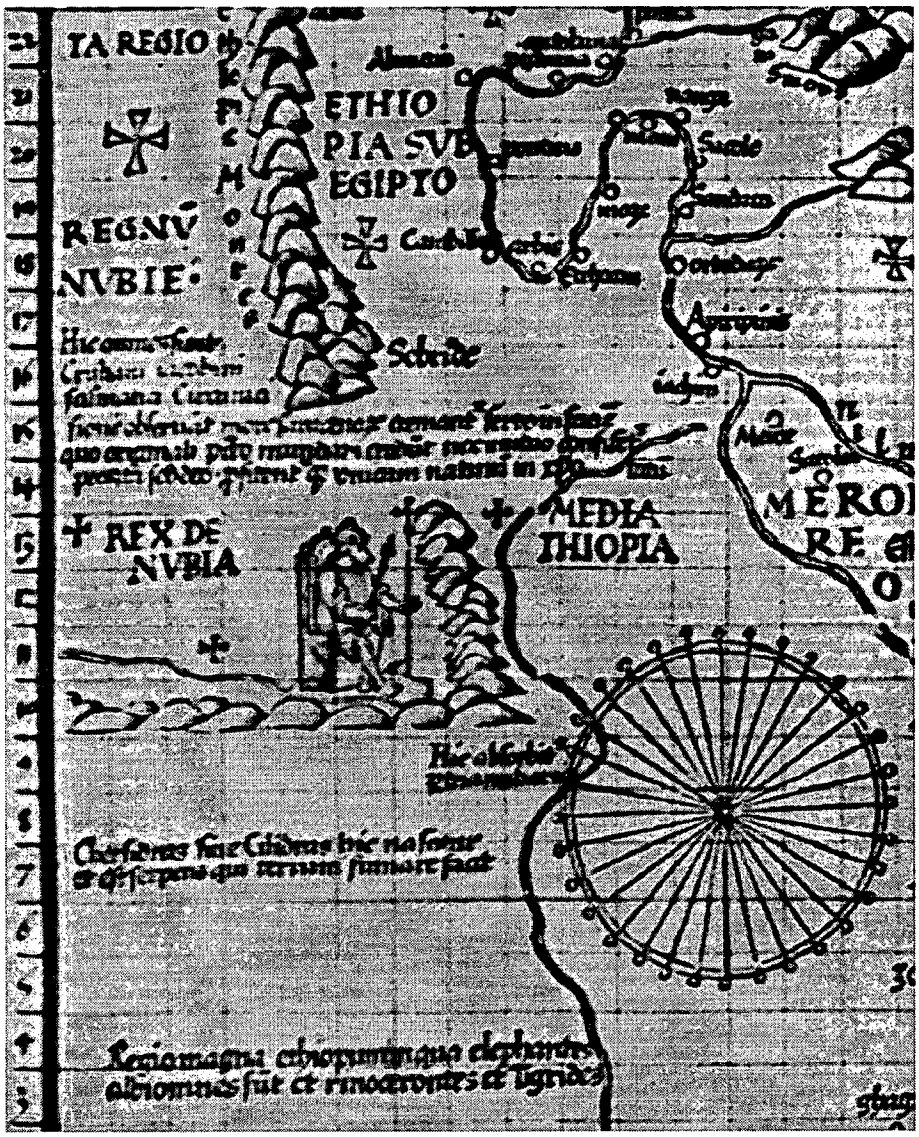


Figure 3.2 - Martin Waldseemüller, *Carta Marina navigatoria Portugallen navigations atque totius cogniti orbis terrae maris* (Strassborg: M. Waldseemüller, 1516), detail. This map contains a curious mix of practical navigational data, historical imagination, and diplomatic information. The numerical row on the left provides local latitudinal measurements intended to aid with celestial navigation. The Abyssinian crosses, in addition to marking the Nubian King's domain, could be interpreted as diplomatic signals highlighting Christian, rather than Islamic, lands.

A second example in the Waldseemüller tradition is Gerhard Mercator's famous and influential *New and Authoritative Description of the World* of 1569 [fig. 3.3], which retains much of the Christian and political imagery present in Waldseemüller's map at the expense of some

legal precision.[37] On the rightmost edge of sheet 10 can be seen a royal figure with all the European accoutrement one would expect from a ruler: throne, crown, scepter and globe. The regions he occupies—the Nubian Kingdom and the Abbisinian Kingdom— cover a generous portion of north-central Africa and are illustrated topographically with geographical landmarks and civilian establishments. In Mercator's map, however, the Nubian King and Prester John are not portrayed as separate rulers with discrete kingdoms, but are conflated into a single figure, the "Most High Emperor of the Region of Abissinia," who was simultaneously a present-day African king and a legendary bishop. Mercator has placed the combined Nubian/Prester figure in precisely the same geographical location of Waldseemüller's *Nubian* king, confirming the tradition of portraying African rulers with a royal visual lexicon reminiscent of European domains; little, if any, natural history has entered into the visualization of the world.

[37] For Mercator in general, see: W. Renckhoff Duisburg-Ruhrort, *Gerhard Mercator, 1512-1594; Festschrift zum 450. Geburtstag* (Duisburg-Ruhrort : Verlag für Wirtschaft und Kultur W. Renckhof: 1962); Heinrich Averdunk, *Gerhard Mercator und die geographen unter seinen nachkommen* (Gotha: J. Perthes, 1914).

Figure 3.3- Gerhard Mercator, *Nova et Aucta Orbis Terrae Descriptio ad Usum Navigantium Emendate Accommodata* (Duisberg: 1569), detail. Interestingly, Mercator also portrays Prester John in Asia, and includes an explanation that the "Prester John who is believed to rule in Asia to this day...was not the same as the one called Prete Giam in Africa." No further consideration of the temporal ambiguity is given.

Diogo Homem's *Atlas Universal* of 1565 [fig. 3.4], although tailored to a different aesthetic than Waldseemüller's and Mercator's, builds upon the tradition of portraying African royalty using a European visual lexicon in order to communicate primarily political or diplomatic information.[38] In Homem's map, the King's realm is extended well southward of the Equator, but European presence is more clearly asserted through the Portuguese royal pennant and English naval ensign surrounding the king, whose light complexion appears to reflect the traditional Euro-Christian descent from Prester John. To some extent, engineering a light complexion for the African king had to be a deliberate exaggeration, as courts around Europe

[38] On Homem in general, see: Armando Cortesão, ed., *Portualiae monumenta cartographica*, vol. 4 (Lisbon: Imprensa Nacional-Casa da Moeda, 1987).

had been receiving dark-complexioned diplomats from sub-Saharan Africa for decades prior to the publication of Homem's map.[39] Unlike Waldseemüller's and Mercator's maps, however, Prester John himself is not portrayed anywhere on Homem's map, thereby firmly rooting it in the present; however, Homem adds exotic natural-philosophical elements to his map in the form of the elephant and the lion, thereby highlighting the fundamentally non-European nature of the King's dominion. It is unclear if Homem's atlas was intended to be used aboard a ship, as the complete version contains a cumbersome sixteen map plates in folio size along with a calendar and astronomical tables. However, the consistency of cartographic elements such as the 32-point compass roses distinct to Portugese utility maps and accurate perspective representations of towns and coast elsewhere in the map do suggest that it served a functional use to some degree, possibly as a pedagogical tool.[40] Regardless of the map's intended uses, Homem begins to mix diplomacy, image, and exoticism by including natural-historical concepts drawn from the realm of zoology. By doing so, Homem's map acquired meaning in a new epistemological register: it implicitly claimed that the map is a legitimate medium in which to take natural philosophical knowledge and visualize it on a crafted representation of the political world.

[39] Kate Lowe, "'Representing' Africa: Ambassadors and Princes from Christian Africa to Renaissance Italy and Portugal, 1402-1608," *Transactions of the Royal Historical Society* 17 (2007): 101-28.

[40] On the history of Portuguese cartography in general, see the aptly titled: Armando Cortesão, *History of Portuguese Cartography* (Lisboa: Junta de Investigações do Ultramar, 1969).

Figure 3.4 - Diogo Homem, *Atlas Universal* (n.l.: Homem, 1565), detail. Although the rich aesthetics form an obvious component of Homem's map, it contains a large amount of purely functional information as well, such as hydographic charts and keys for celestial navigation. The eastward-facing cross on the compass rose was a Portuguese navigational convention.

Considered as a whole, these three examples highlight an important point: it is precisely because these images have limited, if any, pretensions of asserting the taxonomic status of African kings that the unspoken assumption about the African ruler is taken for granted: he is

human, royal, and although he may have Christian roots, African.[41] An critical shift, however, occurred in the next decades. Within forty years, the formerly enthroned King, whether a descendant of Prester John or Prester John himself, was replaced by quite a different figure: a seated, humanoid creature of uncertain identity, but probably intended to be a Plinian satyr. The earliest example of this iconographical shift occurs in Henricus Hondius' *Africae nova Tabula* of 1631, published roughly forty-five years after Mercator's *Atlas* [fig. 3.5]. Amplifying Homem's elephant and lion, Hondius presents to us a surfeit of exotic animals: ostriches in various positions, elephants frontal and silhouette, a lion on the hunt, and even a roaring dragon.[42] Although all of these figures communicate a sense of the exotic, the satyr does so with the most forceful visual rhetoric: Hondius renders him seated with a distinctly human torso, folding his arms genteelly over his goat-like legs while a small tail peeks out on the right. Although no explicit label within the map connects the quasi-human with the King of Nubia, it is hard not to read this image as a visual allusion to previous depictions of African kings. Placed exactly in the location of Waldseemüller's and Mercator's King of Nubia, the satyr sits directly under the geographic label of the "Nubian Kingdom" and looks assertively at the viewer or user, echoing the enthroned posture used for decades to represent African kings. As a symbol for the monstrous and uncivilized originating in the Plinian tradition, the image of the satyr steps beyond the zoological foundation of exoticism laid by Homem and makes new assertions about

[41] An excellent study on the revelatory nature of omissions in early-modern maps can be found in: J. B. Harley, "Silences and Secrecy: The Hidden Agenda of Cartography in Early Modern Europe," *Imago Mundi* 40 (1988): 57-76.

[42] Hondius himself worked with Mercator, so his production of a map in the Portuguese Homem's vein is doubly interesting. See: J. Keuning, "The History of an Atlas: Mercator—Hondius," *Imago Mundi* 4 (1947): 37-62; Peter van der Krogt, "Amsterdam Atlas Production in the 1630s: A Bibliographer's Nightmare," *Imago Mundi* 48 (1996): 149-60; Günter Schilder, *Monumenta Cartographica Neerlandica* vol. 5 (Canaletto: Alphen aan den Rijn, 1996).

the map's role, as medium, to articulate valuative judgments about the lands and people it represents.

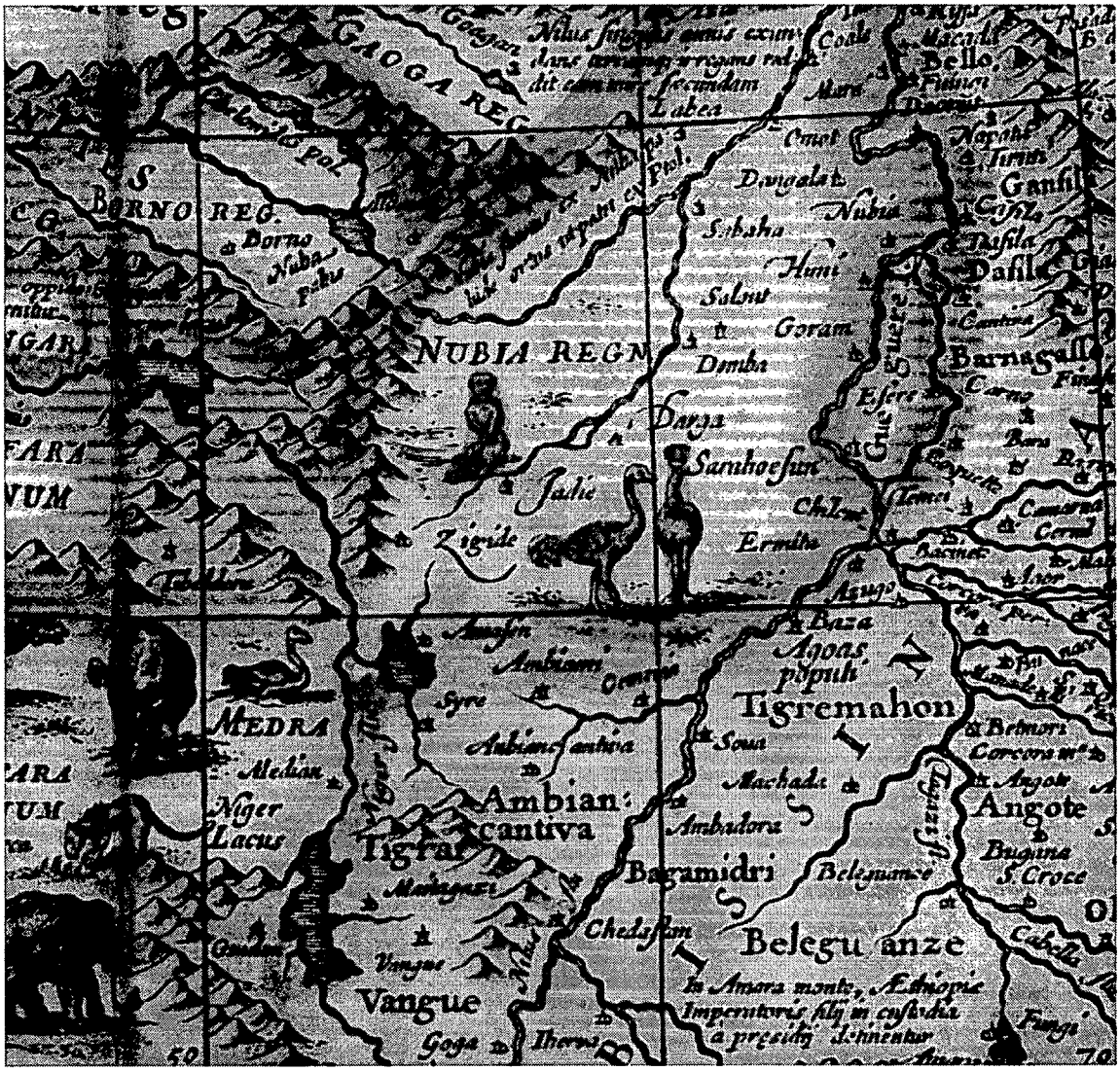


Figure 3.5 - Henricus Hondius, *Africae nova Tabula* (Amsterdam: Hondius, 1631), detail. Hondius' rendition of Africa was originally published in 1619 and continued to be reprinted in subsequent versions of the *Atlas Novus* until 1657. At its fullest edition in 1660, it was renamed the *Atlas Major* and comprised 11 volumes with the work of nearly one hundred authors and engravers; the *Atlas Major* continued to be printed until 1683 and was one of the most widely used atlases of the seventeenth century.

If Hondius places his satyr precisely where Mercator and Waldseemüller locate the king of Abyssinia, Frederick de Wit in his *Totius Africae Accuratissima Tabula* (1683) builds upon Homem's tradition by placing a pair of ambiguous humanoids exactly where Homem's enthroned King of Lower Ethiopia appears [fig. 3.6]. As in Hondius' map, the physiology and posture of the animals are crucial in distinguishing them as humanoids rather than simians. The upper figure sits with a contemplative posture similar to that of Hondius, crossing his humanoid arms over hircine legs; the second figure torques his body into a westward gaze reminiscent of European portraiture at the time. Neither Hondius nor de Wit draw any explicit connection with African royalty, and it would be premature to assert that either was *equating* African royalty with semi-human satyrs; it can be reasonably remarked, however, that the inclusion of monstrous figures with distinct taxonomic ambiguity in locations traditionally occupied by simple humans marks a change in the ambition of the maps themselves. Whereas for Waldseemüller, Africa was viewed above all as a political area with nuances of the exotic, for Hondius, exoticism was first, and politics was second.

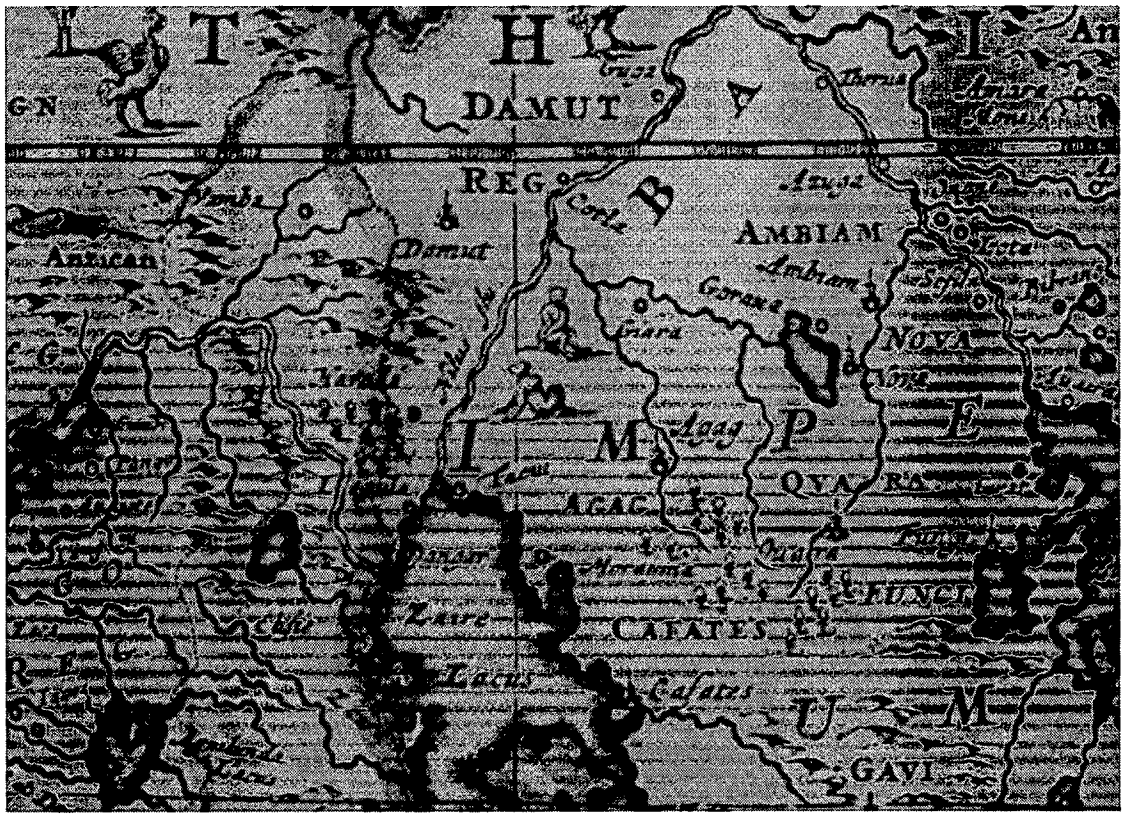


Figure 3.6 - Frederick de Wit, *Totius Africae Accuratissima Tabula* (Amsterdam, 1683), detail. After the decline of Hondius's atlas in the 1680s, De Wit's map of Africa became the standard model for the continent for nearly half a century. It was especially famous for accurately providing the names of ethnic groups in the interior of the Cape.

If the case of African royalty might be described as one of the replacement of man with monster, precisely the opposite trend can be seen in another significant cartographic movement throughout the early-modern period: the substitution of images of monsters with images of men. The location of monsters in the marginal zones of maps—especially the legends—is well documented in the cartographic tradition.[43] Willem Blaeu's (1571-1638) massively popular 1642 *Aethiopia Inferior vel Exterior* [fig. 3.7] offers a good example of the legend stepping away from the monstrous and entering the realm of the human. Blaeu's legend contains a residuum of conventional animal exoticism in the form of a skinned cape buffalo operating as the cartouche

[43] Nigg, *Sea Monsters*, 71-83; Vieira, "Emblematic Monsters," 84-99.

and the helmeted turtles directly below the map's title. What is more noticeable, however, is the addition on the pedestals of monkeys, functioning both as emblems for non-European space in a way similar to Homem's animals while also drawing upon the zoological similarity of the quasi-human satyr from the Hondius tradition. While this may have been sufficient in previous maps to operate as an exciting legend, Blaeu has taken a further step and incorporated the inhabitants of the space mapped, the "Ethiopians," here heavily stylized.[44] In previous maps, images of gods or monsters in the legends signified the wonderful inhabitants of a region to the exclusion of humanity; Blaeu inverts the traditional equation by inserting humans where we would expect to find monsters, thereby making a subtle shift in primacy that implies that nature's richness itself provides a sufficient supply of wonder without recourse to preternatural phenomena.

[44] Sander Gilman and Aris Sarafianos focus particularly on the intersections between race, aesthetics, and science in both the German and English contexts, and contemporary art historical research continues the valuable line of inquiry on the figure of the black African by problematizing it as both an iconographical attribute and subjectified representation. See Sander L. Gilman, "The Figure of the Black in German Aesthetic Theory," *Eighteenth-Century Studies* no. 4 (1975): 373-391; Aris Sarafianos, "The Natural History of Man and the Politics of Medical Portraiture in Manchester," *The Art Bulletin* 88, no. 1 (2006): 102-118. The capstone project in the study of Western perceptions of black Africans in the visual arts is the multiple-volume, half-century scholarly undertaking entitled The Image of the Black in Western Art: this project, which spans roughly 5,000 years and covers virtually every form of media, has set the standard for systematic investigations of how peoples of African descent have been represented and characterized in the art of the West. See: David Bindman and Henry Louis Gates, eds., *Image of the Black in Western Art,* 10 vols. (Cambridge: Harvard University Press, 2010).

Figure 3.7 – Willem Blaeu, *Aethiopia Inferior vel Exterior* (Amsterdam: Blaeu, 1642), detail. Blaeu was a strong competitor with map-makers Hondius and Jan Janssonius (1588-1664). His treatment of cartouches in particular set the trend for maps of the subsequent eighty years.

The shift from monstrous legends to natural-historical legends developed in maps of the seventeenth century. The monkey figure itself especially became popular for its eerie similarity to humanity: a good example is Johann Homann's (1664-1724) posthumous *Guinea Propria* map of 1743 [fig. 3.8], which uses two of Blaeu's simian figures in an even more elaborate

ethnographic legend.[45] Conspicuously, there is a visual rhyming with the pedestal monkeys in Blaeu's map as well as a double internal rhyming of the monkey in left center with the figures around him and the human figure on the far right. The image of para-humanoids surrounded by humans adds to their ambiguity, and potentially has negative connotations as there are no examples of this in maps of European countries or legends with European people. Replacing monsters with documented animals and people suggests an epistemological facet with deep relations to natural philosophy, because the images tacitly assert that the map is able to teach its users not simply locations and peoples, but also a hierarchical value system constructed of epistemological pieces whose meanings originate from the domain of natural philosophy.

[45] For Homann in general, see: Michael Diefenbacher, Markus Heinz and Ruth Bach-Damaskinos, *Auserlesene und allerneueste Landkarten: der Verlag Homann in Nürnberg 1702–1848* (Nürnberg: Tümmels, 2002).

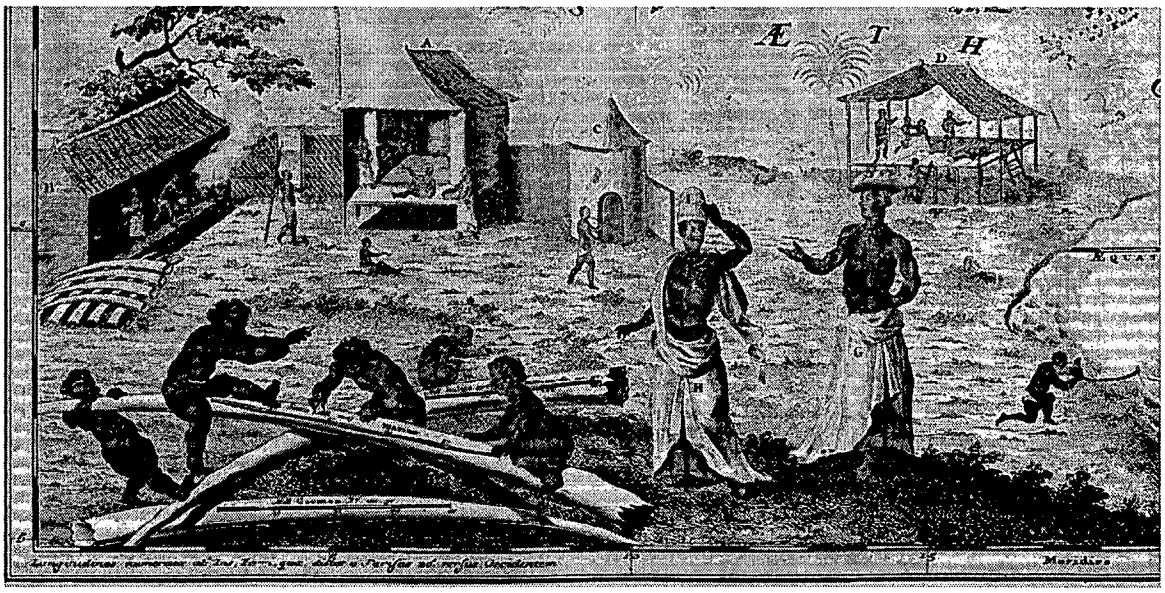


Figure 3.8 – Johann Homann, *Guinea Propria, necnon Nigritiae vel Terrae Nigorum Aethiopia Inferior* (Nuremberg: Homann, 1743). Detail. Homann's map is limited to Cape Verd and present-day Cameroon on the Gold Coast of Africa. The key [not shown] identifies the characters of the vignette identifying their social roles and the names of their garments.

Blaeu himself spearheaded the movement toward including natural philosophy in maps, and a much stronger case for the natural-philosophical knowledge of map-makers can be seen in his contemporaneous (1642) map of *Aethiopia Superior* [fig. 3.9]. In this map, Blaeu goes beyond the first forays laid in *Aethiopia Inferior* by including not only representations of non-Europeans, but the natural-philosophical causes of their traits. The cartouche itself is somewhat formulaic: it is the microcosm of an Ethiopian family, depicted as a nuclear household wearing their perceived native dress but in European sculptural poses. More interesting is the natural-philosophical narrative Blaeu relates with the inclusion of the sun and umbrellas in the larger field of the legend: it is a sort of visual summary of the prevalent theory of the cause of Ethiopian complexion, which posited that the sun was the agent responsible for "burning" the Ethiopians to their characteristic color. Importantly, this assertion falls authoritatively within the

domain of natural philosophy and could have been known only through an acquaintance with Plinian interpretations of the causes of complexion. Blaeu's map demonstrates that, by the mid-seventeenth century, maps had become ethnographic representations of the world as much as geographic representations.

Figure 3.9 – Willem Blaeu, *Aethiopia Superior vel Interior vulgo Abissinorum sive Presbiteri Joannis Imperium* (Amsterdam: 1642), detail.

It was in creating these mental spaces that European explorers began formulating their conception of the physical world and the biological division of living things appropriate to that mental space.[46] As exploration accelerated, other instances of grafting traditional non-normal creatures onto extant human groups can be observed, as for instance the races of giants and monopods that appear elsewhere in Mercator's *Atlas*. More than simple visual existence in a map, these creatures acquired tangible and legitimate natural-historical status by appearing to validate *actual* groups that *actually* existed, and, moreover, were human; Columbus's famous conflation of the Canibs with athropophages (and hence the modern lexical equivalent of anthropophages, cannib-als) was at least one example of cartographic presumptions about India influencing *what he saw* when he arrived in what he thought was India.[47] The tension between historical sameness and taxonomic otherness is one that adheres persistently throughout taxonomic debates of human groups, because the cartographic heritage provided the jumping-off point for rationalizing encounters with others and also provided a vocabulary which continued to be used into startlingly far periods of the eighteenth century. Maps of regions and perceptions of the creatures or individuals within those regions were dialectically related, and there was also an implicit statement about how to organize the natural world: far from being abandoned as taxonomic realities, monsters remained useful and relevant to exploration in the early-modern period.

These examples are by no means the only representations of Africa on maps in the early-modern period, many of which were expressly designed for commercial or topographical

---

[46] On the interplay of conceptual and visual mapping, see: Bjørn Axelsen and Michael Jones, "Are all Maps Mental Maps?" *GeoJournal* 14, no. 4 (1987): 447-64.

[47] An interesting, if abbreviated, account of Columbus' confusion of Canibs with Anthropophagi along with its subsequent distortion into "cannibalism" can be found in: Nicholas Myers and Ladan Niayesh, "Naming the Other, Claiming the Other in Early Modern Accounts of First Encounters: From Mandeville to John Nichol (1607) and Richard Jobson (1623)," inFrederic Regard, *British Narratives of Exploration: Case Studies of the Self and the Other* (London: Pickering and Chatto, 2009), 31-32.

information with limited interest in the political or human dimensions of the continent.[48] Nonetheless, the trend within maps depicting human difference in the content of Africa suggest an important point: if cartographic vision provided the epistemic space in which to operate, the actual praxis of exploratory vision took different and more material forms.[49] Particularly in the observation of unexpected human variation, the language of monstrosity and geographic abnormality entered as two key features of exploratory accounts of non-European zones. One of the most significant fields of encounter in which the tropes of cartographic vision developed in exploratory contexts over the course of the late seventeenth and eighteenth centuries appears as one of the most problematic fields of encounter, as well: the "other other."

[48] Egon Klemp, *Africa auf Karten des 12. bis Jahrhunderts* (Leipzig: Edition Leipzig, 1968).

[49] An interesting, although not unproblematic, exploration of the intersection of theory and praxis in eighteenth-century natural philosophy can be found in: Bettina Dietz, "Making Natural History: Doing the Enlightenment," *Central European History* 43 (2010): 25-46.

The "Other Other:" White Natives outside of Europe

> There is one Complexion so singular, among a sort of People of this Country, that I never saw nor heard of any like them in any part of the World. The Account will seem strange, but any Privateers who have gone over the Isthmus must have seen them, and can attest the main of what I am going to relate; tho' few have had the opportunity of so particular an Information about these People as I have had.
>
> They are White, and there are of them of both Sexes; yet there are but few of them in comparison of the Copper-colour'd, possibly but one to two or three hundred. They differ from the other Indians chiefly in respect of Colour, tho' not in that only. Their Skins are not of such a White as those of fair People among Europeans, with some tincture of a Blush or Sanguine Complexion; neither yet is their Complexion like that of our paler People, but 'tis rather a Milk-white, lighter than the Colour of any Europeans, and much like that of a white Horse...
>
> The Copper-colour'd Indians seem not to respect these so much as those of their own Complexion, looking on them as somewhat monstrous. They are not a distinct Race by themselves, but now and then one is bred of a Copper-colour'd Father and Mother; and I have seen a Child of less than a Year old of this sort. Some would be apt to suspect they might be the Off-spring of some European Father: But besides that the Europeans come little here, and have little Commerce with the Indian-women when they do come, these white People are as different from the Europeans in some respects, as from the Copper-colour'd Indians in others. And besides, where an European lies with an Indian-woman, the Child is always a Mostese, or Tawney, as is well known to all who have been in the West-Indies; where there are Mostesa's, Mulatto's, etc. of several Gradations between the White, and the Black or Copper-colour'd, according as the Parents are; even to Decompounds, as a Mulatto-Fina, the Child of a Mulatto-man, and Mostesa-women, etc.
>
> But neither is the Child of a Man and Woman of these white Indians, white like the Parents, but Copper-colour'd as their Parents were. For so Lacenta told me, and gave me this as his Conjecture how these came to be White, That 'twas through the force of the Mother's Imagination, looking on the Moon at the time of Conception; but this I leave others to judge of.[50]

Lionel Wafer, a Welsh-born naturalist who spent the bulk of his life in North and Central America, was one of the first professional naturalist to be formally hired as part of an exploratory team operating in the Spanish Main.[51] After spending most of his twenties and

---

[50] Lionel Wafer, *A New Voyage and Description of the Isthmus of America* (London: James Knapton, 1699), 133-34.

[51] "Piracy and Medicine," *British Medical Journal* 1 (1924): 721-22; Edmund Berkeley, Jr., "Three Philanthropic Pirates," *Virginia Magazine of History and Biography* 74 (1966): 433-44.

thirties as a fleet surgeon in the East India Company, the now somewhat obscure privateers William Dampier and Bartholomew Sharp recruited Wafer to join their group of buccaneers operating in the Bay of Panama as a sort of natural-philosophical attaché.[52] His life as a pirate, however, was cut short: only a month after signing up, Wafer was injured, robbed, and marooned in the Isthmus of Panama to be, in his words, "left among the wild Indians."[53]

For Wafer, however, this abandonment was an enriching experience. During his four months on the Isthmus, Wafer embraced Cuna culture, adopted a wholly assimilated appearance including body-paint and nose-piercings, gathered a copious amount of information about the culture of the Cuna Indians, and assembled a startlingly complete geography of the Central American region.[54] After having fled to Philadelphia to avoid an arranged marriage with a local Cuna woman, he consolidated his experiences in the *New Voyage and Description of the Isthmus of America*, a work that was instrumental in devising an influential if unsuccessful precursor to the present Panama Canal, the Darien Scheme, and marked the first intellectual attempt at connecting the Atlantic and Pacific oceans through Central America.[55] In addition to compiling a lexicon of the Cuna language, the *New Voyage* provided natural-philosophical and

---

[52] On Dampier and his exploits in the New World, see: John A. Ramsaran, "William Dampier (1652-1715)—Writer and Buccaneer in the West Indies," *Caribbean Quarterly* 5 (1959): 272-75. On the trend that Wafer set for surgeons to join buccaneer groups, see: "Bucaneer Surgeons," *British Medical Journal* 2 (1922): 397-98.

[53] Wafer, *New Voyage*, preface [n.p.; 5].

[54] So convincing was Wafer's assimilation that when he was picked up by English sailors to return to Anglo-America, he played a joke on them by remaining camouflaged among the Cuna without being noticed for several hours: "I sat a while cringing upon my Hams among the *Indians,* after their fashion, painted as they were, and all naked but only about the Waist, and with my Nose-piece ... hanging over my Mouth." Wafer, *New Voyage*, 31-32.

[55] George Insh, *The Darien Scheme* (London: Staples, 1947). An interesting exploration on Wafer's impact on the Cuna, rather than vice versa, can be found in: Carl Henrik Langebaek, "Cuna Long Distance Journeys: The Result of Colonial Interaction," *Ethnology* 30 (1991): 371-80.

botanical data that continued to be relevant well into the early part of the twentieth century.[56] Importantly for this study, Wafer's description of the Isthmus of America provides one of the first English-language accounts of white natives abroad.[57]

This section takes Wafer's *New Voyage* as a starting point to interrogate the mechanisms and values of exploratory accounts describing perceived anomalies in human difference. The previous section argued that there was a long and complicated history of depicting non-European peoples in the cartographic tradition, and that changes in depictions of humans had dialectical ties with both natural-philosophical and monstrous domains of knowledge. This section looks at the other side of the cartographic dynamic: to what extent were explorers—one of the principal users of maps—influenced by monstrous traditions, and to what extent did they incorporate monsters and cartographic knowledge into their natural-philosophical rationalizations of unexpected human encounters? Adriana Corrado's edited volume, *Travelling and Mapping the World: Scientific Discoveries and Narrative Discourses*, has already investigated the different ways that the experience abroad produced distinct narrative styles and epistemic states that influenced other realms of intellectual life.[58] Following on Corrado's line of inquiry, this section has no ambition at being a comprehensive study on the languages of monstrosity and cartography in early-modern exploration; it does, however, privilege them alongside other themes in order to put together a study of how early explorers built techniques of vision enabling them to make sense of human difference using monstrous

[56] The "Darien Albinos," as they were later known, particularly came to be one of the focal groups of studies on human difference in the eighteenth century, especially from the comparative geographical perspective; as late as the 1924, individuals were still debating the exact taxonomic status of this group. Clarence Quinan, "White Indians of Darien," *Science* (1924): 476-77.

[57] Cortéz and the Latin tradition had accounts already. See above, 59.

[58] Adriana Corrado, ed., *Travelling and Mapping the World: Scientific Discoveries and Narrative Discourses* (Bologna: I libri di Emil, 2010).

and geographic ideas. As Frederic Regard's *British Narratives of Exploration: Case Studies of the Self and Other* has demonstrated, English-language authors confronted and narratized the Other in order to produce theories that primarily reflected understandings of their own value and place in the world.[59] Two of the key features of this narratization, I argue, are improvisation and moralization: explorers drew on a range of knowledges familiar to themselves and their readers in order to transform their experiences into meaningful epistemological and moral statements about the world that transcended their purely visual nature.

Wafer provides a good starting point, because his *New Voyage* is one of the fullest early accounts of albinos in the Americas, and his descriptive struggles demonstrate the range of cognitive challenges facing early explorers confronted with unexpected moments of human difference. Three focal ideas emerge from a close reading of Wafer's account: the concepts of appearance, lineage, and monstrosity, themselves ideas that are familiar from the cartographic tradition discussed above. Foremost in Wafer's mind, and the facet of his encounter that provides the initial impetus to compose his account, is appearance. Although he opens his description with the straightforward observation that "[t]hey are White," the rest of the passage demonstrates that he cannot, in fact, find the exact words to describe the nature of their whiteness. Instead, he depends on a series of sometimes far-afield comparisons to communicate the color's uncommon quality: it is not, on the one hand, "such a White as those of fair People among Europeans," but neither is "their Complexion like that of our paler People." It is instead a "Milky-white, lighter than the Colour of any Europeans, and much like that of a

[59] Regard, *British Narratives of Exploration* (see above, n. 47). In the French context, Numa Broc's classic but important *Géographie des philosophes, géographes et voyageurs français au XVIIIe siècle* constructs a similar comparative analysis about how exploration and exploratory accounts formed ideas of human difference within the learned culture of self-identified *philosophes*. See: Numa Broc, *La géographie des philosophes, géographes et voyageurs français au XVIIIe siècle* (Paris: Éditions Ophrys, 1975).

white Horse," settling on a comparison that removes the albinos from humanity altogether and affiliates them with something more akin to animal husbandry.

Rhetorically, the *process* of Wafer's visual comparisons functions just as powerfully as the comparisons themselves, because its constant shifting communicates the bizarreness of the whiteness as effectively as its near-similarities with European skin, Cuna skin, and equestrian skin. It is not for lack of examples of whiteness that Wafer struggles, but rather for the lack of an adequate way to express the whiteness as experienced within this particular geographic and cultural context. Wafer's descriptive movements imply that whiteness, although common in general, was not common in this case. The interpretation of the appearance of the white-skinned Cuna depended just as much on the fragility of their current geographical positioning as on the color itself: in the same way that Blaeu's para-humanoids acquired their natural-philosophical significance not simply from internal rhyming but also through geographical situation, so too it was insufficient for Wafer simply to see whiteness. Rather, Wafer needed to understand why this appearance represented abnormality within a particular geographic context.

Although Wafer skirts any discussion of features such as eye color or hair texture, he is keenly aware of the potential links that readers might draw between skin color and lineage, another crucial facet of the exploratory gaze which echoes the natural-philosophical assertions in Blaeu's legends including para-humanoids. In addition to the geo-visual descriptions comparing the albinos' skin to that of Europeans, he spends the next paragraph allaying readers' hypothetical suspicions that the albinos are simply the "Off-spring of some European Father." Technical aspects of social communication prohibited that, since the Europeans had "little Commerce with the Indian-women" during the course of their infrequent visits; but more tellingly, the albinos *look* different than the "Mostese, or Tawny," that were "always" the result

of a European lying with an "Indian-woman." Wafer insists on their pedigreed Cuna lineage by remarking that "now and then" one is "bred" of parents with situationally normal complexions, and that "neither is the Child of a Man and Woman of these white Indians, white like the Parents, but Copper-colour'd as their Parents were." He demonstrates that in both directions of their birth, from ancestors to progeny, these individuals come from the same pool as the "Copper-Colour'd" individuals that constitute the norm of the population. Nonetheless, "these white People are as different from the Europeans in some respects, as from the Copper-colour'd Indians in Others"—they are neither European nor Indian. Although Wafer dismisses the possibility that the Cuna albinos are "a distinct Race by themselves"— later thinkers would assert the contrary—he conspicuously hesitates from making further taxonomical claims.[60] Instead, his focus on lineage argues primarily for a temporal mapping of the albinos' position within an established order of local and global traits. In order to be a "good" explorer, one had to develop the means to situate discovered people not just visually in terms of appearance, but also chronologically in terms of lineneage.

Wafer delves with more depth into the behavioral and possibly monstrous ramifications of the albinos' physical characteristics elsewhere in his account. That the "Copper-colour'd"

---

[60] Probably the most well-publicized eighteenth-century account of the "Darien Albinos" comes from William Robertson's *History of America*. His divergent opinions are worthy of note. He writes: "No *race* similar to this [i.e., the Darien Albinos] has been discovered in any other part of America... Singular as the appearance of those people may be, they cannot be considered as constituting a distinct *species*... One conclusion may then be formed with respect to the people described by Wafer, the Albinos and the Kackerlakes; they are a degenerated *breed*, not a separate *class* of men; and from some disease or defect of their parents, the peculiar colour and debility which mark their degradation are transmitted to them. As decisive proof of this, it has been observed, that neither the white people of Darien, nor the Albinos of Africa, propagate their *race*: their children are of the colour and temperament peculiar to the natives of their respective countries [italics added.]" William Robertson, *History of America*, vol. 2 (London: Strahan, 1788), 78-79. Abbé Raynal repeats many of the same platitudes: "Le pays lui offrit d'abord de ces petits homes blancs don't on retrouve l'espece en Afrique, et dans quelques iles de l'asie. Ils sont couverts d'un duvet d'une blancheur eclatante. Ils n'ont point de chevaux. Ils ont la prunelle rouge. Ils ne voyent bien que la nuit. Ils sont foibles, et leur instinct paroit plus borne que celui des autres homes." Gillaume Thomas Raynal, *Histoire philosophique et politiques des établissements dans les deux Indes*, vol. 3 (The Hague, 1774), 154.

Cuna viewed them as "somewhat monstrous" is apparent from Wafer's description, which also reports that the Cuna linked their birth to the power of "the Moon at the time of Conception." Although he seems skeptical of the lunar explanation of conception, Wafer does not totally dismiss the power of the moon in relation to their physical attributes. In explaining the stature and vitality of the Darien albinos, Wafer writes:

> They are not so big as the other Indians; and what is yet more strange, their Eye-lids bend and open in an oblong Figure, pointing downward at the Corners, and forming an Arch or Figure of a Crescent with the Points downwards. From hence, and from their seeing so clear as they do in a Moon-shiny night, we us'd to call them Moon-ey'd. For they see not very well in the Sun, in the clearest Day; their Eyes being but weak, and running with Water if the Sun shine towards them; so that in the Day-time they care not to go abroad, unless it be a cloudy dark Day. Besides they are but a weak People in comparison of the Other, and not very fit for Hunting or other laborious Exercise, nor do they delight in any such. But notwithstanding their being thus sluggish and dull and restive in the Day-time, yet when Moon-shiny nights come, they are all Life and Activity, running abroad, and into the Woods, skipping about like Wild-Bucks; and running as fast by Moon-light, even in the Gloom and Shade of the Woods, as the other Indians by Day, being as nimble as they, tho' not so strong and lusty.[61]

Importantly, the nocturnal activity that Wafer himself has observed does not emerge from any cultural or lifestyle choice of their own, but arises purely from the effect of the sun on their physically distinctive eyes. As dwellers in "Gloom and Shade," they are activated by moonlight "as the other Indians by Day," and even seem to undergo a partial physical transformation by moonlight into non-human "Wild-Bucks." Explicitly or not, within the European monstrous tradition, activation by moonlight and the power of animal transformation have a strong tie to sorcery and, in particular, lycanthropy.[62] Although Wafer does not go so far as to equate the

[61] Wafer, *New Voyages*, 108.

[62] Yasmin Haskell, ed., *Diseases of the Imagination and Imaginary Diseases in the Early Modern Period* (Turnhout: Marston, 2011); H. Sidky, *Witchcraft, Lycanthropy, Drugs and Disease: an Anthropological study of the European Witch-Hunts* (New York: Peter Lang, 1997). It is work pointing out that other first-

albinos with werewolves or shape-shifters wholesale, it is clear for him that their activity by night, emerging from the physical traits of their eyes, becomes a symbolic link to behavioral abnormalities resonant with the monstrous tradition. In the same way that cartographic vision retained the visual vocabulary of monstrosity in order to express perceived truths about the regions maps represent, so too the exploratory gaze embraced clusters of monstrous ideas as an essential building block of the ability to position albinos in meaningful ways.

Wafer uses an exclusively comparative vocabulary to position the albinos vis-à-vis other, normalized groups and concepts: reaching into his geographic, natural-philosophical, and monstrous lexica simultaneously, Wafer assembles a definition for his first-hand encounter that would give the event—and individuals observed—a tangible epistemological significance through the structures and lexica he knew. The improvisational character of Wafer's gaze is important, because in a time without a standardized vocabulary of descriptions or concepts, explorers like Wafer had to extemporize their responses to unexpected human groups by drawing on a repertoire of knowledge that would allow the experience to be meaningful for themselves and understandable to other readers. The positioning of the individuals in multiple epistemic lexica carried with it the connotative force of the lexica themselves, imbuing external qualities with a significance beyond their surface value. By Wafer's logic, complexion became as much an external symbol of preconceived breeding patterns and lineage-mapping relative to the local population as a formal visual experience in its own right: it was also something inseparable from their cartographic and geographic status. Inhabiting the physical realm between the "Blush or Sanguine Complexion" of the people of Europe and the "Copper-Colour'd" skin of the people of Darien, the albinos' geographic position did not seem to fit either in "this Country" or "any

---

hand accounts of albinos explicitly make the connection with sorcery. Andrew Battel, for instance, remarks that the albinos in Lovango are "educated in Sorcery, being the King's Wizards." Battel, *Description of the Kingdoms of Loango, Kongo, etc.*, 221 (see chap. 2, n. 86).

part of the World." Because they did not represent the established order of localized traits, the skin itself became evidence for a distinctly cartographic anomaly in addition to its superficially physical appearance.

The critical inversion of external and internal, local and global, allowed skin, despite its profound visuality, to function essentially as a non-visual feature. Although this would seem to be a shortcoming of the improvisational character of the exploratory gaze, the ability to link the skin with non-visual, non-visible concepts is one of the *critical techniques* for making sense of human difference by Wafer. He had to demonstrate that the albinos' complexion was, in fact, anomalous in order to be interesting: as light skin in and of itself is not particularly anomalous, one can understand why Wafer goes on so extensively about the Darien Albinos' lack of relation to Europeans or to any of the common "gradations" of complexion throughout the New World. As much as a physical evaluation of the albino's skin, Wafer is subtly articulating a moral stance on these people by asserting that white skin, despite being normal for Europeans, was abnormal in the case of the Darien albinos.

Conspicuously, Wafer's contemporaries exhibit many of the same propensities in contexts literally across the world. Shifting the scene from Central America to the Dutch-controlled Maluku (Molucca) Islands of the East Indies, the cases of Swedish explorer Nils Matson Kjöping (1630-1667) and the Dutch-born minister François Valentijn (1666-1727) offer interesting counterpoints to the experiences of Lionel Wafer's Panamanian adventure. Both Kjöping and Valentijn were contemporary with Wafer, active in the last decades of the seventeenth and first decades of the eighteenth century. As in the case of Darien, the albinos of Java came to be well known in the eighteenth century: as early as 1708, the Ambon albinos were attracting attention from explorers such as Francois Leguat, who often lamented the difficulty in seeing them. "I greatly regret," Leguat writes, "having forgotten to inquire

particularly into the nation that one calls 'Chacrelats,' in [New] Batavia... They are white and blond, but what is more particular about them is that their eyes cannot withstand broad daylight; quite on the contrary, they see much better at night. Thus they make night into day and day into night."[63] Formulaic descriptions like Lequat's abound, and even those which claim to have direct experience of the albinos seem dubious at best.[64] Kjöping and Valentijn offer a different experience, one emergent from significant time spent in Indonesian communities with long periods of observation on appearances and behaviors.

Turning first to Kjöping, an avid explorer and adventurist who spent the bulk of his short life travelling the least-known areas of the Pacific World, we can see the substantial development of moralistic valences in his encounter with the albinos of Ambon. Writing about a trip to the Moluccas in 1667, Kjöping offers the first known account of albinos in Indonesia in the following words:

> Here as well as in Amboina one finds a wonderous type of people, which are called Kakurlako. These are considered to be vermin and are killed wherever the locals encounter them. They are snow white, both skin and hair, although the locals are black, and they hide themselves in secret caves by day, where no one can find them without great difficulty. And they see virtually nothing in the daylight, for when by day they are dug out, they crawl around like puppies before their eyes are open, as if their eyes had been put out. But at nighttime, the darker it is, the better they can see. They occupy themselves with thievery and burglary, robbing by night what the locals have sown and planted. They also have their own language, which they make using a peeping sound, and it is in no way similar to the local language of the region. The captain of our ship asked the Tarnatanians to give one of these Kakurlako to him, and a woman was given to him, who at first could eat no cooked food, nor did she know in the least how to

[63] Françoit Leguat, *Voyage et avantures de François Leguat* (London, 1708), 136.

[64] Kjöping has gone virtually unstudied in the history of exploration. See: Curran, "Rethinking Race History," 154. Nonetheless, Swedish explorers did a great amount of advanced travel, often with distinctly natural-philosophical goals. Lasse Berg, *När Sverige upptäckte Afrika* (Stockholm: Raben Prisma, 1997); Peder Roberts, *European Antarctic: Science and Strategy in Scandinavia and the British Empire* (New York: Palgrave, 2011).

> conduct herself for she could see nothing; but the more she got used to or was driven into the sun or daylight the better she could see. But she did step very high with her feet.[65]

Like Wafer, Kjöping uses the "peculiar" complexions of the albinos as an entrée into essentially non-visual observations. The turbulent history of albinos is glossed over quickly by Kjöping, who notes with apparent neutrality that the local population was essentially waging a genocidal campaign against those with light skin; nonetheless, war and conflict—with their concomitant moral implications—set the tone for the rest of his description. In fact, the physical description of the albinos is the briefest element of his account, in which Kjöping notes only their white skin and white hair. More vital for Kjöping was situating these people comparatively to local inhabitants and familiar animals ("[l]ike puppies before their eyes are opened") in profoundly behavioral, environmental, and moral ways. Kjöping relates that they dwell in caves, steal, and have their own language, emphasizing the perceived moral degradation of these "people" more than any other quality.[66] The description implicitly likens them to the semi-mythological

---

[65] "Här finnes så wäl som på Amboina ett underligit slags Folck, hwilka blifwa kallade Kakurlacko, thesse hållas och uthrotas såsom Ohyra ehwar Inwånarena träffa them. The äro sniöhwijta, både till Hull och Håår, ehuruwäl Inwånarena äro swarta, och hålla sigh uthi hemblige Jordekulor om Dagarna, ther ingen kan finna them uthan stoor mödho; Och seer the icke meer än Steenen om Dagen, Ty enär the om Dagarne blifwa upgrafne, krypa the kringh, lijka som ögonen wore uthstucke; Men om Nätterne, ju mörckare thet är ju bättre see the, och tå bruka the sigh medh Rapperij och Tiufwerij, i thet the afhända Inwånarenar [!], enär mörckt blifwer, alt hwadh the planterat och sådt hafwa; The hafwa och serdeles Språåk, hwilket the alt medh Pijpande framföra, och inthet stemmer öfwereens medh sielfwa Landzspråket: Wår Skeppare begärte aff the Tarnataner, att han skulle bekomma een aff thesse Cakurlackos, och bleff honom gifwen een Quinnospersohn, hwilken uthi förstonne inthet kunde äta någon kokat Maat, ey heller till thet ringeste wiste att skiula sigh, ty hon sågh inthet: Men ju meer och meer hon bleff brukader, eller drifwen uthi Solen och Dagsliuset, ju meer kom hon till Synen, men steegh högt up medh Fötterna." Nils Matsson Kjöping, *Een Kort Beskriffning uppå Trenne Resor Och Peregrinationer sampt Konungarijket Japan* (Wisingborgh: 1667), 123.

[66] The moral evaluation of conspicuously light skinned individuals, particularly their perceived leanings toward thievery, became a trope in other accounts of albinos abroad. See: John Ribeyro, *History of Ceylon* (Ed. Tréve, 1701), 78.

troglodyte, dwelling in caves and totally unexposed to civilized ways of living.[67] In line with the precepts of natural-philosophical collection, Kjöping's captain even requested a "sample" in the form of a living, presumably enslaved woman of the light-skinned community: unable to eat "cooked food," according to Kjöping, she was so unaccustomed to mainstream modes of living that she could barely "conduct herself" in a way appropriate to Kjöping's perception of European conventions. For Kjöping, skin was a moral signifier: he saw complexion not simply because of the whiteness of the skin itself, but because of the moral implications that the whiteness carried along with it.

For better or worse, Kjöping's account was not well known outside of the Swedish-speaking world and a small coterie of Dutch voyagers that would have been familiar with the voyage. A much more influential work was Valentijn's *Oud en Nieuw Ost Indien,* published in 1724 using information gathered over decades of travel in the Pacific World.[68] Valentijn is noteworthy for adopting and popularizing Kjöping's term "kakkerlakker" ("cockroach") for albinos with non-white parents—a nebulous and derogatory comparison, as the Indonesians Kjöping and Valentijn claim to have given that nickname probably did not have any first-hand experience of the insects that Valentijn describes elsewhere in his work during a trip to India.[69] Like Kjöping, Valentijn fixates heavily on a moral analysis of the albinos and positions them

---

[67] On the troglodyte and its potential confusion with non-human simians, see: M. F. Ashley Montagu, "Knowledge of the Ape in Antiquity," *Isis* 32 (1940): 87-102; Marie Wellington, "Montesquieu's Troglodytes and Voltaire's Quakers: a Case of Ideological Kinship," *Dalhousie French Studies* 28 (1994): 29-41.

[68] Parts of Valentijn's work were translated both within his lifetime and well into the twentieth century. See, for insance, R. Raven-Hart, trans., *Description of the Cape of Good Hope with the Matters Concerning It* (Cape Town: Van Riebeeck Society, 1971); Sinnappah Arasaratnam, trans., *François Valentijn's Description of Ceylon* (London: Hakluyt Society, 1978).

[69] François Valentijn, *Oud en Nieuw Ost Indien, Beschryvinge van Amboina,* vol. 4 ('s Gravenhage: H. C. Susan, 1856), 295.

through a matrix of improvised ideas that have less to do with their appearance than with concepts such as lineage and monstrosity. Valentijn's description is as follows:

> Among these natives [of Ambon] there is another sort of people [ook een sort menschen], which are called *cockroaches* [kakkerlakken]. They are almost as white as a Hollander, but it is in itself a different, horrible hue of livid-like white, especially when you see them up close. They have very yellow and frizzy hair; many large freckles on their hands and face, and scaly, rough and wrinkled skin. By day, they are hard of seeing, practically half blind, so that their eyes seem to be shaking even when held steady; however, they can see well by night. They also have grey eyes, whereas the other islanders have black. And, even though they have freed themselves of their black parentage, in their own nation [natie] they are considered far below other natives and horrible to them. I knew a king of Hitoe and his brother, who were "cockroaches" but had some black brothers and sisters; they even had black children. Female [kakkerlakkers] also exist, but they are not seen much. One can find such people in the realm of Lovango, in Africa and elsewhere. They get their nickname from certain Indian insects, which annually molt a pale and wrinkled skin; and they do this nickname justice, since they are always so scaly and molted, as cockroaches—or Lazaruses—might look.[70]

Like Kjöping's description, Valentijn's account is more attention-grabbing than Wafer's in its use of charged and distinctly valuative language: not only have the kakkerlakken been "freed" of their black parentage, Valentijn asserts that the name "cockroach" is *appropriate* and that they even look like the living dead—the animate corpses of so many Lazaruses come to haunt the

[70] "Onder deze inlanders vindt men ook een sort menschen, die men kakkerlakken noemt. Zij zijn bijna zoo blank al seen Hollander, howel het een ander afschuwelijk vaal of doodbleekachtig blank op zich zelve is; vooral als men hen van nabij ziet. Zij hebben zeer geel en als gezengd haar; veel groote sproeten op de handen en in't aangezigt en zijn schubbig, ruw en rimpelig van vel, bij dag stikziende, ja bijna half blind, zoodat hun oogen dan meest schijnen toe te zijn, pinkoodenge gestadig doch kunnen zeer wel bij nacht zien. Zij hebben ook graauwe, daar andere inslanders zwarte oogen hebben, en zijn, schoon mede van zwarte ouders, bij hun eigen natie ver achter, dan andere inlanders en ook afschuwelijk bij hen. Ik heb eenen koning van hitoe en zijnen broeder gekend, die kakkerlakken waren en eenige zwarte broeders en zusters en zelfs ook zwarte kinderen hadden, en ook wel anderen van 't vrouwlijke geslacht, maar er niet veel gezien. Men vindt dergelijke menschen in 't rijk van lovango, in afrika en elders. Zij dragen dien naam naar zekere indiaansche schallebijters, die jaarlijks vervellen en dan bleek en rimpelig van huid zijn; en zij dragen dien te regt, vermits zij er altijd zoo schubbig en verveld, als de kakkerlakken or Lazarussen uitzien." François Valentijn, *Oud en Nieuw Ost Indien*, vol. 2 (Amsterdam: van Braam, 1724), 146-47.

living. The unflattering comparison to the molting cockroaches of India has, of course, no meaningful taxonomic connection, but it does have moralistic valences, as does the comparison to the undead moment of Lazarus as he is raised from corpse to living being.[71] If Wafer's moon-activated behavior has resonances with the lycanthropic tradition, one may read into Valentijn's account a veiled allusion to the idea of vampirism, at least at the metaphoric level.[72] Using geographic knowledge to draw a parallel between the Kakkerlakken of Ambon Island with the albinos of the Kingdom of Lovango (present-day Congo) contributes to their abnormality by affiliating them with other exotic people in a perceived exotic land.

It is worth noting that Valentijn's prerogatives are almost exactly the same as that of Wafer: establish the appearance of the albinos and situate it visually vis-à-vis other humans; situate their appearance vis-à-vis other animals; place them genealogically vis-à-vis local populations, individuals, and family members; locate them environmentally within a cartographically informed habitat; and position them morally vis-à-vis traditional monsters, here the living dead. Like Kjöping and Wafer, Valentijn has to improvise his response by drawing on the images and notions that were available to him from other domains of learning. Even if Valentijn's final goal was to arrive at a moral understanding of these creature/individuals, Valentijn's ambiguous affiliation with corpses and insects demonstrates that, for him, the albinos did not fit easily into the category of monster or man. For Valentijn, the albinos reflect a

[71] Cf. the "dead white" of Robertson, *History of America*, 146.

[72] That vampires were considered a potentially legitimate evaluation even within scientific circles is explored in Paolo Lombardi, *Altro Seicento: Vampiri, Mummie, Follia e Profezia nel Secolo della Rivoluzione Scientifica* (Firenze: Le lettere, 2011). On vampires in general, see: Montague Summers, *The Vampire in Europe* (New Hyde Park: University Books, 1962).

potential low point in humanity through their near-affinity with monsters and place European civilization high in the same hypothetical hierarchy.[73]

The accounts of Wafer, Kjöping, and Valentijn are equally revealing for their omissions as for their content, as the moments of silence above all reveal a crucial aspect of the exploratory gaze: morally neutral visual description was simply not a priority for Europeans during unexpected encounters with human difference. Much more important was the ability to mobilize visual traits in fundamentally non-visual assessments, such as their link with animals, their moral depravity, or their monstrous similarities. Emerging from improvisation, moral evaluation became a central feature of the exploratory gaze, because what made an explorer "good" was precisely the ability to see beyond the skin. Leveraging abnormal behavior and appearance in such a way as to establish a relationship with natural order, it remained undecided at this point whether the albinos fit into a rationalistic world that could account for their complexion in natural-philosophical terms, or a wondrous one that had epistemological space for monstrosity and wonder. For this reason, there is a noticeable lack of describing the albinos as a "race"—indeed, Wafer goes so far as to deny it outright, and Kjöping and Valentijn use the less concrete term "people."

The extent to which Kjöping, Valentijn, and Wafer were directly influenced by the cartographic tradition is unclear, although it does seem apparent that the mental mapping activities of human difference, whether on paper or in exploration, share thematic and chronologically analogous shifts. Both domains of learning were beginning to see human difference as something that could be translated into an epistemological statement about the world, and both developed a set of presumptions and processes that crystallized into a set of

[73] In the nineteenth century, George Catlin describes them as a "freak or order of Nature, for which she has not seen fit to assign a reason." George Catlin, *Letters and Notes on the Manners, Customs, and Condition of the North American Indians* vol. 1 (London: Tilt and Bogue, 1842), 94.

techniques to negotiate and concretize those experiences in meaningful ways. Acquaintance with cartographic vision meant that explorers had to be prepared to deal with unexpected human groups, because the "far-away" places and peoples of the ancient world were no longer so "far away" and might be encountered in the very practical context of a real exploratory adventure. Just as maps began to assert new possibilities for their epistemic role by making claims about a natural order that included para-humans, so too explorers had to be prepared to position encounters with unexpected groups within a framework of normal/abnormal dependent upon geographic and monstrous disjunctions. The descriptive language of early encounters echoes preconceived notions of what the cartographic tradition had put in non-European spaces: in short, by using a sort of cartographic vision emerging from acquaintance with monsters and maps. It is precisely these elements of the geographic gaze that Woodward centers in his advice to travelers: in addition to simple, decontextualized appearance, the information that Woodward desired was of a type that could situate individuals within chronological and geographical understandings of a potentially monstrous world.

Conclusion

The relationship between the mental mapping activities of explorers and the physical mapping activities of cartographers reveals that human difference occupied a place not simply in the epistemic world of natural philosophy, but also in the imaginary landscapes where concepts like order and monster, difference and normality could be reinforced and interrogated through the physical and intellectual techniques involved in *making* maps and *making* voyages. Pamphlets like Woodward's suggest that techniques for negotiating ambiguities increased simultaneously as demand for reliable information increased, with the result that explorers could no longer rely on casual relations of their trips as in memoirs; they needed to develop

techniques that would allow them to contextualize their experiences and convert them to meaningful events accessible to others. Woodward's advice for observing humans, seen in relation to maps and explorers, can be read as an attempt to shift the understanding of human difference both through distinctly embodied interactions with the world and visual representations of it. Being aboard was itself as much a physical state as an epistemological state: it was the intellectual and sometimes lifestyle enactment of very real interventions with other human groups.

Explorers and map-makers themselves responded to these new desires by supplying information that could be used to arrive at conclusions exceeding simple visual description, playing a critical role in the *moralization* of human difference.[74] Explorers and map-makers searched for information that could be incorporated into a valuation of the people based on their appearances and customs as much as, if not more than, static, morally neutral modes of observation. By the logic of an author like Woodward, the observation of white skin in itself was insufficient: complexion had to be contextualized within understandings of generative laws, the physical location of people, and their potential place in natural order so that conclusions about stability or exceptionalism might be incorporated into natural-philosophical discourses. Both in maps and travel literature, practitioners developed epistemological techniques to meet the needs of new understandings of natural-philosophical cultures: for map-makers, natural-philosophical knowledge entered into visual representations of non-European worlds to communicate a distinctly moralized perception of non-European spaces. Within the world of travel, explorers improvised ways of communicating their experiences largely centered on notions of appearance, lineage, and monstrosity: in both cases, those operating with

[74] For an interesting parallel in the realm of botany, see: Thomas Wirth, "'So Many Things for His Profit and for His Pleasure': British and Colonial Naturalists Respond to an Enlightenment Creed, 1727-1777," *Pennsylvania Magazine of History and Biography* 131 (2007): 127-47.

cartographic or exploratory vision had to learn to see human difference as representative not simply of superficial visual peculiarity, but as evidence of some invisible, deeper difference that was being expressed through their geographical or visual situation. This partially explains the new and uncommonly strong fixation on faces, skin, and lifestyles: it was precisely the understanding that these characteristics occurred not as arbitrary, synchronous features in a single place, but rather as diachronic traits emerging *across* time and space that gave them natural-philosophical value.

Although significantly different as physical media, maps and travel accounts both claimed to be surrogate representations of the world and its peoples for individuals outside of, or unfamiliar with, the world that was being represented. Yet as maps became more embedded in natural-philosophical discourses and explorers more focused on human difference, both media became more than simple *representations* of the world: they grafted onto spaces and peoples a meaningful moral topology that, in a sense, *created* the world within the realm of valuative categories. Observing lands and people became an enterprise that exceeded an account of physical features or political boundaries: visible traits became a means to access non-visible natural-philosophic facts about the world and its inhabitants.

In some cases, like that of Wafer, the exploratory gaze was more than a simple academic or intellectual gesture: marooned and left among a foreign people, Wafer adopted their mode of living and reached his conclusions within the embodied experience of living like a Cuna, nose-ring and all. Wafer enacted his technique as much as he employed it as an empistemological tool: for Wafer, adopting the differences of the "Copper-Colour'd" Indian in action occurred simultaneously as articulating the differences of the "Moon-eye'd" albino in writing. "Acting out" the culture he intended to represent, Wafer's experience had a distinct resonance not only within the world of exploration, but with the theatricality of the lived

experience. Nor was his experience unique: the French scholar Jean Pottier de l'Horme, in his *Le dramatique tour du monde du chevalier de Surville*, traces the compelling link between geography and drama in his reconstruction of the personal log of a lieutenant aboard a French East India ship and his many encounters with local populations.[75] These performative dimensions of human difference occurred not simply in the case of marooned pirates at the margins of the physical and taxonomic world, but even for intellectuals and doctors located at the innermost centers of early-modern European. In Paris and London, as well as in Darien, the theatricality of human difference emerged as a technique to cope with and rationalize unexpected moments of human diversity.

[75] Jean Pottier de l'Horme's *Le dramatique tour du monde du chevalier de Surville*, (Paris: Editions du Gerfaut, 2004).

4. The Drama, Business, and Epistemology of Albinism in Paris and London

> It is even true, as Mr. Storr says, that [the albino brothers of Chamouni] exaggerate a bit their aversion of light, and that they squint their eyes in front of strangers in order to give themselves a more extraordinary appearance. But those who, like me, saw them in their infancy—before they could feign this deceit, and at a time when too few people visited Chamouni to make this affectation profitable—can attest that they did not avoid the light of day. Actually, they sought so little to excite the curiosity of visitors, that they hid to avoid publicity, and it was necessary to do them a species of violence in order to force them to let themselves be looked at.[1]

The albino brothers of Chamouni offer a valuable inroads for considering how modes of display, considered here as an epistemic technique, could reprioritize and centralize human difference throughout the course of the eighteenth century.[2] Although of European descent, the brothers'

[1] "Il est meme vrais, comme le dit M. Storr, qu'ils exagerent un peu leur aversion pour la lumiere [sic], et qu'ils clignottent à dessein les paupieres [sic], en présence des étrangers, pour se donner un air plus extraordinaire. Mais ceux qui, comme moi, les ont vus dans leur enfance, avant qu'on eût pu les dresser à ce manege [sic], et dans un temps où il alloit à Chamouni trop peu de monde pour que cette affectation pût leur être fort avantageuse, peuvent attester qu'alors ils redoutoient beaucoup la lumiere du jour. Ils cherchoient meme si peu à exciter la curiosité des voyageurs, qu'ils se cachoient pour les eviter, et qu'il fallout leur faire un espece [sic] de violence pour les obliger à se laisser observer." Horace-Bénédict de Saussure, *Voyages dans les Alpes: précédés d'un essay sur l'histoire naturelle des environs de Genève*, vol. 4 (Geneva: Barde, Magnet et Companie, 1786), 312. Saussure here refers to Gottlieb Conrad Christian Storr, a physician and naturalist from Tübingen whose *Alpenreise vom Jahre 1781* (J. G. Müller: Leipzig, 1784) acquired minor popularity amongst geologists. De Saussure's own account became very popular when converted into a picture-book. His description of the albinos of Chamouni appeared in the *Encyclopedia Britannica* until the twentieth century and thus was quite literally the "standard" definition of the albino encounter in the Anglophone world for generations. See, for instance: "Albino," *Encyclopedia Britannica*, 9th ed. (New York: Werner Company, 1902).

[2] Chamouni is present-day Chamonix. Insofar as scholars have explored the concept of the performance of human difference, inquiries into the possibility of the production of specifically *racial* identity through a choreographed sequence of theatrical and semi-epistemological gestures has been confined almost entirely to the nineteenth and twentieth centuries. See, for instance: Amelia Jones and Andrew Stephenson, eds., *Performing the Body/Performing the Text* (London: Routledge, 1999), 1-109; Peter H.

well-known albinism was a popular attraction for travelers to Mont Blanc seeking to supplement their voyage with a natural-philosophical segue, and their distinct color formed the focal spectacle of later shows in England.[3] In addition to Storr and de Saussure, documented natural-philosophical visitors to Chamouni included Marc-Théodore Bourrit, J.L.A. Reynier, and Johann Friedrich Blumenbach, along with many non-specialist voyagers from all over Europe. In many cases, these visits produced concrete natural-philosophical results, as Blumenbach's "Bemerkungen auf einer Schweizerreise" illustrates; the notes from his visit shaped subsequent research on human variety and appeared in his magnum opus, the third edition of *De generis humani varietate nativa*.[4] The brothers adapted their performance to a range of venues, depending on their location and circumstances: for Bourrit it was a chance encounter on the

---

Hoffenberg, *Empire on Display: English, Indian, and Australian Exhibitions from the Crystal Palace to the Great War* (Berkeley: University of California Press, 2001), 1-30; 99-128; Yoriko Ishida, *Modern and Postmodern Narratives of Race, Gender and Identity* (New York: Peter Lang, 2010).

[3] In addition to tours of the countryside, the brothers had apartments in Charing Cross, London, and made special visits to noble families and gentry guests; they took out advertisements in municipal newspapers including the *London World*. One such example reads: "Just arrived from the Glaciers, the two Wonderful Brothers, called Albinos, known and described by Mons. Saussuer [sic]. They are allowed by gentlemen of the first science to be the most curious phenomena of nature's production. The hair of their heads is as white as snow and as strong as horse hair, it flows over their shoulders and has a most beautiful appearance; their eyebrows, eye-lashes, and beards, are also perfectly white; the skin of their heads is a fine pink colour, their eyes are of a pale red; they move in their head like the pendulum of a clock; they are remarkable [sic] fair and ruddy, and of a pleasant countenance. They have had the honour to be presented to Sir Joseph Banks, who was pleased to express his surpize and admiration; and at the same time, with other gentlemen, learned in natural history, pronounced them a perfect and new variety of men, and the greatest and most pleasing natural curiosity ever seen in England. At the invitation of several of the English nobility, who have seen them abroad, they now beg leave to present themselves to them in this country for their inspection, and to the curious in general. They are to be seen at a commodious apartment, No. 45, Charing-Cross, facing the Sun Fire Office, and a back door in Spring-Gardens, opposite New-street, from eleven o'clock in the morning till nine in the evening. Addmittance One Shilling. Ladies and Gentlemen may see them at their own houses any morning or evening." *London World*, 30 April 1789, L1.

[4] Johann Frederich Blumenbach, "Medizinische Bemerkungen auf einer Schweizerreise," in *Medicinische Bibliothek* 2 (Gottingen: Johann Christian Dieterich, 1786), 537-47; Blumenbach, *De oculis Leucaethiopum et iridis motu commentatio* (Gottingen: Johann Christian Dieterich, 1786); Marc-Théodore Bourrit, *Nouvelle description des glacieres et glaciers de Savoye* (Geneva: Paul Barde, 1785), 2:117-18; Bourrit, *Description des aspects du Mont-Blanc* (Lausanne: Société Thypographique, 1776) 17; J.P. Berthout van Berchem, "Des Animaux Quadrupèdes, ranges suivant l'ordre de leurs rapports," *Mémoires de la Société des Sciences Physiques de Lausanne* (1783), 21.

street of Chamouni, while de Saussure and Blumenbach orchestrated multiple visits to their home over the course of many years. Nothing can be said of the extent to which their home in Chamouni was elaborated as a theater space, but certainly by the time of their visit to England in 1794, they travelled in nothing less than a "caravan," which, as Robert Fulke Greville, son of the Earl Warwick, reports, received a royal visit in Dorset.[5] This caravan included elaborate scenographic elements: the brothers were displayed, for instance, "under an awning which produced a very mellow light," as if to heighten their supposed sensitivity to the sun.[6] If their condition was hereditary, so too was their penchant for performance: Carron du Villards reports in 1838 that their children had settled in Paris and continued to profit from the spectacle of their skin.[7] In a dramatic tour-de-force, however, the Chamouni descendants billed themselves not as Europeans, but as denizens of the Isthmus of Panama popularized by Wafer himself, falsely increasing their perceived exoticism—a profitable charade, until du Villards picked up their distinctly Alpine accent and uncovered their genuine lineage.[8]

De Saussure's privileged description of the albino brothers complicates many assumptions about the fundamental mechanisms of performances of human difference in the eighteenth century. First of all, the brothers' acting out their albinism was a *learned process* that fed into and supplemented pre-formed conceptions about the physiology of albino individuals: although as children they showed no particular aversion to light, they learned with age that

---

[5] Robert Fulke Greville, *Diaries of Colonel the Honorable Robert Fulke Greville, Equerry to His Majesty King George III* (John Lane: London, 1930), 293.

[6] Ibid., 294.

[7] Carron du Villards, "Quelques mots pour servir à histoire anatomique et physiologique des yeux albinos," *Bulletin médicale Belge* 3 (March 1838): 61ff.

[8] Ibid.

visitors—their audience—wanted to see them *act* more sensitive to light exposure.[9] The brothers' acting has crucial ramifications for an analysis of the process of display, as individuals "acting out" a body of preconceived visual characteristics immediately implicates the audience in an epistemology hinging on duplicity and dramatic illusion, while simultaneously granting "performers" the agency subtly to alter and adjust their actions within the confines of their dramatic servitude.[10] The sophistication and mutability of the show further blurs the line between drama and reality: in some cases they employed scenographic elements to heighten the natural-philosophical drama, whereas in others, they were expected to improvise on the street should they pass a natural philosopher as fortunate as Bourrit. Their acting, their coercion, their scenography, even the natural-philosophical "plot" into which their performances fit, assume a vast array of techniques, understandings, and moral stances on the part of performers and audiences alike. As much as a history of spectatorship, displays of human difference are a history of performance.

Performances took forms that frequently differed from the example of the Chamouni brothers, but all shared in a common core of semi-dramatic elements such as venue, scenography, and acting. The venues spanned from private viewings for specific individuals to public performances in front of mass audiences. Most often, performances took the shape of

[9] Bourrit offers a different, though equally telling account of the brothers' changing sensitivity to light: "Quand je les vis pour la premiere [sic] fois, ils étoient de petits sauvages qui fuyoient les homes et la lumiere [sic]; mais depuis ce temps ils se sont familiarizes avec les étrangers qui ont voulu les voir." Bourrit, *Nouvelle description des glacieres*, 118. The brothers' journey from savagery to civility included the crucial "familiarization" not only to company, but also to light. However, Bourrit never saw them in childhood, so his impression of their sensitivity to light may have been illusory from the outset. See also, Bourrit, *Description des aspects du Mont-Blanc* (Société Thypographique: Lausanne, 1776), 17-18.

[10] The struggle for oppressed or marginalized individuals to find voice is outlined in the African context in Paul Geoffrey Edwards, *Black Personalities in the Era of the Slave Trade* (Baton Rouge: Louisiana State University Press, 1983); general problems of black stage performance for Africans and Europeans alike can be found in Virginia Mason Vaughan, *Performing Blackness on the English Stages, 1500-1800* (Cambridge: Cambridge University Press, 2005); a more general account of self-presentation in the late eighteenth and early nineteenth century can be found in Alan Richardson, *A Mental Theater: Poetic Drama and Consciousness in the Romantic Age* (University Park: Pennsylvania State University Press, 1988).

semi-formal displays of individuals of diverse ethnicities to an almost exclusively European audience for the purpose of providing viewers with the opportunity to observe and categorize the form of human they were seeing. The execution of these displays ranged from fully staged dramatic shows to close approximations of the "disembodied" space of an anatomical lecture hall.[11] Despite the variety, the goal was often the same: to provide an audience with the raw material they needed in order to produce or reinforce taxonomic ideologies while simultaneously grafting these ideologies onto the individuals they were watching. As performative events, displays of human difference implicated the active spectator as much as the displayed performer.

To a great extent, the meaning of the differentiated body emerged from the act of its display.[12] The moment of the body's performance was the moment of its differentiation, materializing dialectically between the performance of the staged individuals themselves and the epistemological responses of the privileged audience. Considered from the vantage point of theater semiotics, human difference as performance can be interpreted as a theatrical shorthand describing the relationship between deixically discrete signs constitutive of the concept of difference itself (complexion, facial attributes, etc.,) managed and assembled by the largely reactive epistemic and moralistic judgments of ostensibly disinterested viewers.[13]

---

[11] For a detailed account of anatomy in the eighteenth century, with a special emphasis on the physical spaces in which it was carried out, see: Jürgen Helm and Karin Stukenbrock, eds., *Anatomie: Sektionen einer medizinischen Wissenshaft im 18. Jahrhundert* (Stuttgart: Verlag, 2003); For the development of anatomical theaters in general, see: T. V. N. Persaud, *History of Anatomy: the Post-Vesalian Era* (Springfield: Charles C. Thomas, 1997), 12-40.

[12] The relationship between performance and human difference has not been explored in the eighteenth-century context. For a theoretical perspective based on the nineteenth and twentieth centuries, see Jones *Performing the Body* and Harvey Young, *Embodying Black Experience: Stillness, Critical Memory, and the Black Body* (Ann Arbor: University of Michigan Press, 2010).

[13] Theater semiotics has an extensive literature. Three approaches used for this study were: Jos Kunst, "Decidability Problems in the Humanities," *Liber amicorum J.L. Broeckx* (Ghent: 1986): 195-206; Henri

As a contrast to other techniques of viewing, performances of human difference involved not only *active audiences* participating in an epistemic experience amongst themselves, but also *living specimens* on stage who used their agency consciously to enter the dialectical process of creating an epistemically meaningful experience—for the audience and arguably for themselves. As actors on stage, they pushed the phenomenon into the realm of drama by requiring viewers to draw upon and develop techniques that negotiated elements such as setting, venue, and illusion to convert them into useable natural-philosophical data. The central paradox of the differentiated body performed in this manner lies in the observation that drama is premised on illusion, the presentation of something explicitly imaginary: using performative semiotics to achieve the exact opposite—the crystallization of imaginary projections into real identity—has at its heart a self-effacement and phantasmagoric element fundamentally opposed to the ideologies voiced by natural philosophers themselves.[14] The differentiated body became the locus of inscribed identity erected by responders while, simultaneously, invalidating these meanings through its own paradoxical enactment of dramatic illusion. It is through this nexus of gazes and traces that, for instance, liminal albinos acting under an awning in Dorset can transmogrify, by an ambitious leap, into evidence of a white Adam and Eve.

Learning to see the differentiated body in a performative setting required a sophisticated range of epistemic techniques that allowed the viewer to situate the experience not just visually, but also temporally, culturally, conceptually, and anatomically. Marginal groups were ideal performers in this environment, and to a large extent the interest in irregular

---

Schoenmakers, *Performance Theory* (Leiden: Instituut voor Theaterwetenschap, 1986); De Marinis, *Semiotics of Performance*, trans. Aine O'Healy (Bloomington: Indiana University Press, 1993).

[14] For the debate on the central features of eighteenth-century natural philosophers, see, for instance: Conal Condren, Stephen Gaukroger and Ian Hunter, eds., *Philosopher in Early Modern Europe: the Nature of a Contested Identity* (Cambridge: Cambridge University Press, 2006); Philippe Raynaud, *Politesse des Lumières: les lois, les moeurs, les manières* (Paris: Gallimard, 2013); Jan Golinski, *Making Natural Knowledge: Constructivism and the History of Science* (New York: Cambridge University Press, 1998).

pigmentation emerged simultaneously from the techniques of their display. As the previous chapter highlighted, there is no intuitive interest in a pale human being; however, this superficial appearance, in the natural philosopher's mind, spoke not simply to the present coloration, but to a host of processes transcending the mere sight of carefully displayed flesh. The grafting of moral perceptions and anatomical mechanics onto performative experiences implies a "gaze" not unified in its epistemological outlook, but recruiting perspectives from many different intellectual and disciplinary domains to mutate and distill an objective truth from what was fundamentally a dialectical and multifaceted dynamic. Considered as a whole, the performance of human difference resembles a repertoire of embodied experiences that serve both to produce meaningful experiences in their own right while enforcing the particular cultural idea of the natural philosopher.[15] Umberto Eco's 1977 "Semiotics of Theatrical Performance" spearheaded many efforts to formalize the code-systems of performances in ways that allowed for a more systematic analysis of the mechanisms by which meaning was generated between audience and performer, and studies such as Marco de Marinis' *Semotics of Performance* have built upon Eco's framework to erect comprehensive and nuanced treatments of the way culturally and physically embodied signs are synthesized through the dramatic encounter.[16] Some of these structures have been successfully applied to ethnographic performances, although they are almost always focused on the nineteenth or twentieth century: Amelia Jones and Andrew Stephenson's *Performing the Body/Performing the Text*, for example,

[15] A parallel between experimentation and theatrical science can be drawn. The knowledge created through experiment has to be transmitted through devices which purposefully have been developed to transmit the perception of knowledge through senses rather than epistemologically rigorous methods of logic; so too, theatrical science builds up a repertoire of common knowledge and expectations within a community.

[16] Umberto Eco, "Semiotics of Theatrical Performance," *The Drama Review* 21, no. 1 (1977): 107-117. Marco de Marinis, trans. Aine O'Healy, *Semiotics of Performance* (Bloomington: Indiana University Press, 1993).

analyzes how concepts of the body are created and reinforced through "performing the subject," creating interpretative systems that are shaped by a semiotic lens.[17]

This chapter builds on these foundations to investigate how eighteenth-century performances of human difference allowed philosophers to confront marginal groups in the flesh while simultaneously bringing meaning to those enacted processes. By using a series of case-studies focused on the cities of Paris and London in the mid-eighteenth century, this study splits the question into its constitutive units in order to trace change over *space* rather than change over *time*. The Parisian context, which centers on the famous showcasing of a black albino in 1744, offers a particularly rich opportunity to develop parallels between performances of marginal groups and dramatic culture, especially the extent to which context influenced interpretation of spectators. The English context, on the other hand, provides evidence for the *business* of liminal performances in the last decades of the eighteenth century; looking particularly at the shows and experiences documented by Dr. James Parsons, F.R.S., this chapter examines histories of performances, detailed accounts of the programmatic aspects of performance, and the types of reactions that performances elicited from non-natural philosophers in eighteenth-century London. Quite uncommonly for the study of performance, we have an abundant literature of viewers' reactions from both the general public and the most prominent intellectuals of the day. Overwhelmingly, the performances focused on "marginal" groups such as albinos and individuals with irregular pigmentation: the fluid nature of performance, owing to its relation to the dramatic, offered the epistemological possibility to recentralize, sometimes in a radical manner, these fringe groups into overall systems of human difference. It was by drawing on techniques developed in dramatic settings that natural

[17] Amelia Jones and Andrew Stephenson, eds., *Performing the Body/Performing the Text* (London: Routledge, 1999).

philosophers rationalized and centralized these irregularities into an epistemic experience that could be deployed effectively in eighteenth-century natural-philosophical perspectives on human difference. To begin, let us turn to Paris and a boy at an académie, a hôtel, and a *maison*.

Paris: Centralizing the Margins in Académie, Hôtel, and *Maison*

> The Académie saw a child five years old, born in America in a place called *Macondé*, from a Negro and Negress who had surely never interacted with a white. The little negro has white skin, but otherwise all the ordinary traits of negroes: a flat nose, fat lips. He also has that type of wool that they have instead of hair, with the difference that his is white instead of black, and the eyebrows and eyelashes are equally white. He has eyes that are always shaking, and in exposing them to daylight in a certain way the iris seemed truly red; the pupil appears the same way even through the uvea, which is transparent. He has very delicate sight and cannot bear the full light of day. The skin of his hands is rough and a little chaffed, but elsewhere it is soft and quite uniform. Many voyagers assert that in a certain place not far from Mexico, there is an entire nation of white men who, like the little negro, can only bear the full light of day with discomfort. They only differ from him in their hair, which, although white, is real hair and does not at all resemble wool. M. de Cossigny, correspondent of the Académie, asserts that in Madagascar there was a nation of white blacks, but who, with the traits of negroes, had hair just like that of the Europeans.[18]

[18] "L'Académie a vû un enfant a cinq ans, né en Amérique dans un endroit nommé *Macondé*, d'une nègre et d'une nègresse qui assure n'avoir jamais eu commerce avec aucun blanc. Le petit nègre a la peau blanche, mais d'ailleurs tous les traits ordinaires aux nègres, le nez ecrasé, les lèvres grosses; il a aussi cette espèce de laine qui leur tient lieu de cheveux, avec cette différence que la sienne est blanche au lieu d'être noire, les sourcils et les cils des paupières sont pareillement blancs; il a les yeux toujours tremblottans, et en les exposant au jour d'une certaine façon la prunelle paroit d'une rouge clair, la choroide se voit telle au travers de l'uvée même, quis est transparente; il a la vue très-tendre, et ne peut souffrir le grand jour; la peau des mains est rude et un peu chagrinée, par-tout ailleurs elle est douce et très-unie. Plusieurs voyageurs assurent que dans un certain endroit peu eloigné de Méxique, on trouve un nation entière d'hommes blancs qui, comme le petit nègre, ne peuvent souffrir le grand jour qu'avec pein, ils n'en différent que par leurs cheveux qui, quoique blancs, sont de véritables cheveux, et ne ressemblent point a de la laine. M. de Cossigny Correspondant de l'Académie a assuré qu'à Madagascar il y avoit une nation de nègres blanc, mais qui, avec les traits des nègres, ont des cheveux pareils a ceux des Européens." *Mémoires de l'Académie des Sciences* (Paris: 1744), 12-13.

On January 4th, 1744, the Académie's "little negro" visited—with his manager—the King's Library at the Louvre, where the Académie Royale des Sciences had been meeting regularly since the seventeenth century.[19] He would have entered to see many of the most prominent natural philosophers of the day: Maupertuis, Fontenelle, Cassini, Winslow, the Bernard brothers, Réaumur, Antoine de Jussieu, and Duhamel, among others.[20] No doubt, he did not realize that Buffon, who lived on the premises, had alerted the group that he would be unable to attend this particular meeting. Looking around the room, he would have been confronted with the sumptuous and luxurious decorations of the library itself, including astrolabe, moveable free-standing mirrors, skeletons of animals, a large north-facing window onto the Rue Richelieu and everything one would expect of a royal library [fig. 4.1]. He would have seen the numerous vials and books that were to be circulated during the course of the meeting, and, among other curiosities, two small pigs attached at the sternum.[21]

[19] A comprehensive history of the Academy of Science to the 1750s can be found in: David Sturdy, *Science and Social Status: The Members of the Académie des Sciences 1666-1750* (Woodbridge: Boydell Pess, 1995); a good overall history of the Royal Academy and its place in eighteenth century French culture can be found in: Coulston Gillispie, *Science and Polity in France at the End of the Old Regime* (Princeton: Princeton University Press, 1980), 165-222.

[20] The classic study on membership in the Academy of Science is Joseph Bertrand, *Académie des sciences et les académiciens de 1666 à 1793* (Amsterdam: B.M. Israel, 1969); a more contemporary account can be found in Sturdy, *Science and Social Status*. The names themselves appear in the minutes of the meeting, q.v. below n. 23.

[21] *Proces-verbaux de l'Académie Royale pour l'an 1744* (Paris: 1761), 1-2.

Figure 4.1 - The King's Library, Louvre. This engraving by Sebastien le Clerc documents the King's visit to his Library in 1670; while it is not contemporaneous with the Académie's visit of 1744, it gives us some clues of how the Library may have appeared at the time of the boy "from Macondé's" visit. Source: *Mémoires pour servir a l'Histoire Naturelle des Animaux* (Paris: l'Imprimerie Royale, 1671), frontispiece.

The Académie's gaze was focused on other matters. No doubt an *exhibition célèbre*, the Académie translated and broadcasted its experience of the boy to a learned audience through a description in its principle publication, the *Mémoires de l'Académie des Sciences.* Wedged between a report on a monstrous calf by Buffon and a wine-based therapy by Bouvart, the Académie advertisement appears in the 1744 issue of the *Mémoires* with no elaboration on how the Académie collectively "saw" him, who was his guardian, how he got to Paris, or where he went after his observation by the Académie. We know through other sources that he travelled widely and resided in Sweden, but these elements of his meta-performative life did not seem to interest the learned audience of the Académie.[22] Also conspicuous is that the event was more than a simple "viewing;" for the Académie, the observation of the child had a distinct beginning, middle, and end determined by the discrete embodied acts on the part of the child himself as well as on the part of the audience. Entering the stage from the margins of the world, he played his role and exited, leaving the Académie to debate amongst themselves the significance of the performance.

In addition to the published account of the visit, a manuscript version of the Académie's reaction exists in the minutes of the Académie, taken by the acting Secretary, Fontenelle. The differences are minor, but may be worth pointing out. Fontenelle writes:

> A little white negro arrived at the Académie. He has hair like white wool, a broad nose and thick lips like negroes. In examining the eyes, we found the iris blue, and the back of

[22] His name was actually Mapondé, and he was not from Macondé; the confusion of slave names with geographical locations was common in the eighteenth century. For a case-study in the Jamaican context with broader relevance, see: Trevor Burnard, "Slave Naming Patterns: Onomastics and the Taxonomy of Race in Eighteenth-Century Jamaica," *The Journal of Interdisciplinary History* 31, no. 3 (2001): 325-346. Mapondé orginiated in the Moyo ethnic group presently in Uganda and thought to have been living in Angola in the eighteenth century. The inscription on the back of his 1745 portrait by Peroneau, now at the Drottingholm Museum, reads: "Mapondé, né d'un nègre et d'une négresse à Cabane, de nation Mayo, et a esté [sic] traitté au dit Cabende, cost d'Angolle, le 15 janvier 1743. Peint par J.-B. Peroneau en 1745." Paul Raouisd de Lim, "Un Pastel de J.-B. Perronneau au Chateau de Drottingholm (Suède)," *La revue de l'art ancient et moderne* 41, no. 232 (1922): 390.

> the pupil, which is ordinarily black, of a reddish color. M. Morand was charged with explaining him to the group. M. Cossigny said that there was a nation of white negroes in Madagascar, but they have hair like ours. There is also, beyond Mexico, a nation of Americans that are white. They also have hair of this color.[23]

A close reading of both passages demonstrates that numerous unspoken acts took place during the show. We can infer from the details on changing iris color that the Royal Library's northward windows were harnessed to display the boy's eyes in multiple lights, perhaps over the course of a long while; indeed, the minutes record that it was only after recitals of Latin poetry, a fairly extensive review of an almanac of a cabinet of curiosities, and a debate about monogenesis that the company finally turned their attention to the boy at all.[24] Furthermore, the account relates that the boy was deliberately placed in uncomfortable circumstances: he is said "not to be able to bear the light of day," suggesting he was purposefully exposed to the large windows of the Library so as to test his optical sensitivity. The show included observation over a distance as well as close inspection: the description of his shaking irises and uveal coloration would have required very close observation, possibly with the aid of an optical instrument. Most noticeably, the show was haptic and tactile as much as it was visual: the contrast of the boy's rough hands with his soft skin elsewhere belies an interaction transcending the purely visual.

These gestures demonstrate that the Academicians functioned not only as observers and audience, but as directors, scenographers and physical handlers. Their positioning of the child for the rest of the audience sequenced his movements to elicit specific responses both

---

"On a amené a l'Académie un petit nègre blanc. Il a les chevaux comme de la laine blanche, la nez écasé et les livres épaisses comme les nègres; en examinant les yeux, on a *trouvé l'iris bleue*, et le fond de la prunelle, qui pour l'ordinaire est noir, d'une coleur rougeâtre. M. Morand a été charge d'en rendre compte a la Campagnie [sic.] M. Cossigny dit qu'il y avais une nation des négres blancs à Madagascar, mais ils ont des cheavaux semblable aux nostres. Il y a aussi après de Méxique une nation d'Américains qui sont blancs, et ont même les cheveaux ce cette couleur. [italics added]." *Proces-verbaux*, 2. The confusion of the color of the irises is a recurrent problem in descriptions of the boy "from Macondé" and albinos in general throughout the course of the eighteenth century.

[24] *Proces-verbaux*, 1-2.

within the domain of experimental anatomy and within the broader conventions of the natural-philosophical spectacle.[25] His inclusion among other objects like books, vials, and deluxe scientific instruments invested the spectacle and the boy's body itself with a natural-philosophical and monetary value commensurate with the other objects in the room: in effect, he became a "boundary object" at once participating in the material domain of natural-philosophical specimens and the more abstract world of the human anatomical spectacle.[26] It is unclear to what extent the boy participated as an actor in this scenario, as the simple response of his facial features to external stimuli would not require any performance; however, his reaction to light and his shaking irises may have been partially exaggerated, as the child may have augmented these reactions (or was instructed to augment them) in a way similar to the documented exaggeration of the brothers of Chamonix. Other details of the performance, such as potential stage decorations and the attire of the child—if any—are unavailable.[27] Although unstated in the Académie's written account, the physical circumstances of the display suggest that the assumptions for the pig attached at the sternum and the boy were the same: the Academicians negotiated their visual experiences with humans and objects by selectively recruiting epistemic techniques from one domain into another.

---

[25] For a general account of anatomy as spectacle, see the aptly titled: Elizabeth Stephens, *Anatomy as Spectacle: Public Exhibitions of the Body from 1700 to the Present* (Liverpool: Liverpool University Press, 2011); see also Ilana Zinguer and Isabelle Martin, eds., *Théâtre de l'anatomie et corps en spectacle* (New York: Peter Lang, 2006).

[26] The boundary object was developed as a concept in the field of the history of museums and natural-historical collections, but the relevance here is apparent. The concept was first defined in Susan Star and James Griesemer, "Institutional Ecology: 'Translations' and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907-39," *Social Studies of Science* 19, no. 3 (1989): 387-420. Fuller versions of the theory can be found in: Susan Star, *Sorting Things Out: Classification and its Consequences* (Cambridge: MIT Press, 1999); Etienne Wenger, *Communities of Practice: Learning, Meaning, and Identity* (Cambridge: Cambridge University Press, 1998).

[27] An interesting exploration of the concept of nakedness in European-colonial interaction can be found in: Philippa Levine, "States of Undress: Nakedness and the Colonial Imagination," *Victorian Studies* 50, no. 2(2008): 189-219. The focus is on the nineteenth century, although Levine's conclusions have relevance for the eighteenth century as well.

The child was a boundary object in other senses, as well, most notably for his physical characteristics. The Académie heightened the dramatic sensitivity of the event by capitalizing on the boy's being an albino, particularly through their strong reaction to his visible traits; his hair is "woolen" like Africans, yet "white" instead of black; his features are all African, but he has white skin. Geographically, the boy acted out the nebulous realm between Europe and the exotic: by tying the visual experience to geopolitical and taxonomic statements of fringe groups in Mexico or Madagascar, epistemologically validated by testimony, the Academicians effectively transduce socially derived perceptions of human taxonomy onto the body of the albino before them. Despite his marginal status, the boy was no longer a unique or isolated case, but became centralized as the evidence for, and representation of, an entire nation of hypothetical albino people. In other words, the performance was not limited to the actions on stage, nor were the conclusions of the Academicians limited to what they could see: the albino's body was choreographed to enact the epistemological or anthropological existence of supposed groups in Africa and America, thereby acquiring a position in a wider discourse of human taxonomy and diversity.[28] The albino's position in this network of epistemological, verbal, and material exchanges fits the description of a boundary object perfectly: with enough self-identity to maintain a core of unalienable traits, these were recruited and leveraged by viewers in different contexts to support or contradict lines of thought in much different knowledge regimes.

Seeing the boy as part of a directed show situated the performance in a broader repertoire of interpretative techniques within natural philosophy that included, for instance, the type of geographic exploration described above. Unlike in the world of exploration, however,

[28] For a general account of eighteenth-century anthropology from the philosophical and humanistic standpoint, see: Roger Mercier, *La réhabilitation e la nature humaine, 1700-1750* (Villemonble Seine: 1960).

the choreography of movements produced unexpected outcomes that functioned as dramatic acts as conventional as a dance or skit, wherein the sequence of movements themselves—quite independent of the aesthetic or epistemological value of the sequence—act as a signifier of accepted behavior and interaction known to the community for which it is being "staged."[29] This can be seen in microcosm, for instance, in the shaking of the boy's eyes in daylight: whether or not the shaking of the eyes was genuine only represented half of the importance of the event. Considering the performance from the standpoint of drama explains how eighteenth-century thinkers may have been aware and comfortable with the fact that they were being deceived: suspended disbelief, highly dramatic in nature, in no way disqualified the conclusions achieved by spectators, as it was commonly understood that allowing oneself to be deceived in theater in no way discounted the validity of the experience.[30] Indeed, one knew upon entering a dramatic experience that one would be deceived. Yet just as much as the actual *viewing* of the boy, the Academicians participated in the spectacle of seeing him; as spectacle, the performance created networks of relations in which shared values and epistemic work were made visible. Because it was held in the Académie, the social actors of academicians, manager, and subject were invested with the norms and status that governed the creation of new knowledge: like more general stage works, this network expanded over natural philosophers everywhere by cohering to shared understandings of natural-philosophical practice.

Tellingly, the Académie did not relate any of its choreographic intervention to the audience through its publication. As directors, they censored the physical mechanisms of their

[29] This schematic division is derived from Diana Taylor, "Scenes of Cognition: Performance and Conquest," *Theatre Journal* 56, no. 3 (2004): 353-372. Taylor's study focuses on pre-conquest Amerindian drama, so the content is of little relevance; however, her structural analysis can be applied to nearly any theater involving overt power structures.

[30] Jean-François Marmontel, *Poetique françoise* II (Paris: Lesclapart, 1763), passim and especially 110f. See also: Frederick Buwick, *Illusion and the Drama: Critical Theory of the Enlightenment and Romantic Era* (University Park: Pennsylvania State University Press, 1991), 46-84.

performance in order to present their findings in the most neutral way possible, a fitting tone for natural-philosophical conclusions emerging from a prestigious body that also examined deformed pigs and read Latin poetry. In a sense, describing their actions or reactions—such as emotional responses such as anxiety or disgust—would have been contrary to the distinctly professional and neutral goals appropriate to the venue. Their goal as directors was essentially that of authenticators: to verify the visual traits of this boy, contextualize it vis-à-vis other appropriately learned domains, and transmit their rationalized account to others as neutrally as possible. As the child travelled to other circles within the learned world of eighteenth-century Paris, elements of the dramatic remained; however, interpretations and emphases changed as the techniques and contexts bent themselves to other priorities.

Voltaire, for example, saw the black albino "from Macondé" at the Hôtel de Bretagne in the same year that he was presented to the Académie. Although there were numerous lodges known as the Hôtel de Bretagne in Paris, Voltaire refers to the apartment building in the first arrondisment, behind the Royal Palace and, incidentally, the Comédie Français: this district was the prime locale for socializing and entertaining in the high circles of eighteenth-century Paris.[31] The Hôtel de Bretagne itself was a popular luxury lodge for long-term guests, especially diplomats and politicians from Anglophone countries. Benjamin Franklin, for instance, resided there from 1776-1780, with frequent visits from John Adams and Thomas Jefferson; at the time of Voltaire's visit in 1744, the *grand voyageur* and *bel esprit* Fougeret de Monbron was staying at the Hôtel, as well as Charles Stuart and his household.[32]

---

[31] Guide books abound for the time period, pointing out the common destinations for tourists. The *Journal du citoyen* lists the Bretagne's prices at 100-400 livres per month, compared to a typical room in Paris at 12-40 livres per month. *Journal du citoyen* (La Haye: 1774), 14.

[32] Emmanuel Boussuge, *Situations de Fougeret de Monbron (1706-1760)* (Paris: Honoré Champion, 2010), 109ff; Susan Maclean Kybett, *Bonnie Prince Charlie: a Biography* (London: Unwin Hyman, 1988), 108.

Unfortunately, Voltaire does not mention whom he was visiting at the Hôtel, but the status and location of the Hôtel suggest he was participating in a salon culture that frequently attracted notable individuals to visit when they were in Paris.[33] Salons themselves were semi-private social events that often included physical displays of tangible objects and discussions of natural philosophy, a culture of social performance itself wherein identities were created and world-views reinforced through the "free play of ideas."[34] The insertion of the boy "from Macondé" into this dynamic environment assumes an approach to, and conceptualization of, natural philosophy much different than that of the Académie: outside of the authenticating apparatus of the Royal institution and the physical location of the Louvre, the implications and purpose of the boy's display fitted into a sensibility built upon different premises and conclusions, constructing a natural philosophy with as much allegiance to institutionally approved knowledge as to the "culture of wit" nurtured in the salon environment.[35]

Voltaire's description provides limited information about how the child was viewed, displayed, or interacted with by the visitors, but it does reveal a new way of seeing human difference incumbent upon a revaluation of individuals with irregular complexion. On the one hand, Voltaire's focus on hair, skin, and especially eyes echoes many of the observations made by the Académie, but he frequently provides contrary information: for Voltaire, the uvea is yellow and filmy, not transparent, nor does he mention the "shaking eyes" that are so

[33] A practical account of the Parisian salon, including its mechanics and social etiquette, can be found in: Steven Kale, *French Salons: High Society and Political Sociability from the Old Regime to the Revolution of 1848* (Baltimore: Johns Hopkins University Press, 2006), 17-76; an actual list of famous salons of the eighteenth and nineteenth centuries, along with some recollections of the author's visits to them, can be found in: Friedrich Melchior Freiherr von Grimm, *Salons de Paris* (Paris: Henri Gautier, 1890).

[34] Adam Muller, ed., *Concepts of Culture: Art, Politics, and Society* (Calgary: University of Calgary Press, 2005), 95; a more theoretical account of the interaction between performance and salon can be found in: Jacqueline Hellegouarc'h, *Esprit de société: cercles et "salons" parisiens au XVIIIe siècle* (Paris: Garnier, 2000).

[35] For the sensibility of wit and the philosophical premises thereof, see: Benedetta Craveri, *Age of Conversation*, trans. Teresa Waugh (New York: New York Review, 2005).

prominent a feature in the Académie account.[36] It is quite possible that these differences in details reveal differences in presentation and performance: the lack of clarity and shaking suggests, in fitting with the custom of holding salons in the evening, that there was no access to natural sunlight or artificial light strong enough to produce an accurate observation. It is equally possible that the boy's shaking eyes at the Académie were controllable and deliberate on his part; whether it be audience, environment, or predisposition, the child or his manager may have omitted this component of the act within the much different circumstances of the Parisian salon. Voltaire's description is rendered all the more poignant by the inclusion of anecdotal knowledge describing the supposed comfort of the black albinos in caves, which could not have been physically demonstrated within the scene of the Hôtel de Bretagne.

Although Voltaire's omissions are interesting, his preoccupations reveal more: instead of focusing on external traits—and even while doing so—Voltaire spends most of his treatise elaborating on the history and existential qualities of the child. We learn from Voltaire that "a merchant of negroes" brought him to Paris, although no details are provided, and that the boy was not the first albino to visit Paris. Voltaire writes that "we have had two of these albinos in France," although there is no information about the second albino.[37] More than that, the occasion presented Voltaire an opportunity to hypothesize not simply in taxonomic terms of human groups (which, unlike the Académie, he seems to take as accepted knowledge), but also about the subjective experience of the albino and its many differences with Europeans' rationalization the world. More than the physical traits of the boy, his position at the boundaries

---

[36] The physiologic observations made by Voltaire have been quoted at length above, 1. For a general account of Voltaire as a natural historian, see: Virgil W. Topazio, "Voltaire, Philosopher of Human Progress," *Proceedings of the Modern Language Association* 74, no. 4 (1959): 356-64.

[37] "Nous avons eu deux de ces Albinos en France; j'en ai vu un à Paris à l'hôtel de Bretagne, qu'un marchand de nègres avait amené..." *Essai sur les Moeurs et l'Esprit des Nations* III in *Oevres Completes* (Basel: Jean-Jaques Tourneisen, 1785), 286.

of human difference prompted Voltaire to use the perfomative event as a vehicle to consider boundaries quite distinct from those with taxonomic relevance.

The anxiety over the boy's characteristics can be seen not simply in Voltaire's physiognomic observations, but also in his concern to reconstruct the mode of existence of this "species of animal," ending in a psychological self-reflection of Voltaire's own place in the world. If visual techniques allowed repositioning this child in a system of natural-philosophical reflection, it was social self-awareness that shaped the experience. After a series of observations and segues, Voltaire concludes his observations on "the white-moor" by writing:

> They assure me that the race of these little white-moors is extremely proud; that they believe themselves to be privileged by heaven; that they are utterly appalled by men that are so unfortunate as to have black skin or hair, or those who do not squint or have short ears. They say that the entire universe was created for white-moors; that despite having suffered a few minor setbacks, everything will be repaid and they will become the masters of blacks and other whites, people barred from heaven forever. Perhaps they are mistaken; but if we think we are doing much better than them, we are *gravely* mistaken.[38]

More important than drawing natural philosophical conclusions *per se* was the opportunity for Voltaire to express his anxieties about the value of his own civilization. The disgust of the "white-moor" for those without albinism and the belief among "white-moors" that they themselves are the rightful heirs of heaven would have been comic to the point of absurd in the eyes of an eighteenth-century Frenchman; but so too, Voltaire points out, is the Frenchman's own belief in the supremacy of his European culture, which is simply one of a limitless number

[38] "On m'assure que la race de ces petits maures blancs est sort sière, qu'elle se croit privilégiée du ciel, qu'elle a une sainte horreur pour les hommes qui sont assez malheureux pour avoir des cheveux ou de la laine noire r pour ne point loucher, pour avoir les oreilles courtes. Ils disent que tout l'univers a été créé pour les maures blancs; que depuis il leur est arrivé quelques petits malheurs, mais que tout doit être réparé, et qu'ils seront les maîtres des nègres et des autres blancs, gens réprouvés du ciel à jamais. Peut-être qu'ils se trompent; mais si nous pensons valoir beaucoup mieux qu'eux, nous nous trompons assez lourdement." Ibid., 291.

of self-aggrandizing myths that exist—even among fringe groups such as the white-moor. The liminal nature of the white-moor threatens European supremacy all the more sharply, as, in Voltaire's mind, he is barely (if at all) human. Far different from a mere taxonomic division, Voltaire's conception of human difference, emerging from a salon performance of an albino with black parents, functions as a valuative category: it is a fulcrum against which to leverage (and possibly deflate) societal values, even to the point of threatening the natural-philosophical society that engendered them. Voltaire starts his account by focusing on visual characteristics, but ends his reflection by contemplating the moralistic ramifications of this performance of liminality.

This is a critical facet of the performance of human difference, emerging specifically from viewing liminal cases of human difference: it was a chance to allow the performance of natural philosophy to function as an enforcer of a world-view centered primarily on cultural and societal roles as would have concretized in the locus of the salon. More than the show at the Académie, the performance witnessed by Voltaire was a way to use the margins to understand his own centralized world. Many natural philosophers and lumières saw life, in its broadest sense, as a battle between civilization and barbarity, one that was continually pressing on and threatening the "civilized" life of Europeans with being overcome, even from within.[39] What separated men from the rest of the animal kingdom was not only their appearance, but their ability to use language and reason; these were the infallible criteria by which to distinguish men from beasts and also to stratify the achievements of civilizations within the domain of man. The "white-moor" problematized this worldview. When Voltaire writes that "[t]his animal is called a *man*, because it has the gift of speech, of memory, a little of what one calls reason, and a species of face," he is tacitly confronting his most dreaded situation: a non-human expressing

[39] See: Condren, *Philosopher in Early Modern Europe*, 1-16.

the characteristics that function as the very criteria which separated men from beasts. Moving from visual and taxonomic margins to profoundly societal judgments, Voltaire demonstrates a "border complex" emerging from the performance in which taxonomic and societal lines share a deep and mutually informative relationship.

Voltaire's viewing of the boy "from Macondé" at the Hôtel de Bretagne was rendered all the more important through the shared experience with people around him: more than pure analysis or an experimental repertoire involving live subjects, the experience was specifically a lens through which to gain meaning about the world within the civilizing framework of the salon. As Kathleen Wilson has pointed out, performances of difference were a ubiquitous component of everyday life in the eighteenth century, playing a prominent role in the construction of identity owing to the large populations of both European and non-European denizens in colonial territories; yet the performance of difference that saturated daily interactions was typically defined by its perceived white/black dichotomy in the case of the European/African encounter.[40] The boy "from Macondé" offered another way to enact difference, one that paradoxically fortified and compromised the privileged viewer's perception of his role and situation within the human schema. By blurring the lines not only between man and beast, but even between man and man, black and white, the "white-moor" threatened *philosophes* and created a notion of human difference that was as much moralistic and valuative as it was neutrally taxonomic.

In contrast to the experiences of the Académie, Voltaire's experience at the salon demonstrate that techniques of rationalizing human difference changed as performances

[40] Kathleen Wilson, "The Performance of Freedom: Maroons and the Colonial Order in Eighteenth-Century Jamaica and the Atlantic Sound," *William and Mary Quarterly* 66(2009): 49-54. Wilson is currently expanding on the importance of performance and performativity in the identity-building process of provincial culture in her upcoming monograph. See: Kathleen Wilson, *The Colonial Stage: Theatre, Culture and Modernity in the British Provinces, 1720- 1840* (New Haven: Yale University Press, forthcoming).

transferred across venues. Rather than the scenographic controls of a director, elements of the dramatic enter Voltaire's speculations in the same way that we might expect a dramaturge or critic to analyze the motives of a character on stage; his miniature acts of character analysis and anecdote betray a gaze that harnessed and leveraged natural-philosophical anomaly, mediated through drama, as a gateway to self-inspection and even criticism. Rather than the Académie's authenticating event that positioned viewers both as audience and directors, the event in the salon positioned Voltaire as a dramatic critic left to reflect upon a particular worldview of Europe and where margins and center *actually* lie. Voltaire's conspicuous leaps from physiology, to anecdote, to philosophy mirror the way one might take the events on a stage as simultaneously as object of analysis, an element in a wider repertoire, and a poetic work of great influence in its own right. The Académie was a group of socially related viewers reacting as a corporate body; Voltaire was a single viewer offering his own personal critique. One man was both: Maupertuis.

In addition to the Académie and the Hôtel de Bretagne, the boy "from Macondé" travelled to many other venues during his stay in Paris. Maupertuis elusively writes in the first edition of his *Dissertation physique à l'occasion du Negre blanc* (1744) that "I found myself the other day in a house where one had brought the little white Negro that is now in Paris."[41] In itself, this is not surprising; but given that Maupertuis had also seen the child at the Académie, it is salient that he points out it was the intimate visit in a house, rather than the official viewing at the Louvre, which provided him the impetus to start writing his monumental reflections on embryology and hereditary traits.[42] The tacit admission is that the experience of seeing the child

[41] "Je m'étoit trouvé la vielle dans une maison où l'on avoit apporté le Negre blanc qui est actuellment à Paris." Maupertuis, *Dissertation sur l'occasion du nègre blanc* (Leiden: 1744), Preface, n.p. [1].

[42] The importance of Maupertuis' treatise can be seen in its influence on subsequent attempts at the subject. See, for instance, Staffan Müller-Wille and Hans-Jörg Rheinberger, eds., *Heredity Produced: at the*

in the intimate setting of a house offered opportunities that the Académie show did not, particularly drawing upon the passionate and tragic facets of his natural-philosophical gaze. Neither black nor white, the child was monstrous; neither official nor polite, the experience was tragic. For Maupertuis, seeing the boy at a private residence drew upon techniques and sentiments developed in the tragic theatrical sphere, which allowed him to mobilize the experience of this liminal human as evidence for a concept of human difference that had within it moral, natural-philosophical, and temporal divisions simultaneously.

Maupertuis describes his experiences in more depth in a later edition of the *Dissertation*, by this time entitled *Venus physique*. In a new section on "Variétés dans l'espèce humaine," which includes an entire chapter "On White-Blacks" and two subsequent chapters exploring the ramifications of his observations, Maupertuis offers a much briefer—and arguably more personal—account of the albino than Voltaire and the Académie.[43] In an uncharacteristic aside from his embryological narrative, he describes his reaction to the private viewing of the boy as follows:

> At this point, I would deliberately forget the phenomenon that I set out to explain: I would much prefer to occupy myself with the flight of Iris than speak of that little monster whose story I must now relate to you.
>
> It is a child four or five years old that has all the features of a negro, and whose very white and pallid skin only adds to the odiousness. (He was brought to Paris in 1744). His head is covered with a white wool bordering on red. His bright blue eyes appear to be injured by the brightness of day. His big, mal-formed hands resemble the limbs of an animal more than those of a human. I was assured that he was born to an African mother and father, both very black.[44]

Crossroads of Biology, Politics, and Culture 1500-1870 (Cambridge: MIT Press, 2007); for a focused study on Maupertuis himself, see Pierre-Louis Maillet, *Pierre-Louis Moreau de Maupertuis, 1698-1759: pour le bicentenaire de sa mort* (Paris: Palais de la Découverte, 1960).

[43] Maupertuis, *Venus physique* (6th ed., 1751), 183-206.

[44] "J'oublierois volontiers ici le phénomene que j'ai entrepris d'expliquer: j'aimerois bien mieux m'occuper du réveil d'Iris que de parler du petit monster dont il faut que je vous fasse l'histoire. C'est un enfant de 4.

It is clear that, for Maupertuis, the event was a monstrosity worthy of being forgotten—a traumatic experience that nonetheless inspired him in a way that the Académie show did not.[45] At the Académie, Maupertuis was one of a group of viewers: in the *maison,* he was a single viewer left to interpret the experience in ways that would have been inappropriate in the authenticating community of the Académie. Instead of focusing on the boy's physiological traits in objective or neutral terms, Maupertuis couches his observations in profoundly moralistic language: the "odiousness" of the boy is amplified by his "pallid" skin, his rough hands now become "mal-formed" and reminiscent of an "animal." Additionally, his account is saturated with language of "the border:" memory and forgetfulness, monster and specimen, animal and human, white hair bordering on red. That such trauma could inspire individuals to cope with themselves and the world around them is well documented in the tragic theatrical tradition: no doubt, this is what Maupertuis had in mind in referring to the "flight of Iris"—a scene in Euripides' *Hercules* wherein Iris flies down to earth with personified Madness to deliver the message that she will drive Hercules insane, ultimately causing him to execute his own children. Describing that horrible scene would be preferable, in Maupertuis's eyes, to describing "the little monster now before him." Considered as a parable—Euripides' *Hercules* and its offshoots had been popular in the Parisian context since the seventeenth century—the tragic nature of Iris' flight may be read as one natural philosopher's trepidation of potential lapses in natural

---

ou 5. ans qui a tous les traits des Negres, et dont une peau très-blanche et blafarde ne fait qu'augmenter la laideur. (Il fut apporté à Paris en 1744.) Sa tête est couverte d'une laine blanche tirant sur le roux. Ses yeux d'un bleu clair paroissent blessés de l'éclat du jour. Ses mains grosses et mal faites ressemblent plûtôt aux pattes d'une animal q'aux mains d'une homme. Il est né à ce qu'on assûre de pere [sic] et mere [sic] Afriquains, et très-noirs." Ibid., 183-84.

[45] An excellent chapter detailing the tension between experiment and speculation in the debates about heredity and generation, including as they pertain to race and albinos, can be found in: Mary Terrral, "Speculation and Experiment in Enlightenment Life Sciences," in Müller-Wille, *Heredity Produced*, 253-275.

order as the criteria for periphery and center collapse around him.[46] Like the traumatic—but cathartic—experience of tragic drama, Maupertuis' private encounter with the boy "from Macondé" produced a distinctly dramatic sensation leveraged to inquire into the nature of embryology, one that emerged from the boy's ambivalent attributes and seemingly chaotic incorporation of multiple hereditary traditions into a single conglomerate appearance.

Yet more important than his immediate physiological conclusions, Maupertuis used the opportunity of the black albino to look backward in time, ultimately concluding that "white is the color of the first men, and it is only through accident that black became a hereditary color in vast families who people the torrid zone."[47] Again, the boy's features *per se* do not invest the situation with its experiential value: what does give value to the body in question is its generative history, namely its liminal status between black African parents and hypothetical white ancestors. In acting out his heredity, the boy also acted out his anomaly: his body, after its genealogy is noted, acquires a meaning quite separate from anything based upon its traits. Through Maupertuis' interpretation of its display, the boy becomes a participant in a much broader epistemological domain than taxonomic descriptions of phenotype: he contains written upon his skin and features a statement about the history of mankind, the laws governing their production and potential, and, more generally, the acting out the natural laws of the universe through its differentiated existence—but *only* through its differentiated existence. Maupertuis gives the boy had no identity outside of his staged and chronological identity: he is the boy "that was recently at Paris," referring not so much to his physical location as to the venues of his

[46] The focus on generative anomaly would have been at the forefront of Maupertuis' mind at this time, as his own recently finished polar expedition resulted in a Lapp child whose mother followed him to Paris. The child was moved to China, but returned to Paris as a "curiosity" in 1760. See: Mary Terrall, *The Man who Flattened the Earth: Maupertuis and the Sciences in the Enlightenment* (Chicago: University of Chicago Press), 146.

[47] Maupertuis, *Venus physique*, 203.

displays, the Académie and the Hôtel de Bretagne. In Maupertuis' eyes, Paris was coterminous for the venues of the boy's display. The essentializing of Paris is paralleled in Maupertuis's conflation of a single individual with an entire race and an entire generative history: liminality of the body produced a liminality of time. More than simply looking inward and outward, Maupertuis's gaze situates the child chronologically vis-à-vis a perceived story of human origins, arguably providing precisely the type of inward gaze necessary to situate the albino child as "monster" or "race;" that is to say, to establish or obviate the possibility of an inherent potential of *albinos* as a valid subcategory of human existence.

It may be an overstatement to assert that the "tragic" mode of perception is necessarily linked to temporality and generation, but it can safely be said that, for Maupertuis, the event of viewing a liminal human at the private home offered an emotional or sensational encounter that the viewing at the Louvre did not. It also offers evidence that viewing an albino in different circumstances could result in different feelings and conclusions: Maupertuis is the only example in the French context of a person who was privileged enough to see the black albino in two vastly different performative settings. If the scenography and artificial directing of the Louvre experience offered him no suitable impetus to write his natural philosophical treatise, it was the intimate encounter of the home that struck a chord with the tragic sentiment that encouraged him to undertake his work, quite contrary to the supposition that the official social apparatus of the Académie would be the "more appropriate" venue to inspire him. Seeing a black albino *outside* the distinctly institutionalized realm of the learned association—itself a situational inversion of center and periphery within the world of natural-philosophical communities—mattered most and functioned differently as a technique of viewing. Maupertuis converted an essentially dramatic and sentimental experience into one that had traction as a natural philosophical moment: harnessing the traumatic experience of personally viewing generative

anomaly, Maupertuis used the sentiments to springboard into overarching considerations that derive just as much from dramatic experiences as natural-philosophical observations. There is, moreover, an element of chance in both the boy and the encounter that was particularly important in French tragedy and which has an intimate link to the idea of the monster.[48]

It must be admitted that Maupertuis mirrors, in other portions of his writing, many of the movements of the Académie: much of his treatise and its successor works focus on visible traits and taxonomic criteria. But the intimate scene of home offered a way of viewing with more cognitive leeway than the Académie or the Hôtel, even granting that little is known about the precise the circumstances within the *maison*. Similarly private and class-restricted domestic displays certainly took place, such as that witnessed by Buffon in 1777 of the "white negress" named Geneviève, which provides much more information about the identity and history of the person in question [fig. 4.2].[49] Buffon writes that he had the opportunity "d'examiner et faire dessiner d'après nature"[50] Geneviève, who was born to black parents in Dominique and remained there her entire life. Iconographically, the image provides clues about what Maupertuis might have saw in his domestic encounter with the albino of 1744: Genviève stands naked before the European eye in an act of "self-display" that seems to invite the viewer to consider her both taxonomically and sexually; the addition of "exotic" objects from around the new world in the "domesticated" space of a European-style room—although possibly an iconographical supplement by the engraver—stresses the perceived strangeness of the black albino's foreign origins, both biologically and geographically; the isolation of the subject

[48] John Campbell, "Chance in the Tragedies of Racine," in John D. Lyons and Kathleen Wine, eds., *Chance, Literature, and Culture in Early Modern France* (Farnham: Ashgate, 2009), 111-124.

[49] Georges Louis Leclerc, Compte de Buffon, "Addition à l'article qui a pour titre, Variétés dan s'espèce humaine," *Histoire Naturelle, Générale et Particulière, Supplément* 4 (1777), 564v.

[50] Ibid., 559.

simultaneously singles her out while expecting her to speak for all albinos across all chronological and geographical space. In a very real sense, Buffon's illustration demonstrates an individual with unexpected complexion enacting her liminality in the dramatic space around her.

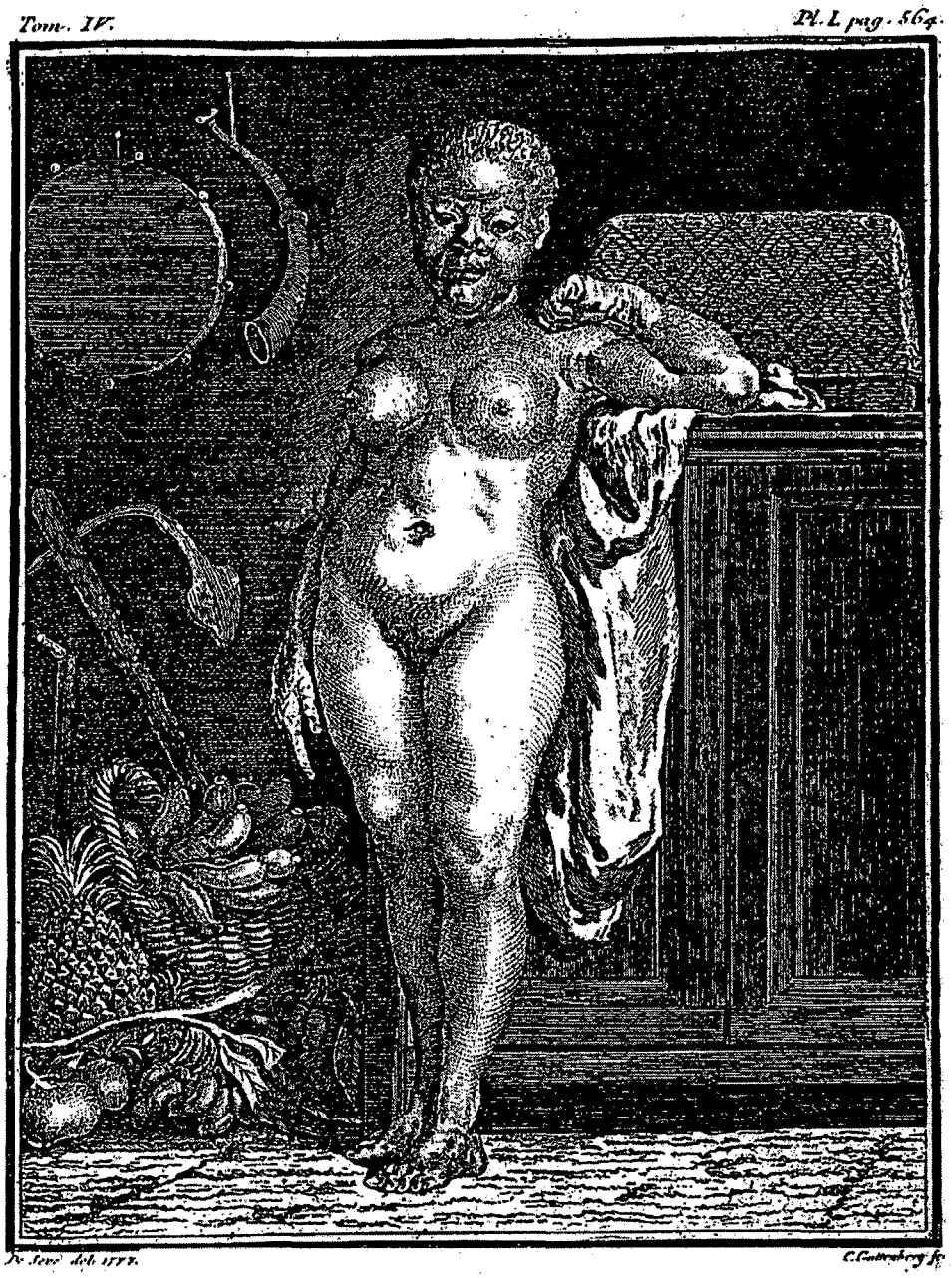


Figure 4.2 – *Geneviève*, the "blafarde" described at length by Buffon in his reflections on "white-blacks." Source: Buffon, "Addition à l'article qui a pour titre, Variétés dans l'espèce humaine," Histoire Naturelle, Générale et Particulière, Supplément, vol 4 (1777), 564v.

Although confined to a single case-study in eighteenth century France, these three examples have pointed out some of the ways that performances of human difference allowed a centralization of the margins within natural-philosophical domains. At the broadest level, performances offered natural philosophers the chance to stage and direct a viewing experience with a living specimen of liminality, often incorporating exaggerations on the part of the specimen to heighten the elements of the performance that were appropriately natural-philosophical in nature. Different contexts opened avenues that themselves problematized the center and periphery of natural philosophy: for Voltaire in the salon, the performance of liminality led to societal and moralistic questions probing the uncertainty of his own culture's supremacy; for Maupertuis, these were tragic sentiments typically eschewed in natural-philosophical regimes. To some extent, all recruited techniques from a much different realm—the realm of drama—and used them to open up innovative approaches to the question of human liminality within natural-philosophical domains. But the world was not only Paris, nor was the boy "from Macondé" the only albino. London offers a valuable counterpoint to Paris in considering the significance and mechanism of performance as a technique of vision for opening up considerations of the margins of human difference. As in France, social contexts for albino performances varied widely and included not only private viewings, but also appearances at public festivals and visits to official learned bodies such as the Royal Society. More so than the French context, however, London demonstrates that these events were for entertainment as well as edification, and that there was an entire business of black-albino showmanship in the eighteenth century.[51]

[51] For black African culture in London in general, see Gretchen Holbrook Gerzina, *Black London: Life before Emancipation* (New Brunswick: Rutgers University Press, 1999).

London: The Entertainment Business of Peripheral Human Groups

On Thursday, January 29th, 1765, a "white boy" was bought before the Royal Society of London with the President, Earl Morton, presiding. Owing to the loss of the minutes for that year, we do not have any first-hand evidence about how the ten-year-old boy was displayed before the Society: the scenographic context, which Fellows were present, even the types of observations noted by the Society audience are a matter of speculation. The only surviving information comes in the form of a letter from a Fellow of the Society, Dr. James Parsons, who received a special visit from the boy and his "master" the Sunday following the Royal Society meeting; Parsons' letter, addressed to the President, appears in the *Transactions* and follows up on some of the questions raised by the Society during the boy's display.[52]

Parsons' first and most pressing concern is to "make the necessary inquiry into the several circumstances relative to his being born of black parents"—obviously a point of some skepticism during the observation itself. Parsons locates the origins of the boy's parents in an "in-land country to the Gold Coast in Africa" before they were transported, as slaves, to Virginia in 1755. He assures readers that "the father and mother of this child are perfectly black... they had never seen a white person before they came to the shore where Europeans were employed in buying black slaves...and his mother has had two children since, who are both as black as the parents."[53] Similar skepticism toward white-skinned individuals being born from black-skinned parents can be found in an earlier account of a white negro sent to the Royal Society in 1697 by William Byrd. Byrd, like the much later Parsons, assures readers that "[the boy's] father and

[52] James Parsons, "An Account of the White Negro shewn before the Royal Society," *Philosophical Transactions of the Royal Society* 55 (1765): 45-53. No detailed historical account of Parsons has been produced.

[53] Ibid., 45.

mother were both perfect Negroes."[54] The emphasis on generative patterns—and their disruption or suspension—reflects both the incredulity of the Royal Society toward the anomaly before them, as well as an interest in the transmission of traits across generations prevalent in the pan-European context of the time.[55] Although resonances with the experiences of the Académie are apparent, Parsons omits nearly any physiological description of the person in question—there are no details of his skin texture, eye color, even hair or skin color. Instead, he focuses much of his attention on the background of the boy and expands his account with "entertaining" anecdotes of other instances of albino showmanship. Whereas Voltaire and Maupertuis consolidated dramatic techniques around social anxiety and tragic trauma arising from perceived confusion of liminality, Parsons suggests that difference as *entertainment* also constituted a valuable technique for seeing and interpreting margins and center.

Parsons himself was a physician and anatomist who actively sought out opportunities to work with black albinos in London; indeed, his single ten-page letter contains references to nearly every known case of complexion anomaly in London during his time. Conspicuously, Parsons shows little interest in clinical cases of complexion change, such as those emerging from leprosy and jaundice; instead, he displays an overwhelming curiosity for cases that seemed to involve suspension or disruption of normal generative laws, particularly in the case of liminal categories such as black albinos.[56] Many of the individuals Parsons describes had histories of

---

[54] William Byrd, "An Account of a Negro Boy that is dappled in Several Places of his Body with White Spots," *Philosophical Transactions of the Royal Society* 19 (1697): 781. See also: James Bate, "An Account of the Remarkable Alteration in Colour of a Negro Woman," *Philosophical Transactions* 51 (1759): 175-78.

[55] Skepticism toward reported anomalies in complexion was a common theme in Royal Society meetings, but there was a vibrant interest in new people of the world and their potential impact on human taxonomy. See: John Gascoigne, "The Royal Society, Natural History and the Peoples of the 'New World(s)', 1660–1800," *British Journal of the History of Science* 42, no. 4 (2009): 539–562

[56] Parsons followed irregular births of all sorts, including those with "monstrous" resonances. See: Palmira Fontes da Costa, "Medical Understanding of Monstrous Births at the Royal Society of London during the First Half of the Eighteenth Century," *History and Philosophy of the Life Sciences* 26 (2004): 157-75.

performance: the boy Parsons saw at the Royal Society, for example, had been enacting his difference most of his life. Parson relates how Mr. James Clark, the boy's his owner in London, assured Parsons that "this very boy was shewed in Pennsylvania as a great rarity" by his former owner, Benjamin Chambers, before Clark purchased him in 1764 and transported him to England.[57] Parsons' letter further illustrates that the circulation of albinos was far from uncommon: there was an entire trade, especially in London, for albinos born to black parents.[58] Such individuals were actively sought out and transported to England, itself a telling inversion within the realm of imperial centers and peripheries; however, as commodified objects challenging both political and natural-philosophical conceptions of legitimate boundaries, the circulation of albino bodies was not a foolproof enterprise.[59] In his letter to the Royal Society, for example, Parsons relates the details of a performance intended to be conducted nearly twenty years before the "white boy" of 1765. After an African slave in Virginia gave birth to a white child, Parsons writes that:

> the child was shewn about as a curiosity [in Virginia]; and was, about the age of fifteen, sold to admiral Ward, and brought to London in order to be shewed to the Royal Society; but, finding that one of the sailors had debauched the girl and given her the pox, he soon put her under the care of a captain returning to America, and sent her back to her own country.[60]

---

[57] Clark re-emerged later in the century as the owner of another individual with irregular complexion: John Boby, the "Spotted Indian Boy." Benjamin Chambers was an absentee plantation owner who also owned the farm to which the Royal Society boy's parents were transported in 1755; as was often the case, he separated the child from the parents in order to show him in his residence at Pennsylvania.

[58] For trade of objects specifically within the realm of natural-philosophical knowledge, see: Natasha Glaisyer, "Networking: Trade and Exchange in the Eighteenth-Century British Empire," *Historical Journal* 42 (2004): 451-76.

[59] For an exploration of the ideas of center and periphery specifically within the context of European natural philosophy, see: Robert Fox, *Centre and Periphery Revisited: the Structures of European Science, 1750-1914* (Oxford: Oxford University Press, 2003). For a theoretical account that was helpful for this study, see: Kapil Raj, "Introduction: Circulation and Locality in Early Modern Science," *British Journal for the History of Science* 43 (2010): 513-17.

[60] Parsons, "White Negro," 49-50.

Still human, these objects were liable to corruption and could potentially be "debauched," thereby tainting their viability as natural-historical objects within the learned context of society circles. In Parson's account, it is unclear if Ward was more concerned about the girl's medical condition of having "pox" or of her moral status as having been "debauched," as there is evidence that the albino brothers of Chamouni had had small pox without detriment to their natural-philosophical interest.[61] Yet even before her purchase by Admiral Ward, the teenage girl had been performing in Virginia much in the same way that the "white boy" of 1765 had been showed in Pennsylvania; her cultural and epistemological currency as a "curiosity" had already begun to be established before she was considered an object appropriate to transport to England.

In addition to live bodies, there was also a trade in "curious" body parts: in a conversation shortly after the Royal Society meeting, Benjamin Franklin informed Parsons "that while he was in England before [1757-1762], he received a letter from his lady, in which was some of the wool of a white negro child's head, by way of curiosity; and when I mentioned it to Mr. Clark, he assured me...that, to the best of his knowledge, the wool sent in the letter was taken from this child's head."[62] For Franklin, the "wool" of the child's head was a curiosity, but it was a curiosity invested with a deeper significance: as one scholar has pointed out, the "culture of curiosity" within the Royal Society overlapped significantly not simply with natural-philosophical inquiry and polite discourse, but also explicitly with entertainment.[63] Through a winding series of relationships between slave and owner, colony and capital, Royal Society and casual conversation, we discover that a formerly provincial albino child—himself an "outlier" in

[61] De Villards, "Quelques mots," 61.

[62] Parsons, "White Negro," 46.

[63] P. Fontes da Costa, "The Culture of Curiosity at the Royal Society in the First Half of the Eighteenth Century," *Notes and Records of the Royal Society of London* 56 (2002): 147-66.

human taxonomy—was shown in the colonies before coming to the capital, and that one of the foremost liaisons with both the Royal Society and the Colonies had received some of the same child's "curious" hair precisely at the intermediary point between the two spheres of his performance.[64] Almost a microcosm of the triangle trade grafted onto the natural-philosophical world, the albino child's circuit began in Africa with black parents, reached a tragic climax in America as a slave, and ended in London with snippets of white hair.

Images of black albinos formed another component of the business of albino entertainment in mid-century London. Parson continues his letter with the story of "Admiral John Franklin," who had captured a Spanish ship and found the image of a bi-colored boy with "black and white spots as any dog that was ever seen."[65] This single act created a fervor across natural-philosophical circles in eighteenth-century Europe: José Gumilla, a Jesuit in what is now Colombia, records in his 1745 *El Orinoco illustrado* how "many careful drawings were made" of this child when *her* appearance—contrary to Parson's account, it was a girl—at a plantation hospital in Colombia became the attraction of many visitors to town.[66] It is likely one of Gumilla's drawings that "Admiral Franklin"—actually Captain Frankland—took possession of when he captured the Spanish ship "La Concepción" bound from Colombia to Cuba. The girl, named Mary Sabrina, was so popular that the English owners of the factory in Colombia commissioned a separate portrait to be sent to London: the portrait, however, was captured by

[64] The idea of curiosity as a motivation within the sphere of natural philosophy originates in: Arthur MacGregor, *Curiosity and Enlightenment: Collectors and Collections from the Sixteenth to the Nineteenth Century* (Yale: New Haven, 2007). See also: Ellen Adams, "Defining and Displaying the Human Body: Collectors and Classics during the British Enlightenment," *Hermathena* 187 (2009): 65-97. for an interesting postmodern interpretation of the ethics of curiosity, see: Lauren Guilmette, "In What We Tend to Feel is Without History: Foucault, Affect, and the Ethics of Curiosity," *Journal of Speculative Philosophy* 28 (2014): 284-94.

[65] Parsons, "White Negro," 50.

[66] Joseph Gumilla, *El Orinoco ilustrado y defendido* vol 1 (Madrid: Manuel Fernandez, 1745), 149.

the French and subsequently re-captured by Scottish buccaneers, ultimately finding a permanent display at a private residence in Dunkirk. Its importance as a natural-philosophical document persisted after its arrival in Dunkirk, as the owner had an engraving made of it and sent it to Buffon; it is this reproduction that appears in in his *Histoire naturelle* [fig. 4.3]. For a time, the Dunkirk portrait seems to have been displayed at the University of St. Andrews; its present location is at the Royal College of Surgeons [fig. 4.4].[67]

Figure 4.3- Marie Sabine as she appears in Buffon. Source: Buffon, "Addition à l'article qui a pour titre, Variétés dans l'espèce humaine," *Histoire Naturelle, Générale et Particulière, Supplément,* vol 4 (1777), 568v.

[67] For a complete history of this fascinating portrait and its offshoots, see: Jessie Dobson, "Mary Sabina, the Variegated Damsel," *Annals of the Royal College of Surgeons of England* 22, no. 4 (1958): 273-278.

Figure 4.4- Marie Sabine as portrayed in the portrait commissioned from Colombia. Source: Royal College of Surgeons. An important contrast between the original portrait and the engraving found in Buffon lies in the treatment of the background. Here, Marie is depicted as participating in—and part of—the imagined landscape of Colombia. The engraving, on the other hand, amplifies her sexualization and exoticism by surrounding her with items like a Quimbaya aristocratic crown, empty vessels and farming implements within a distinctly domesticated setting.

Like the Académie, the Royal Society included the presentation of a liminal black albino as part of its actions as a learned institution. Although we know less about the specific observations that the Society made, we have evidence that there was a thriving business of acquiring, reproducing, and dispensing physical and surrogate representations of black albinos

in mid-century London with links both to curiosity and entertainment. The individual presented to the Royal Society was accustomed to a life of travelling and performance, one that began in Pennsylvania after he was relocated from Virginia with his parents from Africa: if the French context provided evidence for the discrete maneuvers of the mechanisms of spectatorship, the English context provides evidence for the business of performance that fuelled a small industry of very specific observation. One of the most salient contrasts lies in the facets of the narrative that Parsons emphasizes: it was seeing human difference as an element of curiosity and entertainment that both invested marginal groups with new meaning while simultaneously producing that meaning through their display.

Parsons' "entertaining" segues for the Royal Society directly relate to displays and performances of another sort: the widely publicized, exhibition-like atmosphere of public fairs and permanent shows of black albinos, often in structures dedicated to that purpose. As Parson himself notes, the boy at the Society was not the unique example of such a performance: the entertaining aspect of black albinos as representatives of natural-philosophical margins extended well into the sphere of the general public. In describing recent performances, Parsons writes:

> [T]hough this deviation of colour in the child [shown at the Royal Society], from the contrary hue of both parents, is very singular, and something preternatural, yet instances of the same kind have happened before. We had one about four years ago here in London, which was a white girl, something younger than this boy, but exactly similar in color, wool, etc. and was said, by the person who made a shew of her, to have been the offspring of a black father and mother. I did not go to see her; but I read an advertisement, concerning her, several times in the public papers, wherein she was called a white negro girl; and was informed by those that saw her, that she answered the description in the advertisement very truly. She was shewn in town for some months every day.[68]

[68] Parsons, "White Negro," 47.

More than simply an object of learned inquiry at the Royal Society, "white negroes" were objects of public interest—a public which included not only natural philosophers, but also a more general public who read the local papers.[69] Parsons' description of "the person who made a shew of her" accurately encapsulates the theatrical element of these presentations, which took a variety of forms in the 1750s; more than the French context, London offered many opportunities to showcase unusual phenomena to a public that was naturally curious.[70]

We know precisely the type of advertisements Parsons references, as many are still extant in the historical record. Published in one of London's most popular daily classified newspapers, the *Public Advertiser*, a typical example of the specific "white negro girl" that Parsons mentions reads as follows:

> IN COMMODIOUS Apartments, at the Red Lion and Three Pigeons, in Castle-street, near the King's Mews, are to be seen, from nine in the morning till nine at night, the following curiosities, viz. 1st. That wonderful Phenomenon of Nature the white Negro Girl, whose Equal cannot be produced in the whole World. 2nd. A wonderful white sea-monster, of most amazing structure and magnitude, which weighs upwards of a thousand Weight, and was caught at Sea, some hundred Leagues from Land. 3d. A grand Collection of Living Wild Beasts and Birds, lately arrived from the remotest Parts of the World. All sorts of Foreign Birds, Fowls, Pigeons, etc. sold at the same Place.[71]

---

[69] Well into the nineteenth century, broadsides advertising the display of human abnormalities had become commonplace in metropolitan areas. Some of these continued to advertise individuals with irregular pigmentation or albinism, as is the case in the 1844 Boston broadside advertising a *Novel concert by the Four Snow White Negro Boys! American Broadsides and Ephemera*, Series 1, no. 6368 (Boston: 1844).

[70] For a general account of the different types of stage entertainment available in eighteenth-century London, see: Richard D. Altick, *Shows of London* (Cambridge: Harvard University Press, 1978).

[71] *Public Advertiser*, February 11, 1758; Issue 7270.

Alongside a giant sea monster and exotic birds "from the remotest Parts of the World," the white negro girl was made available for twelve hours a day by John Bennett, in the eastern district of London, to any visitor that could pay the entrance fee.[72] As in the case of the Académie, the girl's body would have been in dialogue with the other objects around it: in this case, commodified and exoticized through its juxtaposition with foreign creatures and alien substances.[73] The particular modes of display of Bennett's show are unknown, as are the types of people that would have visited; Bennett, at least, seems to imply that his guests were people of "quality" when he writes that "[w]ords cannot express the Amazement and Satisfaction which the Quality shew in seeing that wonderful Prodigy of Nature, the white Negro Girl.... From the City and the Court // The Curious to this place resort."[74] Outside the parvenu of formal natural philosophy and the social status that came with it, Bennett's "white negro girl" targeted different classes of individuals than those included in formally organized natural-philosophical associations. Just as there was a business within the learned world for procuring black albinos in order to engage with them upon a natural-philosophical stage, so too there was a profitable business in showing black albinos to a general public "for amazement and satisfaction," as Bennett put it.[75]

---

[72] Bennett's identity is discovered in The St-Martin in the Fields poverty examinations, whose former apprentice, Thomas Barnes, described Bennett as "a dealer in foreign birds and beasts." *St Martin in the Fields Settlement Examinations, 1725-93*, Manuscript reference F5064, 77. Bennett also seems to have had a persistent interest in albinism, as his advertisement for a "white Blackbird" would suggest. *Public Advertiser*, February 22, 1757, 3. By 1759, the White Negress was no longer advertised. *Public Adviser*, July 5 1759.

[73] The link between the monstrous and the theater—especially the public theater of fairs—is very strong in the English context from 1600-1800. See: Mark Thornton Burnett, *Constructing "Monsters" in Shakespearean Drama and Early Modern Culture* (New York: Palgrave Macmillan, 2002).

[74] *Public Advertiser*, May 17, 1758; Issue 7349.

[75] Ibid.

Bennett's self-aggrandizing if ill-scanned couplet was not a total fabrication: as a form of natural-philosophical entertainment, the "white negro woman" made a lifelong impression on many visitors. Echoing Parson's own focus on entertainment, the language of amazement, curiosity, and astonishment saturates public recollections of the performance. One young visitor was so moved that she composed the following extempore verses, addressed to Bennett himself:

> The Sea Monster is an amazing Creature,
> The Girl's a wondrous Prodigy of Nature,
> The grand Collection of your Beasts and Birds,
> Are quite astonishing—without more words.[76]

Just as the culture of curiosity at the Royal Society complemented its mission of natural-philosophic inquiry, so too could the "amazement" and entertainment of a public performance function as a viable technique of bringing meaning and significance to an unexpected moment of human diversity. At the same time, the wonder of the white negro girl demonstrates a predilection for systematizing experiences, even when as entertaining as the show at the Red Lion and Three Pigeons: it is not by coincidence that the poet above contextualized the girl's anomaly within a natural philosophical system as a "Prodigy of Nature." Unlike the boy "from Macondé" and even some of Parsons' other examples, the girl at the Red Lion and Three Pigeons was very much a professional actor with an audience that included the urban middle-class as well as the gentry.[77]

---

[76] *Public Advertiser*, June 9, 1758; Issue 7371.

[77] An interesting study on the question, "who was made public in the culture of advertisement" suggests that advertisements and tokens were common among principally non-white individuals and criminals, ostracizing them as non-European and undesired others. A similar claim could be made for the white negress. See: Gwenda Morgan and Peter Rushton, "Visible Bodies: Power, Subordination and Identity in the Eighteenth-Century Atlantic World," *Journal of Social History* 39, no. 1 (2005): 39-64, 50-4.

Bennett's show was not unique: one other important example of a "white negro" receiving broad popular appeal in London deserves particular mention. Under the auspices of the taxodermic Halls family was a show featuring "Mrs. Newsham, the White Negress," held annually at Bartholomew's Fair in the 1770s and also at their headquarters near City Road. The Bartholomew Fair was the largest venue for public display of its kind, attracting thousands of visitors during the course of the four days in August or September in which it was being conducted and repeatedly causing anxiety to the officials for the ribaldry of its festivities.[78] The booths themselves offered a host of performances, including menageries, athletic competitions, and numerous displays that confused notions of natural-historical margin and center—Sir Hans Sloane himself kept a careful notebook of the bills of the shows he visited, and Blumenbach is known to have attended at least one performance in person.[79] In addition to Mrs. Newsham, Halls' other advertised attractions included a "deformed dwarf," a rhinoceros stuffed by his father, and a live toucan. Little is known of the curiosity house on City Road, except that it was reasonably large and the family lived there: the insurance policy was valued at £500—a fairly large figure—and the Halls claimed that they had "over 2000" objects.[80] The Curiosity house itself was sufficiently popular around the time of Mrs. Newsham that Hall successfully doubled the price of admission from sixpence to a shilling.[81]

---

[78] The most useful history of Bartholomew Fair dates from the nineteenth-century edition, which includes an entire chapter on monsters; no modern account exists. See: Henry Morley, *Memoires of Bartholomew Fair* (London: Chatto and Windus, 1880), esp. 245-28. See also: Maurice Albert, *Théâtres de la foire (1660-1789)* (New York: Franklin, 1970) and Thomas Frost, *Old Showmen, and the Old London Fairs* (London: Tinsley, 1874).

[79] Blumenbach uses observations from his visit to Bartholomew Fair in the third edition of his *De generis humani varietate nativa* (Göttingen, 1795); Henry Morley, in his account of Bartholomew Fair mentioned above, n. 76, claims to have "a book before [him], once owned by Sir Hans Sloane, into which, I think, it was Sir Hans himself who passed Handbills about some of the natural Prodigies which interested London from the days of Charles the Second to those of Queen Anne." Morley, *Memoires*, 315.

[80] Ed McKie, *Thomas Hall of City Road: The Family in a Museum* (Warrington: Jeaned Books, 2008).

[81] Ibid.

As an advertisement for the Newsham show, Hall issued in 1795 a series of copper tokens with an image of Mrs. Newsham on the obverse [fig. 4.5]. The woman herself was a seasoned performer: she arrived at Halls' business a free woman, having recently married an Englishman in Exeter.[82] Although hitherto unnoticed in the historiographic tradition, Mrs. Newsham was the same individual displayed as a girl by Bennett at the Red Lyon and Three Pigeons and noted by Parsons in his letter of 1765: as late as 1808, people were sill recalling their experiences with the woman.[83]

[82] *Literary Panorama* 3 (London: Taylor, 1808), 803. It is interesting to point out that her son was described not as black or white, but as a "mulatto." *The Sporting Magazine* 8 (London: 1796), 276.

[83] Ibid.

Figure 4.5 –Mrs. Newsham, the "White Negress" shown at Halls' Taxodermy on Castle Street as well as the Halls booth at Bartholomew Fair. As a child, Mrs. Newsham was shown at the Red Lion and Three Pigeons by Bennett. Tokens such as these were circulated at social gatherings and in coffee shops; upon presentation, the carrier could enter the Halls' show without paying the entrance fee. Source: Author's Collection.

Subsequent recollections by "A Naturalist" provide compelling evidence that Mrs. Newsham's performance—at least in its later incarnation—was not simply passive or visual, but that she interacted with the audience both to heighten the entertainment value of the experience and contextualize that entertainment within the realm of natural philosophy. In an extraordinary and rare testimony of the dialogue of these performances, one source recalls that "it was her custom when exhibited, to address strangers in the following lines:

> In me you see the Almighty's wondrous power,
> Who works new wonders each succeeding hour,
> Who calms the seas, and bids the tempest roar;

Darts down his fiery flashes from on high,
Who rolls loud peals of thunder from the sky;
His potent arm can all things overthrow,
And crush the world to nothing at one blow;
Make nature change her course whene'er he list,
Or from black parents, How could I exist?
My nose, my lips, my features all explore,
The just resemblance of a Blackamoor;
And on my head the silver-coloured wool,
Gives further demonstration clear and full.
This curious age may with amazement view,
What after ages won't believe is true."[84]

These are the only documented words of an eighteenth-century albinotic African without substantial fictionalization: as scholar David Worrall points out in his *Harlequin Empire: Race, Ethnicity and the Drama of the Popular Enlightenment*, the colonial world of eighteenth-century ethnographic performances almost exclusively denied non-Europeans the legal opportunity to perform on stage.[85] By putting herself on display and inviting people to look at her body, Mrs. Newsham prompted viewers to re-think their own conception of nature and its ultimate cause. By questioning the reason for her generative anomaly, she implicates viewers in a contemplation of natural philosophy that draws parallels between human features and physical phenomena such as thunder, an effect heightened by her carefully attention to direct viewers' attention to specific physiological traits such as her nose, lips, and hair—the same traits that had been focused on since France in the 1740s. She acknowledges, moreover, that this entertaining spectacle fits into an age of "curiosity" and "amazement:" Mrs. Newsham's moment of self-display can be seen as a powerful affirmation of a nature of which she is proud, so proud in fact that she hazards to assert that other ages simply will not believe it.

---

[84] Ibid.

[85] David Worrall, *Harlequin Empire: Race, Ethnicity and the Drama of the Popular Enlightenment* (London: Routledge, 1999).

The example of Mrs. Newsham demonstrates that the business of entertaining performances extended across the spectrum of London society: from Fellows of the Royal Society to amateur poets, from the Court to the average visitor at Bartholomew Fair. In addition to filling a natural-philosophical need, these performances were often explicitly dramatic, intended to be simultaneously "entertaining" and pedagogical. The case of Mrs. Newsham in particular provides concrete evidence that performers had long-standing collaborations with showmen, even after having attained legal freedom. The responsive yet focused poetry of Mrs. Newsham emphasizes that entertainment and natural philosophy were not necessarily opposing forces: quite on the contrary, Mrs. Newsham's show deliberately turned an entertaining spectacle into a technique of viewing that had something to offer the viewer about understanding his or her role in the natural order, a sort of indirect coercion to reassess natural-philosophical viewpoints. Mrs. Newsham's status within a marginal group was critical in achieving this reconsideration: by problematizing her position in the natural world, the performance centralized her as an element within natural-philosophical discourse.

As part of the albino industry, permanent exhibitions and public shows developed from the same demand for these individuals as the natural-philosophical circles of the Royal Society—demands which created an entertainment value for liminality in addition to a natural-philosophical value. That said, the most private of these encounters—a face-to-face visit with examples of black albinos themselves—was largely reserved for the exclusive few. In addition to his catalogue of public events, Parsons' privileged position as a doctor provides us with some examples of "private performances." Although his professional status would imply that these encounters might be clinical and neutral, the stories that Parsons relates are saturated with elements of pleasure and entertainment. His first story, detailing the reaction of an African father of a while child whose mother feared the accusation of adultery, reads as follows:

> "You are afraid of me, and therefore keep the room dark, because my child is white; but I love it the better for that, for my own father was a white man, though my grandfather and grandmother were as black as you and myself; and although we came from a place where no white people ever were seen, yet there was always a white child in every family that was related to us." The woman did well, and the child was shewn about as a curiosity.[86]

Unlike the public poetry of Mrs. Newsham, the father's words describing his happiness at having a white child were confessed within the context of a private encounter, an opportunity that Parsons sought out by leveraging his medical credentials whenever possible. Although Parsons demonstrates little interest in clinical irregularities as a whole, the records of his examinations often recount the words of the albinotic community and black albinos themselves, and the intimate setting of Parsons' examinations frequently provides evidence of the perspectives and anxieties of the albinos and their parents, such as of what the condition meant within the framework of a family or society. By being translated into written narratives with dramatic nuances in their own own right, his accounts take on sensational characteristics that recentralize individuals with unexpected complexion as the leading roles in their own natural-philosophical dramas: learning to see their irregularity within the context of a textualized story, as a technique of encounter, required readers to develop the means to understand how that story fit into broader understandings of human diversity while simultaneously negotiating the dramatic valences inherent in their textual nature.

Parsons' story of the happy father actually derives from a second-hand account that he heard while attending to an unrelated case of black albinism elsewhere in London. He writes that he was visiting a "worthy family who came to live in Red-Lyon-Square not many months

[86] Parsons, "White Negro," 49.

ago" after having lived in Virginia as slaves before that.[87] It was "the lady of the family" who informed Parsons of the story of the happy father, which he relates in the same letter concerning the unrelated boy displayed at the Royal Society. Although Parsons himself understood that the segue had nothing to do with the 1765 show at the Society, he sought to pass on the story in his letter "for the entertainment of the Society."[88] The lady of the house told Parsons:

> About nineteen years ago, in a small plantation near to that of this family [in Red Lion Square], which belonged to a widow, two of her slaves, both black, were married; and the woman brought forth a white girl, which this lady saw very often...When the poor woman was told the child was like the children of white people, she was in great dread of her husband, declaring, at the same time, that she never had anything to do with a white man in her life; and therefore begged they would keep the place dark that he might not see it. When he came up to ask her how she did, he wanted to see the child, and wondered why the room was shut up, as it was not usual; the woman's fears increased when he had it brought into the light; but while he looked at it he seemed highly pleased, returned the child, and behaved with extraordinary tenderness. She imagined he dissembled his resentment till she should be able to go about, and then he would leave her.[89]

We know how the father reacted, of course: he was happy that his child was white, like his father and—allegedly—like many individuals in his native community in Africa. By translating the experience into an oral history, and subsequently into a written history, Parsons creates a technical approach to natural philosophy that is complicated and nuanced, at once believable and suspicious. Believable in that the woman might rightly be afraid of an accusation of adultery (as other stories in Parsons illustrate), but suspicious in the particular elements of its natural-philosophical premises and narrative conventions. The tropes of light and dark, dramatic

[87] Ibid.

[88] Ibid.

[89] Ibid.

suspense, and reconciliation derive not only from Parsons' European narrative tradition, but also from the story-telling traditions of the African freedwoman herself.[90] The knowledge of generative laws and transmissions of traits within ethnic groups appear as an unexpectedly strong facet of the story, at least in the way these phenomena are expressed in a Western idiom. As Parsons himself knew, there is no link between having a white (presumably European) father and white children in one's extended family, as they would be the results of two different hereditary processes. But the most suspicious facet of the story lies in the father's positive reaction toward the white child; although European cultures had long assumed light skin was "better," albinotic children have a history of persecution in nearly all regions of Africa.[91]

Not everyone was as enthusiastic as the father above. Among his other visits, Parsons attended a couple in Grays-Inn, who had some trouble because the black father was suspicious of the white child recently given birth by the white mother—the couple, we may presume, expected a "tawny mulatto," as Parsons put it. Parsons relates that:

> when she was at her full time, the master had business out of town, and took his man [the father] with him, and did not return till ten or twelve days after this woman was delivered of a girl, which was as fair a child to look at as any born of white parents, and her features exactly like the mother's. The black at his return was very much disturbed at the appearance of the child, and swore it was not his; but the nurse who attended the lying-in woman soon satisfied him; for she undressed the infant, and shewed him the right buttock and thigh, which were as black as the father, and reconciled him immediately to both mother and child.[92]

---

[90] As is often the case for many enslaved or formerly enslaved Africans living in Europe, we have no information about the original ethnicity of Parsons' "lady of the house." African story-telling conventions vary according to geographic and ethnic location. For a general account, see: Ruth H. Finnegan, *Oral and Beyond: Doing Things with Words in Africa* (Chicago: University of Chicago Press, 2007).

[91] Afro-European sources themselves remark upon the wide scale persecution of albinos in Africa. See: Olaudah Equiano, *The Interesting Narrative of the Life of Olaudah Equiano or Gustavus Vassa, the African, written by Himself*, vol. 1 (London: 1789), 21-22.

[92] Parsons, "White Negro," 48.

Like the story of the happy father, Parsons heard this story on second-hand information; nevertheless, he "went to the place, where [he] examined the child, and found it true," a telling gesture that served to legitimize the potentially fabricated story with an appropriately decorous social visit. The conspicuous act of baring the child's buttocks contributes to the dramatic sense of exposure, a trope common in classical drama and, like the hypothetical family tree delineated in the story of the happy father, having no necessary link to the hereditary traits of the parents themselves. As a narrative unit, however, the angry father shares many of the same dramatic facets of the story of the happy father: as a textualized encounter with dramatic flair, the story entertains as much as it instructs, while allowing Parsons the cultural flexibility to contextualize irregular pigmentation within dramatic techniques of natural-philosophical vision.

Tracing the lineage of albinotic stories reveals that they often had a long and complicated history, themselves confusing center and periphery, margin and normality. For instance, Alexander Russell wrote a letter to Thomas Birch, Secretary of the Royal Society in 1759, which relates a story told to Russell by The Reverend Mr. Williamson of Maryland, who in turn heard it from the Leonardtown physician Mr. Bate, who in turn assembled "as particular an account...as I have been able to procure," here meaning both through interviews and examination.[93] A simple reckoning demonstrates that the Royal Society received a story transported through five geographically disparate channels of communication before they received news of it. The tale itself is one of vitiligo, a clinical condition in which the skin loses pigment in patches. Frank, cook-maid to Colonel Barnes, started losing her complexion in patches over the course of fifteen years and gradually became predominantly "white." Bate's account uses less narrative drama than Parsons' accounts, but it reveals another aspect of performative entertainment, namely the "pleasure" and "satisfaction" of conducting

[93] Bate, "Alteration of Colour," 176.

experiments on such liminal individuals. In his report, Bate describes not only the arms and legs of the cook, but her belly, breasts, and "pudenda," implying a fully nude examination.[94] Bate also describes the types of experiments he conducted: one included "the effects of a blister I mentioned to you....which I applied upon the outside of the arm," suggesting the intentional use of heat to "stimulate" the skin.[95] Bate, like Parsons, was cognizant of the entertainment value of the encounter, closing the letter with the note that if anyone "shall think any future experiments necessary, I shall be glad to execute them under their directions, not only for my private satisfaction, but in order to convince you how much pleasure I take in doing everything that may oblige Mr Williamson or his friends."[96]

The "private shows" of human difference were really much more than that: as Parsons' examples illustrate, the events were not simply dry narrations of facts, but rather were dramatized and semi-fictionalized within the conventions of classical story-telling. The personal responses and reactions in the characters contributed to the natural-philosophical value of the experience by recentralizing albinos as actors in their own natural-philosophical dramas. Parsons could have easily omitted the personal drama from his account and reduced it to mere physical observation, but he implicitly recognizes that the dramatic elements of entertainment participated in the same culture of curiosity that formed the cornerstone of the Royal Society's action as a learned body. Parsons' particularly vivid accounts of the private viewings of complexion disorders in real families take the performance of human difference to another level, that of the written and partially fabricated world of the textual encounter that contributed to the problematization of center and margins of humanity through metalayers of performance.

---

[94] Ibid.

[95] Ibid., 178.

[96] Ibid.

Although Bate ostensibly structures his account in a more factual way, even he acknowledges that he relies on interviews and anecdotes for much of the "entertaining" earlier history of Frank's changing skin. The semi-fictionalization of these encounters demonstrates that performances of human difference, as a technique of vision, were deeply linked with entertainment and drama.

Contexts and Conclusions

What emerges from the descriptions of these two geographical case-studies is the vibrant suggestion that performances of human difference took place in vastly different contexts, all allowing the centralization of a marginal taxonomic category through their adaptability as performative techniques. In Paris, the "public" setting of the status-restricted Hôtel de Bretagne, the more intimate setting of a private *maison*, and the "official" viewing by the Académie of Science all drew upon and produced ways of contextualizing black albinism that emerged from the act of the performance itself. The London context demonstrates a range of venues for black albinos, but also provides compelling evidence that there was an entertainment business around the display of these individuals, and that many of them were life-long performers. Yet in both Paris and London, the display of ambiguous individuals was paradoxical: on the one hand, it centralized for audiences a living specimen of a marginal category that demonstrated incontrovertibly the existence of ambiguous individuals; on the other hand, it offered only a single instance—and a purely external example—which did little to close debates on the membership of individuals in hereditary communities, the influence of natural environment, or the intricacies of "normal" physiology. Natural philosophers were unable to isolate marginal humans from the act of their display; in a world where definitions

hinged closely on visual criteria and changing iconographical conventions, the context in which they were seen and subsequently represented were crucial factors in establishing the importance of these individuals in the overall development of the history of human difference in the Enlightenment.[97]

If we are to grant that the performance of human difference exhibited elements of drama and entertainment, sometimes deliberate and sometimes tacit, then how does this problematize or enrich the conclusions that spectators extrapolated? On the one hand, the elision of natural-philosophical performances with dramatic illusion would seem to negate its potential epistemological value by relegating the experience to the domain of fiction—a curious and by no means static blend of sensation, passion, and imagination. On the other hand, performing human difference had the potential to collide with aesthetic drama and, by extension, the tragic and aesthetic experience as such—which, as philosophers such as Diderot asserted, emerged from an interaction with the "model ideal" of beauty, a species of truth and thus a gateway to a deeper reality.[98]

Whether or not eighteenth-century audiences were aware or concerned about the theatrical elements of display did not seem to affect their tacit absorption of theatrical techniques of viewing, nor of drawing what they perceived of as legitimate natural philosophical and moral conclusions. Among these can be listed a projection of coherence onto the "narrative" of human difference, a willingness to allow passionate reactions to influence natural-philosophical perception, and the integration of amazement and astonishment into ideas of personal and societal change. These techniques shared a common basis with theatrical experience and aesthetic theory: when Dorvigny published and performed his 1775 comedy

[97] For a focused exploration of this topic in the French context, see: Curran, "Rethinking Race History."

[98] Denis Diderot, *Salon de 1767* (Paris: Deterville, an viii [1799]), 59-64.

entitled "Le Nègre Blanc," he was accomplishing more than a simple reinvention of the "mistaken identity" theme.[99] His popular one-act performance reiterated and reinforced the very elements of human difference that had originally been recruited from theater by radically reinserting them *back into* the theatrical world. The idea of a white man pretending to be a white *black* man echoes the same self-inspection and societal uncertainty that Voltaire's account of the salon did in 1744.

It would, of course, be a mistake to conflate performances of human difference with theatrical works wholesale; many ethnographic performances had little pretension of being fine drama and were explicitly designed to highlight the perceived "otherness" of non-European peoples. Peter H. Hoffenberg's *Empire on Display: English, Indian, and Australian Exhibitions from the Crystal Palace to the Great War* has proven useful as a comparative work interrogating the ethnoscenic displays prevalent in zoos and natural historical museums in the nineteenth century.[100] Unlike formal stage productions, ethnographic shows allowed natives themselves to appear as the "actors" in their performances, but due to the almost complete denial of voices to non-European performers, there is a total lack of historiography on the enacted identities of non-European "races" through their own voices. It was not until the nineteenth and twentieth centuries that non-European performers were allowed artistic and personal expression about what it meant to "perform" their bodies: Yoriko Ishida's *Modern and Postmodern Narratives of*

---

[99] Louis François Archambault *dit* Dorvingy, *Le Nègre Blanc: comédie en un acte en prose* (La Hate: Constapel, 1775). Some of Dorvigny's plays, including *Le Nègre Blanc*, appeared in North America as well. See: Edward D. Seeber, "The French Theatre in Charleston in the Eighteenth Century," *South Carolina Historical and Genealogical Magazine* 42 (1941): 1-7.

[100] Peter H. Hoffenberg, *Empire on Display: English, Indian, and Australian Exhibitions from the Crystal Palace to the Great War* (Berkeley: University of California Press, 2001).

Race, Gender and Identity offers a good introductory analysis in the context of nineteenth-century America.[101]

Marginal groups such as the "black-white" were the ideal "characters" to act as signifiers to carry epistemological maneuvers out. The black-white offered opportunities for performance that static taxonomic groups did not because of its manifold ambiguity between black and white, human and animal, night and day, Europe and the exotic. Whereas normal skin might simply be a specimen, the liminal categories of human taxonomy hit upon strings held in common with drama, such as imagination, fear, disgust, and astonishment—in themselves frequently problematic, but, when institutionalized, often the source of great "pleasure" and "entertainment." In a way impossible for "normal" blacks or whites, natural philosophers were able to graft upon the black albino the natural-historical drama that they wanted—to script him, as it were, to play out whatever natural-philosophical climax they saw fit. As if beginning *in medias res*, they projected the experience of seeing the albino into telling the story of humanity up until that point and, at times, projecting the story into the future.

The business of the black albino as an enactor of human difference extended to natural-philosophical and medical realms with as much ease and integrity as it did into public venues more focused on sensationalism and curiosity. Parsons' reflections amply demonstrate that individuals with irregular pigmentation were actively sought out, commodified, and circulated as the material for public and private reflection. In at least one case, we have proof that the performances orchestrated were highly interactive, with the albino reciting poetry drawing attention to her paradoxical features and urging viewers to contemplate the ramifications in the broader scheme of nature. As long-standing performances that often spanned an individual's

[101] Yoriko Ishida, *Modern and Postmodern Narratives of Race, Gender and Identity* (New York: Peter Lang, 2010).

lifetime, the consistent demand for the black albino underlines its importance as a philosophical phenomenon crucial in shaping eighteenth-century perceptions of human difference—and acting out these human differences in a distinctly physical manner. It is no coincidence that Parsons later went on to publish a series of physiognomic treatises with images starkly resonant to those of "acting" handbooks at the end of the eighteenth century.[102]

The performative liminality of black albinos that led to spectacular shows of dramatic natural philosophy was only one aspect of their interest to natural philosophers: the next chapter focuses on liminality in another sense by turning to the field of microscopy and dermatology. For the black albino, the uniqueness of his complexion was literally and precisely localized in the threshold of the body: the skin.

[102] Parsons' own account, with illustrations, can be found in: James Parsons, "Human Physiognomy Explain'd," *Philosophical Transactions* 44 (1746): 1-82. For a useful secondary account, see: Frances Melissa Percival, *The Appearance of Character: Physiognomy and Facial Expression in the Eighteenth Century* (London: Maney and Son, 1999).

5. Microscopes and the Threshold of the Body

> Although I have examined the epidermis through a microscope, and although I believe to have seen an infinity of pores (that is to say, little spots in the form of holes that let through much more light than others); I dare only affirm that these spots pierce entirely through the top layer of skin and that they are not only more transparent, but also provided with a delicate strip. The canopy, the type of skin that our scalpel probed, gave me pores more perceptible, maybe because the rest of it is more opaque, but these pores are arranged in clusters, or little piles of five or six together, quite reminiscent of the mass of stars that we call *Pleiades*, and more commonly *The Chicken Coop.* It seems that these clusters of holes are vestiges of the adhesion of the fine covering on the protuberances of the skin.[1]

The pride with which Claude-Nicolas Le Cat (1700-1768) held his microscope can be evidenced by his decision to put a portrait of the instrument in the frontispiece of his 1765 *Traité de la couleur de la peau humaine*, where it stands iconically as a mediating figure between a jumbled stack of leather books and the female personification of Nature exposing the world to the viewer [fig. 5.1]. As the quote above illustrates, Le Cat acknowledges a profound awareness of the material apparatus of his gaze: the microscope through which he views the skin, implicitly likened to the telescope through which an astronomer views the stars; the scalpel with which he

[1] "Quoique j'aie examiné l'épiderme au microscope, quoique j'y aie cru voir une infinité de pores, c'est-à-dire, de petits endroits en forme de trous, qui laissoient passer beaucoup plus de lumiere [sic]que les autres , je n'oserois affirmer que ces endroits perçassent entierement à jour la surpeau, qu'ils ne fussent pas seulement des endroits beaucoup plus transparens, mais munis encore d'une lame fine. Le cannepin, espece [sic] de surpeau qui sert à essayer nos lancettes, m'a donné des pores beaucoup plus sensibles, peut-être parce que le reste en est plus opaque, mais ces pores sont par plaques, ou par petits tas de cinq ou six ensemble, assez ressemblants à cet amas d'étoiles qu'on apelle pleyades, & vulgairement la poussiniere. Il semble que ces tas de trous soient des vestiges de l'adhérence de cette fine tunique aux mamelons de la peau." Claude-Nicolas Le Cat, *Traité de la couleur de la peau humaine* (Amsterdam, 1755), 36-37.

manipulates the dermatological specimens under consideration; the light which shows transparently through the pores; the color of pigment that his contemporaries interpreted as one of the cornerstones of human difference. Encountering the differentiated body under the distinct visual conditions of the microscope implied more than simply engaging in a magnified view of human skin: it involved a highly choreographed series of physical and epistemic movements that depended upon specimen preparation, color theory, and understandings of skin structure as much as the manipulation of the microscope itself. If spectatorship and performance centralized marginal cases through the incorporation of dramatic technique and natural-philosophical entertainment, the methods of viewing that emerged from microscopal research repositioned the question of human boundaries around the body's own liminal space: the skin.[2]

Figure 5.1- Le Cat's microscope. It appears to be a Cuff-type compound microscope with concave mirror, a model that was popular in France in the middle of the eighteenth century. Other users of this type of microscope included Buffon. Le Cat writes of the frontispiece that "au coin de la Vignette est un groupe formé de livres & d'un microscope qui m'ont servis dans les recherches que contiennent cet Ouvrage." Source: Le Cat, *Traité*, 1.

[2] For an interesting approach to the skin as threshold of the body, see: Claudia Benthien, *Skin: On the Cultural Border between Self and the World* (New York: Columbia University Press, 2002).

In a world where the anatomical status of skin was open to contentious debate, attempts to predicate fundamental properties of skin—such as whether it were a membrane or an organ—produced systematic inquiry that involved an ever-increasing visual amplification of dermatological samples through the material apparatus of the microscope.[3] The heated interrogation of skin crystallized around understandings of the basic structure of skin: although most natural philosophers working with microscopes agreed that the skin was composed of layers, the exact number and relationship of the skin's successive physical superimpositions was undetermined and uncertain. As knowledge radiated toward more concrete natural-philosophical standpoints, early dermatological researchers developed a further, twofold problem: that of finding a "site" of complexion and assessing what it meant vis-à-vis the skin's relationship to the human as a whole. What exactly was skin pigmentation, where did it reside, and how was it transmitted as a visual sensation to the privileged viewer? Although most natural philosophers admitted of some variation of the concept of *negritudo*—blackness—opinions varied as to where this substance occurred in the physical makeup of the skin, and conclusions about the process of negritudinal production varied widely. Some theorists asserted that blackness was a physiological entity in its own right, composed of mechanistically distinct

[3] Virtually no studies exist on the discrete history of dermatology during the early-modern period. The works that do exist tend to focus on the period after 1830, a date identified with the birth of "modern" dermatology and the work of individuals after J. L. B. Alibert. The standard reference work is William Allen Pusey, *History of Dermatology* (Baltimore: Charles C. Tomas, 1933). The ample scholarship on the history of anatomy offer some modern inroads to understanding what might be termed "the history of skin," as for instance in Persaud, *History of Anatomy* (see chap. 4, n. 11) and Andrew Cunningham, *The Anatomist Anatomis'd* (Farnham: Ashgate, 2010). One provocative and formative analysis seeking to combine the fields of the history of color theory with the history of human bodies can be found in Jean-Pierre Albert's edited volume *Coloris Corpus*, which offers an interesting theoretical treatment on the intersection of color and body from a variety of standpoints.[3] Because it represents the work of scholars operating in many different philosophical milieus, Albert's volume lacks a central thesis *per se*; but the studies contained trace the influence of perceptions of color from Renaissance ideas of the humoral body through the modern world of 1960s civil rights movements. Unfortunately, Albert's volume lacks a sensitive treatment of eighteenth-century intersections of color theory and human taxonomy, leaving many questions of the early modern natural-philosophical world unanswered. See: Jean-Pierre Albert, ed., *Coloris Corpus* (Paris: CNRS, 2008).

units; others posited a conflux of essentially non-black "juices" that synergized into a visually black sensation. Sometimes with surprising attention, natural philosophers began to question the very nature of "seeing black" by utilizing theories of colors and optics to deepen their understanding of the nature of complexion.

Even as anatomists reached a tenuous consensus—albeit temporary—about the location and nature of blackness, a further challenge arose: the problem of change and irregularity. Although prevailing theories seemed to explain the existence of blackness *eo ipso*, they were less well equipped to deal with marginal cases of human difference, such as individuals changing from white to black, black to white, or anomalies in what ought to be clear-cut cases of "generative laws."[4] These cases challenged the boundaries of human division in a way that clinical skin change, such as blushing and jaundice, did not: what was at stake was a confusion of center and margin in the very attributes of skin that were concretizing as a locus for group identity. Le Cat himself was prompted to undertake the study of black skin by the case of "Madame la D** D**," the judiciously censored noblewoman who allegedly changed from white to black during adulthood.[5] The techniques of observation that emerged from microscopal research allowed natural philosophers to reconsider these marginal cases not simply as "exceptions" or irregularities, but as the critical moments when broader notions of the physical bases of human differentiation could be explored and articulated.

The results of microscopic research were not always clear cut, and findings with the device were often qualified. This chapter integrates discussions of the epistemological status of microscopes into its overarching narrative, largely focusing on the tension between functional

[4] For discussions on the laws of generation and the question of human difference, see, for example: Bentley Glass, "Maupertuis and the Beginnings of Genetics," *Quarterly Review of Biology* 22 (1947): 196-210; Honigsheim, "Voltaire as Anthropologist," 104-18 (see chap. 2, n. 2); Bronwen Douglas, "Notes on 'Race' and the Biologisation of Human Difference," *Journal of Pacific History* 40 (2005): 331-338.

[5] Le Cat, *Traité*, 142ff.

and descriptive knowledge.[6] Similar to debates surrounding the applicability of knowledge gained through telescopical investigation, the microscope's status as a natural-philosophical tool developed through a series of negotiations between disciplinary and epistemic cultures with different intentions and preconceptions about "the invisible world."[7] What initially separated microscopical research from other forms of anatomical inquiry was the mechanistic presumption that what one saw under a microscope revealed something useful to the function of an organism as a whole; but as new questions and ambiguities arose within anatomical culture, the role of the microscope as a scientific instrument broadened to new considerations—even, as one historian as put it, to considerations of "the observer's personality."[8] Microscopists developed a cluster of new gestures, strategies, and treatments in the preparation of skin for microscopical viewing: these dermatological microtechniques varied widely according to natural-philosophical theories and yielded wildly different natural-

[6] Marc Ratcliff has succinctly identified the ambiguity of the microscope vis-à-vis the two traditions of systematics and experimentalism, description and functionalism, when he writes that "[d]escribing, naming and classifying natural objects were constitutive issues mainly for the natural sciences as they developed in the Latin-language natural history tradition, known as systematics. Although distinct historiographic traditions split them in two fields, systematics and natural experimentalism...interacted strongly in Enlightenment microscopical research." Marc Ratcliff, *Quest for the Invisible: Microscopy in the Enlightenment* (Farnham: Ashgate, 2009), 8.

[7] Although intentionally concise and conservative in its methodological outlook, Vasco Ronchi's "The General Influence of the Development of Optics in the Seventeenth Century on Science and Technology," in *Vistas in Astronomy*, ed. Arthur Beer (Oxford: Pergamon): 123-133, aptly outlines the broad schools of thought with regard to the place of optics in perceptions of the invisible world. Catherine Wilson, although focusing predominantly on the seventeenth century, has immensely amplified and extended Ronchi's research into the early part of the eighteenth century. See: Catherine Wilson, *The Invisible World: Early Modern Philosophy and the Invention of the Microscope* (Princeton: Princeton University Press, 1995), 215-250.

[8] Jutta Schickore, *The Microscope and the Eye* (Chicago: University of Chicago Press, 2007), 15. Schickore goes on briefly but compellingly to discuss the microscope as a tool for eighteenth-century notions of "self-knowledge," a concept that increasingly shared epistemological valences with ideas of racial identity. Ibid., 23-25.

philosophical conclusions.[9] Rather than a single, static method for using a microscope, natural philosophers found themselves confronted with a variety of preparation techniques: burning live subjects, taking samples from cadavers, maceration of tissue samples in liquid media, injections with dye, treatments with various chemicals, and the stripping and examination of particular dermatological layers all functioned as valid methods of preparing skin samples for microscopical investigation.

The history of microscopy is effectively coeval with the microscope itself, as many eighteenth-century treatises on microscopy themselves contain historical segments outlining the development of the tool and its uses.[10] Yet classic modern studies, such as Reginald S. Clay and Thomas H. Court's 1932 *The History of the Microscope*, focus almost exclusively on the physical history of the microscope as an instrument, noting its structural evolution, changes in lens manufacture, and mechanical innovations, but generally not engaging with theoretical or social questions of the device in a broader epistemological setting.[11] Even contemporary studies, such as Gerard L'Estrange Turner's *Essays of the History of the Microscope*, function largely as catalogues of instruments, rather than discrete histories of the techniques and status of microscopes in the eighteenth century. In keeping with the premise that new techniques were coeval with—and simultaneously produced—the rising interest in irregular complexions, this chapter demonstrates a contrary position: that the questions raised by microscopists played a

[9] The history of microtechnique is virtually unwritten. The one study that does exist focuses almost entirely on the period after 1820. See: Brian Bracegirdle, *A History of Microtechnique* (Ithaca: Cornell University Press, 1978), 8-26.

[10] For instance, George Adams, *Essays on the Microscope: Containing a Practical Description of the Most Improved Microscopes* (London: Robert Hindmarsh, 1787), 23-86. The chapter is appropriately entitled "A Concise History of the Invention and Improvements which have been Made upon the Instrument Called a Microscope."

[11] Reginald S. Clay and Thomas H. Court, *The History of the Microscope* (London: Charles Griffin and Co., 1932).

particularly critical role in recentralizing unexpected cases of human difference within broader schemes of human taxonomy. In the case of microscopic research on skin, the case is especially poignant, because the consideration of the threshold of the *body* itself acquired a utility value as a criterion that might be used as a threshold for a *group*. As skin gained a new importance both within anatomical and taxonomic circles, the microanatomy of complexion became a central source of information about the nature and significance of visible characteristics.

The Microanatomy of Complexion

> Although there have certainly been disputes about the substance of skin among the foremost anatomists, the general opinion is that it is composed of three distinct parts: the first and outermost is the cuticle, another is called the mucous tunic owing to its form, and the third is the skin in the strict sense of the word... right now in medical schools, and for a long while, it is totally accepted that there are five layers to our body; I judge that the most tolerable explanation is that there are three layers of skin.[12]

One of the most pressing issues for natural philosophers operating in the milieu of human microanatomy was the precise structure and composition of the skin. Originating from a variety of medical and anatomical fields, naturalists created techniques to view and prepare skin that allowed them to access previously inaccessible aspects of skin tissue, at once problematizing historical understandings at the skin while also giving it a new central location in anatomical thought. The microscope and its cluster of microtechniques allowed for a reassessment of this

[12] "Missis vero aliorum, de cutis substantia, altercationibus, cum optimis Anatomicis, eam vulgo sumptam, ex tribus distinctis partibus, una scilicet et exterior *cuticula*, altera *tunica* dicta a forma eius *mucosa*, et tertia denique ispa *cute* stricte nominata, compositam pronuncio; etiamsi haud desint divisionem hancce aegre ferentes, puralitatemque sic integumentorum communium destruentes; cum nihilominus cultra anatomico oculoque armato, a se invicem separari possint apertissime; mos quoque in scholis medicis, per longam annorum seriem sit receptisimus, velamentis corporis nostri consignare numerum quinarium: tres facere ex cute partes, optime tolerandum fore, duco." Ernestus Ferdinandus Gebauerus, *De morbis cum colore cutis depravato* (Halle: Lehman, 1714), 12.

liminal tissue, although discussion was never closed on the particular elements of its structure and value: anatomically informed practitioners universally agreed that there were numerous layers of skin, but the exact number and their interactions were a matter of serious intellectual "dispute," as the above contemporary put it. Increasing knowledge about the structure of skin provided the framework for questions of complexion: although anatomists always showed an interest in analyzing skin samples from different colored individuals, questions radiated toward two particular questions: where was pigment located within the skin? How could anatomists account for differences between temporary changes in skin color and distinct, permanent characteristics?

Prior to the eighteenth century, very little attention had been given to the skin as a unit within the anatomical system. The Galenic tradition posited that skin was essentially an external component of the body, responsive to the ambient environment and produced through physical responses such as the aeration process of moist elements secreted by the body.[13] Skin also responded to the body's internal environment insofar as the visible appearance of skin provided the chief indicator of humoral processes taking place within the body; this is the origin of the famous generalization that melancholics were of a darker complexion than those of a sanguine temperament, who ought to appear more ruddy.[14] Although ancient theories attended to the skin as an index both of internal anatomical processes and external environmental conditions, they never inquired deeply into its structure or possible status as an element of interior

[13] This particular tradition reoccurred with some regularity in the eighteenth century, e.g., "per arctiorem calceorum compressionem, corneam adquirit duritiem," Laurentius Walsh, *Dissertatio physiologica de cute et tactu* (Edinburgh: Balfour and Smellie, 1784), 6.

[14] The bulk of Galen's *De locis affectis* (Venice: Ziletti, 1559) deals with skin color both as a symptomatic indicator and as a barometer for internal humorial environments. See also: Isabell Boehm, "Couleurs et fonctionnement des parties du corps chez Galien," in *Coloris Corpus*, 125-34.

anatomy.[15] Practical limitations of anatomic techniques in the ancient world prevented any challenge based on physical evidence to the theoretical considerations that emerged from this perspective, primarily because methods of dissection and tissue analysis could not attain the depth of inquiry necessary to execute analysis on individual tissue samples.[16] Ancient sources make no mention of blistering techniques, for instance, and no optical magnification in the ancient world was sufficient for analysis of a tissue as compact as skin.

In 1618, the *Anthropographia* of Jean Riolan the Younger (1577-1657) marked the first early-modern attempt to distinguish rigorously between different layers of skin within the natural-philosophical context.[17] Although Riolan did not employ a microscope in his research, his findings and techniques influenced a generation of natural philosophers that extended well into the eighteenth century. Taking a methodological cue from Andreas Vesalius (1514-1564), who 75 years before separated the skin of a live subject by burning him with candles, Riolan used a blistering agent to separate the skin of a dark-complexioned individual in order to examine the number and texture of each layer.[18] He found two layers: the upper, lifted by the vesicant in the form of a blister, and the lower, which he termed the "true skin." Riolan left his structural

---

[15] Charles Coulston Gillespie, *Edge of Objectivity: an Essay in the History of Scientific Ideas* (Princeton: Princeton University Press, 1960), 57-58.

[16] For pre-Vesalian dissection in general, see: Geoffrey Lloyd, "Alcmaeon and the Early History of Dissection," *Sudhoffs Archiv* 59 (1975): 113-47; James Longrigg, "Anatomy in Alexandria in the Third Century B.C.," *British Journal for the History of Science* 21 (1988): 455-88; "The Beginnings of Anatomical Dissection," *Scientific Monthly* 6 (1918): 568-72.

[17] On Riolan in general, see: John Edward Donley, *John Riolan, the Son, Conservative. A Sketch in the History of the Circulation of the Blood* (New York: Harvey, 1907); Roger Teyssou, *Histoire de la circulation du sang: Harvey, Riolan et les autres* (Paris: Harmattan, 2014); Robert Benoit, "Conceptions médicales à l'université de Paris d'après les cours de Jean Riolan à la fin du XVIe siècle," *Histoire, Économie et Société* 14 (1995): 25-50; Alessandro Pastore, "Corps physique et corps politique: les enjeux de l'histoire sociale de la médecine (XVIe-XVIIe siècles)," *History and Philosophy of the Life Sciences* 25 (2003): 501-13.

[18] The literature on Vesalius is extensive. For his anatomical techniques in particular, see: M. F. Ashley Montagu, "Vesalius and the Galenists," *Scientific Monthly* 80 (1955): 230-39; Persaud, *History of Anatomy*, 50-76; Nancy G. Siraisi, "Vesalius and Human Diversity in *De humani corporis fabrica*," *Journal of the Warburg and Courtauld Institutes* 57 (1995): 60-88.

inquiry at this level, and many natural philosophers agreed with his findings. Alexander Read (1586-1641), a contemporary of Riolan's working in London, retained Riolan's language and method by confirming the experiment in his own studies.[19] The physician Sir Thomas Browne repeated many of Riolan's vesication experiments as well, noting a particular experiment which included "blistering plaster in a negroes skinne [to] trie if the next skin will bee white."[20] Although Browne replicated the vesicant method of Riolan in the experiment above, he attempted a methodological innovation in the form of saline maceration when he asked his son to "separate the skin of a black person with boiling water."[21] It is unclear if his son, a medical student, ever performed this experiment.[22] Importantly, both the vesicant technique developed by Riolan and the maceration technique by Browne have the ability to separate skin into its constituent layers, allowing for a consideration of skin as a composite tissue and marking a significant departure from traditional techniques of tissue analysis.

Riolan and his contemporaries amplified the structural understanding of skin through their dual-layer theory, but their blistering approach had limitations without the aid of optical magnification. Within a few decades of these initial inquiries, a critical tool and process entered the scene: the microscope. One of the merits of microscopical investigation lay in its ability to uncover what practitioners perceived as the "mechanical" aspects of natural philosophy: the structure of organic compounds, the geometric relationships between functional parts, and the

---

[19] Alexander Read, *The Manual of the Anatomy or Dissection of the Body of Man* (London: Constable, 1638), 21ff.

[20] Quoted in Reid Barbour and Claire Preston, eds., *Sir Thomas Browne: The World Proposed* (Oxford: Oxford University Press, 2008), 292. On Thomas Browne in general, see: Jeremiah S. Finch, *Sir Thomas Browne: A Doctor's Life of Science and Faith* (New York: 1950).

[21] Simon Wilkins, ed., *Sir Thomas Browne's Works*, vol. 3 (London: William Pickering, 1885), 455.

[22] See: Barbour and Preston, *Sir Thomas Browne*, 279-295.

descriptive attributes of natural phenomena.[23] The epistemological validity of early microscopal observations rested on the Baconian understanding that experience was the generator of knowledge about the natural world, and the microscope itself was bolstered by institutional and social apparatuses that offered the sort of "epistemological decorum" now commonly understood as having operated in intellectual circles throughout the early-modern world.[24] Although adoption of the device was far from universal, many natural philosophers working on problems that demanded close analysis of tissue samples enthusiastically employed the microscope.

The first natural philosopher with a strong claim to have used the microscope to address anatomical questions relating to skin was Marcello Malpighi (1628-1694).[25] Unlike previous scholars, who used vesication and boiling in an attempt to separate the layers of skin, Malpighi reverted to a more traditional dissection technique: putrefaction. Studying the partially decomposed skin of cadavers, he found that he could separate the skin not simply into two layers like Riolan, but three. He termed the third layer the *rete mucosum*, which assumed, in many circles, the title of "the Malpighian layer." Although Malpighi does not explicitly state that

---

[23] See, for instance: Marian Fournier, *The Fabric of Life* (Baltimore: Johns Hopkins University Press, 1996), passim, and Wilson, *Invisible World*, 3-38. Both authors, however, are keen to point out that virtually no step of microscopical argument was without problem: Wilson in particular traces the resistance from many sectors—including from less intuitive sectors such as those of the rational materialists—against the possibility of microscopical observation offering genuine advances in mechanistic understandings of the natural world.

[24] For microscopy as a form of Baconian enterprise, see: Catherine Wilson, "Visual Surface and Visual Symbol: The Microscope and the Occult in Early Modern Science," *Journal of the History of Ideas* 49 (1988): 85-108; and Schickore, *Microscope*, 14-38. The idea of epistemological decorum ultimately derives from Steven Shapin, *A Social History of Truth* (Chicago: University of Chicago Press, 1996).

[25] The most recent treatment of Malpighi's actions within the domain of human anatomy can be found in: Domenico Bertolini Meli, *Mechanism, Experiment, Disease: Marcello Malpighi and Seventheenth-Century Anatomy* (Baltimore: Johns Hopkins University Press, 2011); for a more general account, see: Domenico Bertolini Meli, ed., *Marcello Malpighi: Anatomist and Physician* (Firenze: Olschki, 1997); for the classic account of Malpighi's anatomical research, see: A. W. Meyer, "Malpighi as Anatomist," *Science* 72 (1930): 234-38.

he used a microscope in this particular experiment, he acknowledges having used a microscope elsewhere in his studies of skin, and the putrefaction method combined with his own nomenclature suggest he was the first to look at skin under magnification.[26] As a visual descriptor, *rete mucosum* means "net of mucus," presumably referring to its net-like appearance when viewed from above with sufficient magnification: contemporaries noted that the layer was effectively invisible without such magnification.[27] Malpighi's primary goal in studying the skin was not to understand the structure of skin *per se*, but rather to locate the sensation of touch; nonetheless, his research made considerable advances into the understanding of skin composition by demonstrating the efficacy of the microscope in combination with cadaver putrefaction. Malpighi's methodology was fairly wide-spread; the Dutch anatomist Johann Pechlin (1646-1706), for example, repeated Malpighi's experiment on cadavers but, much to his own frustration, was unable to locate a living subject willing to submit to controlled putrefaction of his flesh.[28]

To understand the difference magnification made in skin studies, we can turn to the 1696 *Epistola problematica prima* of Frederik Ruysch (1638-1731), which contains first-generation illustrations comparing the differences of skin samples seen with the naked eye and under magnification [fig. 5.2].[29] Ruysch himself gained his fame through studies on the lymphatic and circulatory system, but he also vocally supported the use of the microscope on

---

[26] E.g., on the study of sweat glands of the hand. Marcello Malpighi, *De Tactus organo anatomica observatio* (Naples: Aedidium Longum, 1665), 61.

[27] See below, 177.

[28] Johann Pechlin, *De habitu et colore Aethiopum qui vulgo nigritiae liber* (Koln: Joach Reumani, 1677), 202-03.

[29] On Ruysch in general, see: Luuc Kooijmans, *Death Defied: the Anatomy Lessons of Frederik Ruysch*, trans. Diane Webb (Leiden: Brill, 2010). Ruysch, with Swammerdam, innovated many microscopal techniques. Edward G. Ruestow, *The Microscope in the Dutch Republic* (Cambridge: Cambridge University Press, 1996), 81ff.

skin tissue. In the image below, Ruysch describes figure 6 as the "net-like body situated under the cuticle, magnified roughly two times from its natural appearance;" figure 4, however, represents the same tissue, this time described by name as the "net-like body, seen by means of a microscope." Ruysch goes on to point out that "[t]he aforementioned net-like body comes into view barely—in fact, just short of barely—without optical instruments," supporting the thesis that Malpighi used some sort of optical magnification in his own studies that led to the discovery of the layer.[30] Like Malpighi, Ruysch sourced his tissue from cadavers but prepared them using "the common mode of dissection," which here indicates maceration in *spiritus vini*, or ethanol.[31] Although Ruysch does not mention what type of microscope he was using, the magnification achieves a resolution of at least nine times, suggesting it was a single bead-lens example of the Swammerdam design.[32]

[30] "Vix ac ne vix quidem in conspectum venit dictum hoc Corpus Reticulare, nisi instrumentis opticis...Veram huius Corpus Reticularis et subcuticularis delineationem Microscopio visam, designat Fig. 4...Fig. autem 6 indicat Corpus Reticulare, sub cuticula situm, naturali magnitudine duplo circiter majus." Johannus Gaubus, *Epistola problemata prima* (Amsterdam: Wolters, 1696), 10.

[31] Interestingly, other editions of the *Epistola Problemata* change the sentence above to read "Vix ac ne vis quidem in conspectum venit dictum hoc Corpus Reituclarr, *nisi post macerationem in spiritu vini* [italics added]," emphasizing the preparation method rather than the optical instruments themselves. *Epistola Problemata prima* (Amsterdam: Wolters, 1696 b), 9. For the use of cadavers in the Netherlands in particular, see: Dániel Margócsy, "Advertising Cadavers in the Republic of Letters: Anatomical Publications in the Early Modern Netherlands," *British Journal for the History of Science* 42 (2009): 187-210.

[32] An illustration and description of Swammerdam's microscope can be found in his letter to Melchisidec Thevenot. See: G. A. Lindeboom, *The Letters of Jan Swammerdam to Melchisiden Thevenot* (Amsterdam: Smuts and Zeitlinger, 1975), 105.

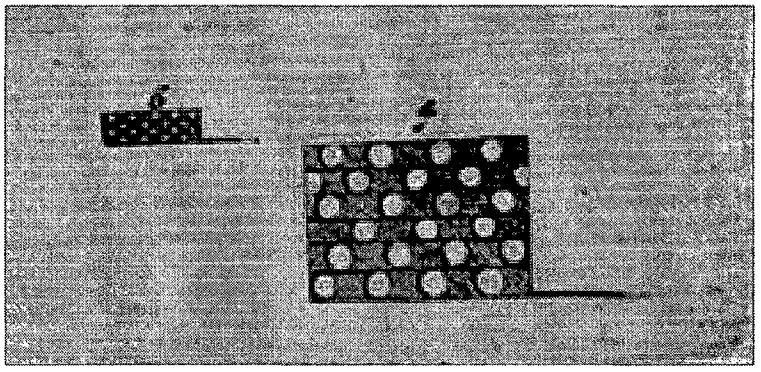


Figure 5.2 – The "net-like body" as seen by Ruysch under microscopic and naked-eye amplification. Source: Johannus Gaubus, *Epistola problemata prima* (Amsterdam: Wolters, 1696), 10. Ruysch's illustration was reused in numerous works over the course of the next four decades, as for instance in Jean Palfin's *Anatomie du corps humain* (1726).

Ruysch's decision to include a comparative illustration of skin seen under normal and magnified circumstances emphasizes both the novelty and importance of microscopic observation as a technique of natural-philosophical vision.[33] With this image, Ruysch communicates not simply the information gained through his microscopic observation, but also the extent to which microscopes created a material difference in what natural philosophers could see in a tissue sample. The image tacitly makes the argument to his readers—themselves potentially natural philosophers considering adoption of the microscope—that what one can see with naked eyes shies in comparison to that which is available under microscopic magnification. Although lacking any holistic theory about the composition of the skin, Ruysch's treatise and illustrations demonstrate that the intervention of optical devices rendered new layers of the skin accessible to vision, particularly the reticular layer, and that the new physical techniques available to natural philosophers had the potential to amplify hitherto misunderstood aspects of the structure of skin.

[33] On the peculiarities of Ruysch's relationship with art in particular, see: Julie V. Hansen, "Resurrecting Death: Anatomical Art in the Cabinet of Dr. Frederik Ruysch," *Art Bulletin* 78 (1996): 663-79.

Ruysch's account of magnified skin is remarkable for its inclusion of illustrations, but it is not an isolated document. Another early technological developer of the microscope and contemporary of Ruysch and Malpighi, Antoni van Leeuwenhoek (1632-1723), documents that he too employed the microscope for the study of skin.[34] Unlike for Ruysch, skin was only a satellite interest for Leeuwenhoek, but in the initial frenzy of developing his optical magnifier there was little that he left unstudied. In the summer of 1684, at roughly the same time as Ruysch (whom he knew as a collaborator), Leeuwenhoek was studying the papillary system; he found a black female participant and, in a letter to the Royal Society, writes: "I took from several parts of the arms the outer skin with a fine little instrument and found that it consisted of little scales. Putting these scales before my microscope, I found them to be not as transparent as those of my skin."[35] This was certainly not dissection of a putrefied cadaver in the manner of Ruysch and Malpighi, nor was it a vesicated live subject in the manner of Riolan and Read. Instead, Leeuwenhoek used an unprepared example from a live subject that had not been macerated or vesicated. Leeuwenhoek's results were important: with Leeuwekhoek's experiment we have the first descriptive remarks on the physical structure of the epidermis, made possible through the use of Leeuwenhoek's microscope. The models of Leeuwenhoke's microscopes varied, but all employed bead lenses and some were capable of magnification up to 150 times.[36] Within a generation of Riolan, the first users of microscopists had pushed skin studies into a new and physically amplified dimension.

---

[34] For Leeuwenhoek in general, with a special emphasis on the importance of his microscopic technique, see: Brian J. Ford, *The Leeuwenhoek Legacy* (London: Farrand press, 1991).

[35] Abraham Shierbeek, ed., *Collected Letters of Antoni van Leeuwenhoek*, vol. 4 (Amsterdam: Swets and Zeitlinger, 1952), 249.

[36] For a discussion of the capacity and mechanics of Leeuwenhoek's various microscopes, see: Harald Moe, *The Story of the Microscope*, trans. David Stoner (Denmark: Rhodos, 2004), 42-56.

Of course, the microscope was not without problems. Paramount among these were concerns about the microscope's effects on the overall process of visual observation. Users as early as Robert Hooke (1635-1703)—a contemporary of both Malpighi and Leeuwenhoek—remarked on lenses' tendency to distort observed phenomena as much as they amplified them, immediately calling into question the reliability of the tool as an extension of human vision.[37] Even Leeuwenhoek himself cautions early users in the *Philosophical Transactions* that "nobody must publish or bring to light new discoveries, and judge by one sight, but he must see the same over and over several times, for it doth happen often to me that people looking through a magnifying glass do say, now I see this, and then that."[38] As a tool and a technique, the microscope extended vision only insofar as the quality of the device and skills of the user. That the microscope was "simply" an extension of vision—and a problematic one at that—caused polemicists to argue against the device's reliability: at the most fundamental level, the microscope did not constitute a separate category of vision, but was essentially a mediating device between a thinking mind and a perceived external reality.[39] Drawing a comparison with telescopes, and having the privilege of looking back retrospectively over 40 years of microscopal research, George Adams (1709-1773) neatly sums up the argument in his compendious 1746 *Essay on the Microscope*:

---

[37] Hooke writes that "It is exceedingly difficult in some objects, to distinguish between a prominence and a depression, between a shadow and a black stain, or a reflection and a whiteness in color..." Robert Hooke, *Micrographia* (London: Martyn and Allestry, 1665), preface. For a detailed discussion of both the proponents and detractors from microscopical research in the seventeenth and eighteenth centuries, see: Wilson, *Invisible World*, 213-250.

[38] Antoni van Leeuwenhoek, "Concerning the Animacula in *semine humano*," *Philosophical Transactions* 21 (1699): 306.

[39] There was an extended debate among philosophers working in the realm of epistemology and sense-theory that stressed the consideration of mediation in microscopal research. See: Wilson, *Invisible World,* 176-214.

> In the theory of vision, it is necessary to be cautious not to confound the organs of vision with the being that perceives, or with the perceptive faculty. The eye is not that which sees, it is only the organ by which we see. A man cannot see the satellites of Jupiter but by a telescope. Does he conclude from this, that it is the telescope that sees those stars? By no means; such a conclusion would be absurd. It is no less absurd to conclude, that it is the eye that sees. The telescope is an artificial organ of sight, but it sees not. The eye is a natural organ of sight, by which we see; but the natural organ sees as little as the artificial.[40]

In some contemporaries' opinions, observing specimens through a microscope did not necessarily offer any more useful observation than through the naked eye alone. Telescopes and microscopes, like the eyes themselves, offered only mediated experiences of vision which were ultimately a relationship between intellect and reality.[41] As late as 1799, the histologist Marie François Xavier Bichat (1771-1802) showed reluctance toward using the microscope in his *Traité sur les membranes*, in which he outlined the 21 types of "tissue" found in the human body all without the aid of a microscope.[42] Yet even if skepticism about the epistemological validity of microscopic observation was acknowledged in many treatises by many practitioners, they seemed to regard it as a point of formality rather than a firm dissuasion from using the instrument as a tool in natural philosophical research. As Ruysch himself notes, many elements of skin composition, such as the Malpighian, layer were virtually invisible without the use of optical devices of some sort.

By mid-century, microscopes had become so widespread that practitioners had a range of models to choose from, each with their own particular benefits and shortcomings. Adams, in his *Micrographia Illustrata,* spends over 30 pages describing the practical visual differences

---

[40] George Adams, *Essay on the Microscope* (London, 1746), 43.

[41] The history of observation has a rich history both within contemporary scholarship and in the eighteenth century itself. For a general account, see: Lorraine Daston and Elizabeth Lunbeck, eds., *Histories of Scientific Observation* (Chicago: University of Chicago Press, 2011).

[42] Marie François Xavier Bichat, *Traité sur les membranes en general et de diverses membranes en particulier* (Paris: Richard, Caille et Ravier, An VII [1799]), 52-54.

between single, double, solar, screw-barrel, and fixed-arm microscopes.[43] The variety of microscopes had practical ramifications in the realm of skin studies, as naturalists often subjected their samples to observation using multiple types of microscopes in order to rectify shortcomings of one type with the virtues of another. Johan Friedrich Meckel the Elder (1724-1774), for example, writes in a treatise attempting to verify the structure of the epidermis that "[s]eeking to confirm this sentiment through microscopal observations, I repeatedly considered both by simple and compound microscope, and even by solar microscope, some particles of the cuticle or epidermis both of whites and of blacks."[44] The different microscopes did produce different results: Meckel writes that "with the solar microscope, among the dark spots [of the black epidermis], I observed others that had a more lively color. Having then put the same particles of the abovementioned epidermis seen under a microscope lit by the sun under one lit by candlelight, I saw more transparent spots, irregularly distributed."[45] For Meckel, the problem of microscopal shortcomings could be partially addressed by using different microscopes: the question for him, shortly after Leeuwenhoek's time, was not so much *if* to use microscopes, but *how many* and *what types*. As the century progressed, natural philosophers more carefully noted their tools and preparatory methods: William Cruickshank (ca. 1750-1810) notes in the explanations of the plates to his 1790 *Anatomy of Absorbing Vessels* not only what type of visual apparatus he used to produce each illustration, but also the type of medium used to clear the

[43] George Adams, *Micrographia Illustrata* (London: George Adams, 1746), 1-30.

[44] "Cherchant donc à confirmer ce sentiment par des observations microscopiques, j'ai considéré fort souvent au Microscope tant simple que compose, et même au Microscope solaire, des particules de la cuticule ou de l'épiderme, soit des blancs, soit des négres, sans avoir jamais pû découvrir de véritables trous, ou embouchures ouvertes, qui transmettent la lumière..." Johan Friedrich Meckel, "Nouvelles observations sur l'épiderme et le cerveau des nègres," *Histoire de l'Académie Foyale des Sciences et Belles Lettres de Berlin* 13 (1757): 63.

[45] Meckel, "Nouvelles observations," 65.

example.[46] Natural philosophers knew their instruments had shortcomings, but they continued to use them and attempted to neutralize those imbalances by cross-testing their results with multiple devices.

The microscope both confirmed and complicated the findings of pre-microscopal philosophers such as Riolan and Read. On the one hand, most natural philosophers still agreed that the skin had at least two layers: the epidermis (variously described in other languages as the scarf-skin, the surpeau, the canopy, etc.) and the *cutis vera*, or true skin. The epidermis was perceived to be constructed of scales—*laminae*—and its composition allowed for the transduction of elements through its surface, making it essentially porous. Leewenhoek coined the word "scales" in his experiment on the black woman's arm discussed above, but this language adhered throughout the century in virtually every treatise published on the subject.[47] The nature of the "scales" was not well understood, although natural philosophers generally maintained that they reacted to the external environment in a way similar to the conceptual conclusions of Galenic medicine: natural philosophers noted that the epidermis was alternatively thick and thin, responding to external pressure by becoming more hard or pliant as circumstances required. Buffon himself, in his study of primate buttocks, noticed a difference in the thickness of their skin and extrapolated the conclusion that it was the same anatomical function as that which occurred in human skin.[48]

---

[46] William Cruickshank, *Anatomy of the Absorbing Vessels of the Human Body* (London: C. Nichol, 1790), 211-14.

[47] Even at the close of the century, physicians were still using the term scales: the physician Robert Dickenson writes that "[w]hen examined by the microscope, [the epidermis] appears to be composed of several laminae, or scales, which may be increased, or become thickened, by pressure, as is observable in the hands and feet. This cuticle may be easily separated from the parts beneath, especially by heat, or by maceration in water." Robert Dickenson, *Essay on Cutaneous Diseases* (London: Barr, 1800), 15.

[48] "Comes de Buffon, in quibusdam simiarum generibus super clunes duritiem magnae crassitudinis esse, scripto prodidit. Quam cuticula indurate crassataque, sedendi super calidam erram lapidesve

For a long time, findings came to a halt at two layers of skin despite the technical advancements of the microscope itself.[49] After all, looking through a microscope is only one part of a microscopic technique. Although microscopists were at first primarily concerned with developing the optical dynamics of the microscope and addressing the visual challenges that emerged from the device's use, the problem of specimen preparation developed concomitantly as a limiting factor in the breadth and possibilities of microscopic research. From the last half of the seventeenth century to the middle of the eighteenth, microscopists struggled with problems at how best to leverage light, medium, and specimen in a way that would produce the most valuable and productive results for understanding the threshold of the body.

The oldest and most influential strategy in microscopic preparation goes back to Malpighi himself, who introduced the process of dye injection into sample preparation. Malpighi is known to have used dye injection in his anatomical researches into the kidney, and Jan Swammerdam (1637-1680) in the succeeding generation had great success with similar techniques in his study of insects.[50] Swammerdam and Ruysch in particular lauded the efficacy of wax injection, a technique that allowed vessels to be filled and observed more easily under the glass of a microscope.[51] Unfortunately for the historian, microscopists were notoriously secretive about their preparation techniques: Ruysch, for example, remarks on Swammerdam's

---

consuetudine, fecisse mihi videtur." Walsh, *De cute et tactu*, 6. I have been unable to locate the study that Walsh references.

[49] Considerable advances were made in the technical aspects of microscope throughout the eighteenth century: mechanical stages were introduced, lens displacement was perfected, and illumination apparatuses were improved. However, chromatic rectification did not appear until the beginning of the nineteenth century. See: Moe, *Story of the Microscope*, 37-124.

[50] See, for instance: Marcello Malpighi, *De viscerum structura exercitation anatomica* (Naples: Aegidium Longum, 1665); Jan Swammerdam, *Biblia natura sive historia insectorum* (Leiden: Severinus and Van der Aa, 1737).

[51] For a detailed account of the professional relationship between Swammerdam and Ruysch, particularly with regards to preparation techniques, see: Ruestow, *Microscope in Dutch Republic*, 80-92.

technique that "[w]hat kind of substance this blessed man [Swammerdam] used to fill the vessels he never told me—and I never asked."[52] A surviving example of a fragment of skin injected with dye in the Kunstkamera at the Russian Academy of Sciences demonstrates that Ruysch used, to some extent, dye injection in his research on skin.[53] As the century progressed, injection techniques became more sophisticated, notably the introduction of paraffin injection, and these strategies were widely used in microscopal research; Le Cat himself describes his using a form of paraffin filling technique in the preparation of histological samples.[54]

More important for the study of skin was that the sample be rendered small and transparent enough for the material effects of microscopic amplification to take place. Hooke famously recorded his experience of having "cut off from the former smooth surface of Cork an exceedingly thin piece of it, and placing it on a black object Plate... I could exceedingly plainly perceive it to be all perforated and porous."[55] The imperative of thinness appears to have been common even in Leeuwenhoek specimens, which were mounted on a needle, such as his example of the skin from a black female's arm.[56] Producing samples thin enough to allow for transillumination frequently involved the use of the microtome, or "Cutting Engine," which originated in the generation prior to John Hill (1716-1775) and George Adams as early as the 1730s, but was not popularized until mid-century. The microtome was a crucial advance for

---

[52] Quoted in Ruestow, *Microscope in the Dutch Republic*, 85.

[53] Frederik Ruysch, "Fragment of Injected Skin with Epidermis Removed," early 18th c., Peter the Great's Museum of Anthropology and Ethnography, Russian Academy of Sciences, St. Petersburg, no. 4070-74.

[54] Although his *Traité* makes no direct mention of cavity injection techniques, he spells out the process in his "On the Figure of the Canal of the Urethra," *Philosophical Transactions* 41 (1741): 356-61.

[55] Hooke, *Micrographia*, 112-13.

[56] Although none of Leeuwenhook's specimens appear to exist in the original, a descriptive catalog of some 250 instruments with affixed specimens from a 1747 auction can be found in Pieter Harting, *Het mikroskop, deszelfs gebruik, geschiedenis en tegenwoordige toestand,* vol. 3 (Utrecht: Van Paddenburg, 1854), 41n and 465.

microscopy, because in addition to producing a thinness incapable of being achieved with freehand techniques, it allowed for the calculated sectioning of specimens that led to the process of embedding samples in a medium without saturating them in the same way as a cavity injection.

The drive toward thinness quickly developed into the technique of mounting mica (Muscovy glass) to the specimen or microscope itself to achieve transillumination and quasi-dark-ground illumination. In both the commercial and natural philosophical spheres, this frequently led to the preparation of sliders of prepared specimens: these prepared slides were typically thin specimens varnished onto a mica or glass plate. Certainly by the time of Henry Baker (1698-1774) and his 1742 essay on microscopy, the techniques of slicing and mounting were considered the most essential microtechniques. Baker writes, in his chapter entitled, "Of preparing and applying Objects:"

> Most Objects require some Management, in order to bring them properly before the Glasses---If they are flat and transparent, and such as will not be injured by Pressure, the best Method is to inclose them in Sliders, between two Muscovy Talcs or Isinglass... Every curious Observer will therefore have them always ready to receive any accidental Object, and secure it for future Examination: and a Dozen or two of these Sliders, judiciously furnished, are a fine natural history cabinet...[57]

Hooke and his successors like Baker also identified the value of clearing samples through the use of a liquid medium such as water or oil. Clearing samples was especially important for organic tissues: Hooke writes that "substances... such as Nerves, Muscles, Tendons, Ligaments, Membranes, Glandules, Parenchymas, &c. of the body of Animals, if [they] be put into a liquor, as water, or very clear oyl, you may clearly see such a fabric as is truly very admirable."[58] Ruysch

---

[57] Henry Baker, *Microscope Made Easy* (London: R. Dodsley, 1742), 56.

[58] Robert Hooke, *Lectures and Collections* (London: J. Martyn, 1678), 94.

himself used ethanol (*spiritus vini*) to clear his samples, and microscopists working in the world of phytology developed the process of macerating samples with alum to loosen constitutive elements and allow for a clearing of cavities to observe positive structures.[59] The reality of having to prepare "most objects" was thus a given facet—and gesture—within microscopic research. Nonetheless, taking into consideration the importance of specimen preparation has been, for the most part, an entirely neglected field of inquiry into the epistemology of the invisible.

Applying this conglomerate of microtechniques to the preparation of human skin presented some special challenges. Unlike many other samples, human skin cannot easily be sectioned into pieces with a microtome owing to its layered composition, and skin needs to be embedded in an isotonic serum such as saline solution to produce the best results. Excessive maceration with alum, the strategy most common for plant fiber, can distort precisely the elements of skin which researchers wanted to focus on. Practitioners therefore had to choose which methods to employ in the preparation of their samples, and they had a range of options available: live subject or cadaver, maceration or vesication, putrefaction or ethanol dissolution, water or oil, dye or wax. The process of sample preparation could yield varying results—maceration of a skin sample in water (such as Browne) or clearing a single layer with an isotonic serum such as ethanol (such as Ruysch) would produce different visual experiences and perhaps reveal different evidence to a microscopic observer.

As a case-study, we can compare the results of a handful of microscopists using different combinations of preparation techniques to address questions of skin. The

[59] The microscopist John Hill, for example, relates how he submerges Scarlet Oak samples in a "brook of running water" for ten days, and "by degrees, the parts loosen from one another... Dissolve half an ounce of Alum in two quarts of water, drop the pieces thus separated for a few moments into this solution, then dry them upon paper and put them up in vials of Spirit of Wine." John Hill, *The Construction of Timber from its Early Growth* (London, 1774), 10-11.

dermatological techniques of Pierre Barrère (1690-1755) combined many separately developing techniques into an influential approach to the study of skin. In his anonymously published *Dissertation sur la cause physique de la couleur des nègres*, he describes the preparation of black skin by writing, "[if] after a long maceration of the skin of a negro in water, one detaches the epidermis or top layer of skin and examines it attentively, one finds it to be black, wafer-thin, and it appears transparent when observed against light."[60] Stated differently, Barrère used saline maceration without dye in a back-lit apparatus, finding that the epidermis was transparent.[61] Other authors, however, relate quite the opposite phenomenon: namely that the epidermis of Africans was opaque. The most well-known example is Leeuwenhoek's own experiment on the skin from the dark-skinned girl, which he examined without maceration or clearing, finding contrary to Barrère that the epidermis was "less transparent" than his own.[62]

Barrère and Leeuwenhoek are similar in having both used live subjects, and it is noticeable that neither claimed to have seen the reticular layer, even with microscopic amplification. There appears to be a strong link between seeing the reticular layer and using a skin sample sourced from a cadaver. Malpighi himself, the first to see the reticular layer, used cadavers prepared through putrefaction. A famous account of the semi-fictional hero Jacque Massé, widely believed in the English-speaking world to have been composed by Pierre Bayle (1647-1706), recounts that, in a cadaver observed by local anatomists, "[a]ll parts of [the body] were disposed like those of the Body of a white Man, at least, we observ'd no Difference; but what surpris'd us was, to find immediately under the Epidermis, a very thin delicate Membrane, which my Master had never perceived in other Bodies," seeming to limit the reticular layer

[60] [Pierre Barrère], *Dissertation sur la cause physique de la couleur des nègres* (Paris: Chez Pierre-Guillaume Simon, 1741), 4.

[61] Ibid., 8-9.

[62] E.g., John Josselyn, *An Account of Two Voyages to New-England* (London: Widdows, 1674), 187.

exclusively to non-white individuals.[63] Ruysch, who used ethanol maceration on cadaver samples, and Pechlin, who used putrefaction of cadavers, both agreed on the presence of the reticular layer.

Even from these few case-studies, it will be apparent that a consistent subdialogue runs throughout all of the studies on human skin, with varying degrees of emphasis: the overwhelming tendency to focus on black and white skin in a comparative manner. Even pre-microscopal anatomists such as Riolan and Browne fixated on black skin, but as knowledge of the structure of skin became more firmly grounded in empirical evidence, debate increased about the location and mechanics of complexion within human skin.

Locating Complexion

Understandings of the structure of skin heavily influenced attempts to locate color within it. Generally speaking, there were two dominant spheres of theory: the first asserted that the cause for permanent complexion differences—particularly, of course, blackness—was located in a specific substratum or layer of skin. The other asserted that blackness was spread throughout all of the layers, but occurred with greater concentration in different layers. Owing to dermatology's links to descriptive anatomy and the mechanistic leanings of microscopical research, theories of blackness at this time tended toward materialistic understandings of complexion: blackness, in a word, was caused by the physical presence of dark particles within the skin.

[63] Tyssot de Patot, The *Travels and Adventures of James Massey* (London: John Watts, 1733), 20.

The earliest group of natural philosophers, represented by thinkers such as Riolan and continuing through to Barrère, asserted that the epidermis itself was "infected" with blackness in African skin. To a certain extent, locating complexion in the epidermis was by default closely linked with preparation techniques of samples, particularly live subjects, since the reticular layer is not readily visible unless the natural philosopher used cadavers. Thus Riolan, using a blistering technique without microscopic amplification, thought that "color resided in the outer layer, and did not go so deep as the true skin," a sentiment echoed by his contemporaries Browne and Read.[64] Although agreeing on the location of complexion, natural philosophers of this generation explained the nature and cause of the black epidermis using different natural-philosophical rationales: that is to say, there was no necessary link between visual technique and natural-philosophical theory. Riolan, for instance, agreed with the Plinian interpretation that the heat from the sun made black skin black, but his contemporary Read, using the same methods as Riolan, gave a different explanation.[65] According to Read, humoral elements became attached to the epidermis through natural aeration and gave the epidermis a darker color in non-Europeans through the materialistic accumulation of darkly colored humoral particles, ultimately derived from bile.[66] Browne, who used both vesication and maceration, explicitly rejected the idea that "the fervor of the Sun" was the cause of dark complexion, instead asserting a germ-based explanation that would explain the transmission of the trait from

[64] "At nigredo illa solam cuticula inficit, ut nuper in Aethiope ad Anatomen dissecto vidimus: subjecta cutis nive candidior apparebat." Jean Riolan, *Athropographia et osteologia* (Paris: Moreau, 1626), 139.

[65] Ibid., 141.

[66] "The Negros become black because, they having a softer skin, and large pores and loose, many vapours of the adust humours [i.e., bile], which are raised with the sweat; the grosser substance whereof by reason of the excessive heat, being dried, and burned, caused the blackness of the skin." Read, *Manual of Anatomy*, 23.

father to son regardless of environment.[67] Barrère espoused a more essentialist physiological explanation, concluding that "the color of blacks is not...in the mucous body, as some people say, or in the reticular body, as some have hitherto believed; it is from *its very own matter* [italics added] that the epidermis or surpeau in blacks gets its black color."[68] Leeuwenhoek, who agreed on the blackness of the epidermis but not on its transparency, thought that "the scales of the Moors" gave dark skin its color, although he does not provide any more detailed physiological explanation.[69]

Philosophers in the Malpighian camp, on the other hand, believed color resided not in the epidermis, but in the "corpus mucosum," a term which wavered in meaning but was generally thought to be separate from both the *cutis vera* and the epidermis. Malpighi himself wrote that "I offer an exceedingly straightforward cause of blackness in Ethiopians: for it is certain that the true skin in them is white, just like the cuticle. Therefore all blackness emerges from the underlying mucus and net-like body, because it is stained in various locations with a diverse, spread-out color."[70] Bearing in mind that the reticular layer is virtually invisible without the aid of microscope, most microscopists (barring Barrère and Leeuwenhoek) tended to agree with some variation of Malpighi's interpretation. Malpighi's follower Pechlin, who used putrefaction of cadavers like Malpighi, actually reports that he was able to "scrape off" the black mucous from the reticular layer of an African cadaver and subsequently reapply the clean

---

[67] Wilkins, *Sir Thomas Browne's Works*, 3:274-75.

[68] "Il est donc évidemment démontré que la couleur des Nègres n'est pas, pour aisi parler, une couleur d'emprunt, et par consequent la couleur apparente de l'Epiderme n'est bas en eux, celle du corps muqueux, selon le langage de quelques-uns, ou du corps reticulaire, ainsi qu'on l'avoit crû jusqu'ici; c'est donc de son proper tissue que l'épiderme ou la surpeau dans les Négres tient immédiatement la couleur noire." Barrère, *Dissertation*, 4.

[69] See above, 179.

[70] "[E]x quo transeunter deduco non incongruam forte nigredinis Aethiopum causam: certum enim est, ipsis cutim albam esse, sicuti et cuticula, unde tota nigredo a subjecto mucoso, et reticulari corpore ortum trahit, et quia diverso quandoque in variis locis colore inficitur." Malpighi, *De externo tactus*, 21-22.

epidermis to the true skin of the corpse, producing a "whiteness... of the sort seen often enough in Europeans."[71] Sometimes overlapping with humoral explanations of blackness, locating material blackness in the reticular corpus extended well into the eighteenth century: Johann Blumenbach (1752-1840) asserted, along the lines of Read some 100 years prior, that decomposing bile deposited excess carbon in the mucous layer, thereby darkening the intermediary skin of dark-complexioned individuals.[72] Other theorists, such as Samuel Stanhope Smith (1751-1819) and most famously Immanuel Kant (1724-1804), asserted some variation of Blumenbach's theory; however, as it is unclear the extent to which the latter two used microscopes to reach their conclusions, they are more evidence of the power that microscopal findings could have outside the parvenu of formal microscopic anatomy.[73]

Closely affiliated with the reticular theory of complexion was the material "ink" or "juice" theory of complexion. The English traveler John Josselyn (1638-1675) was the first to present this point of view, writing on second-hand information that "[a]natomists find, that the Blacks have a Net-work Tunicle between the Cuticula and Cutis, with small cavities full of black Juice, more than the Whites."[74] The idea was confirmed in the eighteenth century by the microscopist William Hunter (fl. 1764), who described blackness as originating in "an infinite

---

[71] "Si mucosa et reticular fuligine cuticulam orbarem natura diaphanam, et mox imponerem cuti, emersit continuo albedo, illa in Europaeis sic satis spectata." Pechlin, *De Habitu*, 72-73.

[72] "Cassam equidem proximam adusti aut fusci coloris externorum cutis integumentorum, in abunante *carbonaceo* coporis humani element quaerendam censeo, quod cum hydrogenio per corium excernitur, oxygenii vero atmosphaerici access praecipitatum, Malpighiano muco infigitur." Johannes Blumenbach, *De generis humani varietate nativa, editio tertia* (Gottingen: Vandenhoek and Ruprecht, 1795), 124-25.

[73] Samuel Stanhope Smith, *Essay on the Causes of the Variety of Complexion and Figure in the Human Species* (Edinburgh: C. Elliot, 1788); Immanuel Kant, *Von den verschiedenen Racen der Menschen zur Ankündigung der Vorlesungen der physischen Geographie im Sommerhalbenjahre 1775* (Königsberg: bei G.E. Hartung, 1775), 8-15. On Kant in particular, see: A. O. Lovejoy, *Kant and Evolution in Forerunners of Darwin* (Baltimore: Johns Hopkins, 1959), 173-206.

[74] William Whiston, *A Supplement to the Literal Accomplishment of Scripture Prophecies* (London: Senex, 1725), 126.

number of filaments...that pass between the cutis and the more external integuments" which were filled with "black juice."[75] The juice theory continued to be prevalent to the very end of the eighteenth century: Giovanni Marana (1800), for example, asserted that black skin originated in the "vascular plexus spread over the whole body like a web or net, which was fill'd with a Juice as black as Ink."[76] In more fully developed "juice theories" of complexion, such as those of Edward Tyson (1651-1708), there were even assertions of a separate network of "juice glands" found only in black individuals that were full of black liquor, which "might separate from the mass of blood a differing humor from White, and by this means give a different hue to the inhabitants."[77] Although the language of "juice theorists" demonstrates an awareness of the appearances of the reticular layer under microscopic viewing, no extant source gives any information as to practitioners' preparation techniques or what mode of viewing allowed them to reach their conclusions about "black ink."

Since something as simple as the choice between cadaver or live subject might have significant effects on the layers of skin accessible to a naturalist, it goes without saying that the disagreement about the location of complexion emerged, at least partially, through preparation techniques. Yet there was another significant problem: the practical pitfall of chromatic aberration in early microscopes.[78] Users as early as Robert Boyle (1627-1691) noted that even bright colors such as red and green appeared much duller and paler under the lens of his "best" microscope. He writes that "even the brightest red *calx vitriol*, in the same microscope

[75] William Hunter, "Remarks on the Cellular Membrane and Some of its Diseases," in *Medical Observations and Inquiries,* vol 2 (London: William Johnston, 1764), 52-56.

[76] Giovanni Marana, *Letters of a Turkish Spy,* vol. 8 (London: G. Strahan, 1734), 265

[77] Quoted in Ashley Montagu, *Edward Tyson, MD, FRS, and the Rise of Human and Comparative Anatomy in England* (Philadelphia: American Philosophical Society, 1943), 212–213. I have been unable to locate the source for Montagu's quotation.

[78] For chromatic aberration in general, as well as some attempts to rectify it in the eighteenth century, see: Moe, *Story of the Microscope*, 110-30.

(regardless of the great dissolution produced through the fire) looked like nothing more than a pale, worn-out brick."[79] Within the realm of skin studies, however, the only explicit discussion of the potential importance of microscopic color distortion comes from the relatively obscure physician Ernestus Ferdinandus Gebauerus (fl. 1710-1740), a student of Friedrich Hoffmann (1660-1742) at the University of Halle.[80] The title of his doctoral dissertation, *On diseases of the skin accompanied by distortions of color*, might be read as a subtle play not only on the symptomatic changing of color within patients, but also on the struggles of microscopists with their instruments; his particular concern with color lay in its physical and structural dimension, which for him had ramifications on the nature of skin color. In describing his attempts to observe "globules of nutriment," for example, Gebauerus writes that "with a microscope, one sees uniformly broad white units in blood, but in lymph they look round...therefore, they do not reflect as much light, but the greater portion of it is absorbed."[81] For Gebauerus, the shape of interior bodies was not a separate question from the color of exterior bodies: color, he argues, is nothing more than shape and light. In his lengthy chapter entitled "De coloribus phyisice spectatis" (On colors observed natural-philosophically), he writes:

> Although there was a great dispute among the previous generation about the origin and nature of color, everyone agrees with the more recent people, at least those most worthy of mention, that [color] must be derived from light... and so the system of spectral variety [of skin] really is sought out in the configuration of different parts of

[79] "[E]t profunde rubra calx vitrioli, in eodem Microscopio (non obstante magna comminutione per ignem facta) nonulli ruditer contusi lateris ad instar apparebat." Robert Boyle, *Experimenta et considerations de coloribus* (London: Herringman, 1665), 73.

[80] For Hoffmann in general, see: K. E. Rotschuh, "Studien zu Friedrich Hoffmann (1660-1742): Hoffmann und die Medizingeschichte, Das Hoffmansche System und das Aetherprinzip," *Sudhoffs Archiv* 60 (1976): 163-93.

[81] "[C]utim quoque multum, colorum speciebus, variante sua textura conferre, extra dubium est." Gebauerus, *De morbis*, 11.

> bodies; where to be sure certain bodies are endowed not only with more bodily material but are preferred to the bigger ones...[82]

He concludes that "[i]t is beyond doubt that the skin, through its variable texture, contributes much to types of color," grafting the structure-based theory of color onto the physical composition of skin.[83] The shapes researchers saw under the microscopic gaze determined the color that emerged to the naked eye: the optical laws of organization discovered by Newton, Boyle, and Mariotte, held equally true when it came to consideration of skin. Color derived from light, so the color as we experience it in skin could not be explained simply through the presence of material; rather, it could only be explained through the structural composition of those materials. In other words, when we see black skin, we are literally seeing different structures than we see in white skin. Gebauerus's conclusions, although highly provocative, do not seem to have garnered any support or interest in the natural-philosophical community.

A further complication with color emerged from the problem of how to communicate microscopal findings to peers. In his *Thesaurus Magnus* (1726), a hodgepodge of anatomical aphorisms combined with experimental results, Ruysch provides an illustration of the epidermis of an Ethiopian that he observed under microscopal observation [fig. 5.3].[84] The image is

---

[82] "De origine et natura colorum quanquam magna apud veteres fuerit disceptatio, in eo tam omnes cum recentioribus veneniunt, esse cuncta memoratu de illis digna, a lumine derivanda. Hinc missis prolixioribus, lumen inter et lucem distinctionibus, illius naturam ponimus, motu globulorum coelestium velocissuna, per aeram ad oculos nostros, determinato; multis hanc ad rem facientibus, inducti, rationibus et experimentis. Ratio itaque varietatis colorum recte quaeritur, in diversa corporum partium configuratio; ubi scilicet quaedam corpora non solum copiosioribus et ceteris majoribus praedita deprehenduntur." Ibid., 4-5.

[83] Ibid., 7.

[84] "No. CLXXXIII. Phiala in liquore continens portionem Epidermidis, plantau pedis, ex Aethiope, in qua luculentissime conspiciuntur Papillarum Nervearum extremitates, tanquam agminatim dispositae. Not. Parti interior huius Epidermidis cutis adhaeret, et sic omnis dubitandi ansa aufertur. Illud autem rarum esse censeo, sc. post mortem, Papillarum cutanearum extremitates posse demonstrari. Vid. Tab. III Fig. 3." Frederik Ruysch, *Thesaurus Magnus et Regius* (Amsterdam: Waesbergios, 1726), 37.

strangely ambiguous: the upper level of the epidermis appears to be white, which itself is unsurprising as Ruysch adhered to a reticular theory of complexion; at the same time, however, his illustration shows the blackness overlapping onto the top of the epidermis in the lower right corner on the sample in question. Moreover, the illustration itself is not presented as magnified to the extent that it would have appeared to him with a Swammerdam microscope, if we may infer that his earlier drawing on the net-like layer was produced using the same device. Ruysch's illustration leaves it unclear the extent to which he saw blackness and where, and the material means to replicate his hypothetical experience would have been problematized through the graphic means used to represent his findings.

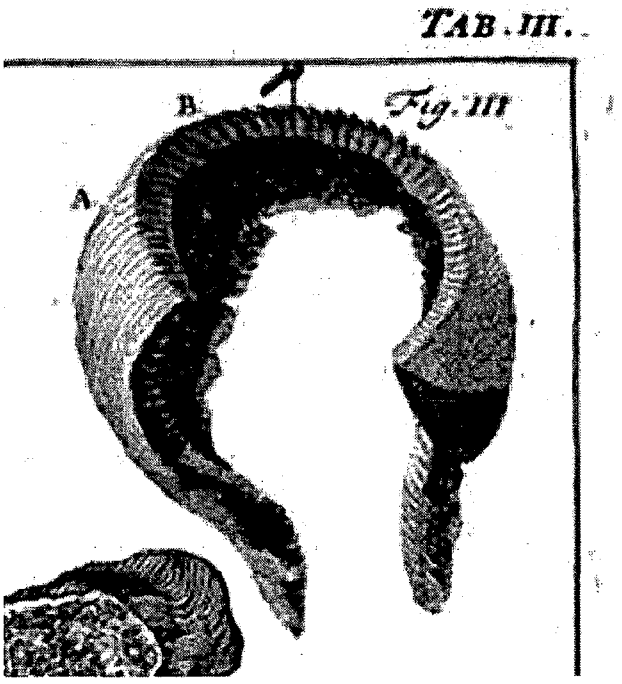


Figure 5.3 – Black epidermis analyzed by Ruysch in his research on the papillary system. Presented as a mounted specimen on an imaginary display, Ruysch deliberately manipulates its representation from the microscopic reality he would have encountered into a format that would have been familiar to non-microscopists through displays such as philosophical cabinets and natural history collections. Source: Ruysch, *Thesaurus Magnus et Regius* (Amsterdam: Waesbergios, 1726), 37.

Another approach to the problem of representing skin can be seen in the 1737 *Dissertatio secunda de sede et caussa coloris aethiopum et caeterorum hominum* by Bernhard Siegfried Albinus (1697-1770), a prominent surgeon and anatomist best known for his work on bones and muscles [fig. 5.4].[85] Albinus spared no expense in producing the illustrations to his comparatively rare treatise on skin pigmentation: he hired the prominent engraver Jan Ladmiral (1698-1773) to produce three-color mezzotints for his work, the first time the three-color printing process had been applied to medical illustration.[86] These mezzotints, unlike ink engravings, could reproduce not simply black and white, but a range of colors appropriate to the nuances of tint and shade that Albinus would have seen. Interestingly, Albinus communicates information he saw with a microscope but does not present the image as an amplified depiction of skin seen through a lens: in fact, non-magnified and magnified portions of the human skin appear together, simultaneously, in a way that was technically impossible to reproduce in life. Thus the reticular layer (B), which would have been accessible only through the microscope, is shown simultaneously with non-microscopic images of the *cutis nuda* (A) and the removed epidermis (C). More dramatically than ink engravings, Albinus' illustrations highlight the contrast between the stark white of the true skin, the jet-black reticulum, and semi-dark epidermis. Albinus gives the reader a distinctly exaggerated representation of the skin as he experienced it: recruiting both microscopic and naked-eye observations into a dramatic color rendition, the stylized and diachronic representation of skin as it appears in his treatise would have been impossible to reproduce at any one moment of a researcher's inquiry.

---

[85] Bernard Siegfried Albinus, *De sede et caussa coloris Aethiopum et caeterorum hominum* (Leiden: Haak, 1737). For Albinus in general, see: Hendrik Punt, "Bernard Siegfried Albinus und die anatomische Perfektion," *Medizinhistorisches Journal* 12 (1977): 325-45; James Elkins, "Two Conceptions of the Human Form: Bernard Siegfried Albinus and Andreas Vesalius," *Artibus et Historiae* 7 (1986): 91-106.

[86] For Ladmiral and anatomic illustration, see: William Anderson, "A Discussion on Art and its Relation to Anatomy," *British Medical Journal* 2 (1895): 349-58; for a more general discussion, see: Gerdien Wuestman, "The Mezzotint in Holland: 'Easily Learned, Neat and Convenient,'" *Simiolus* 23 (1995): 63-89.

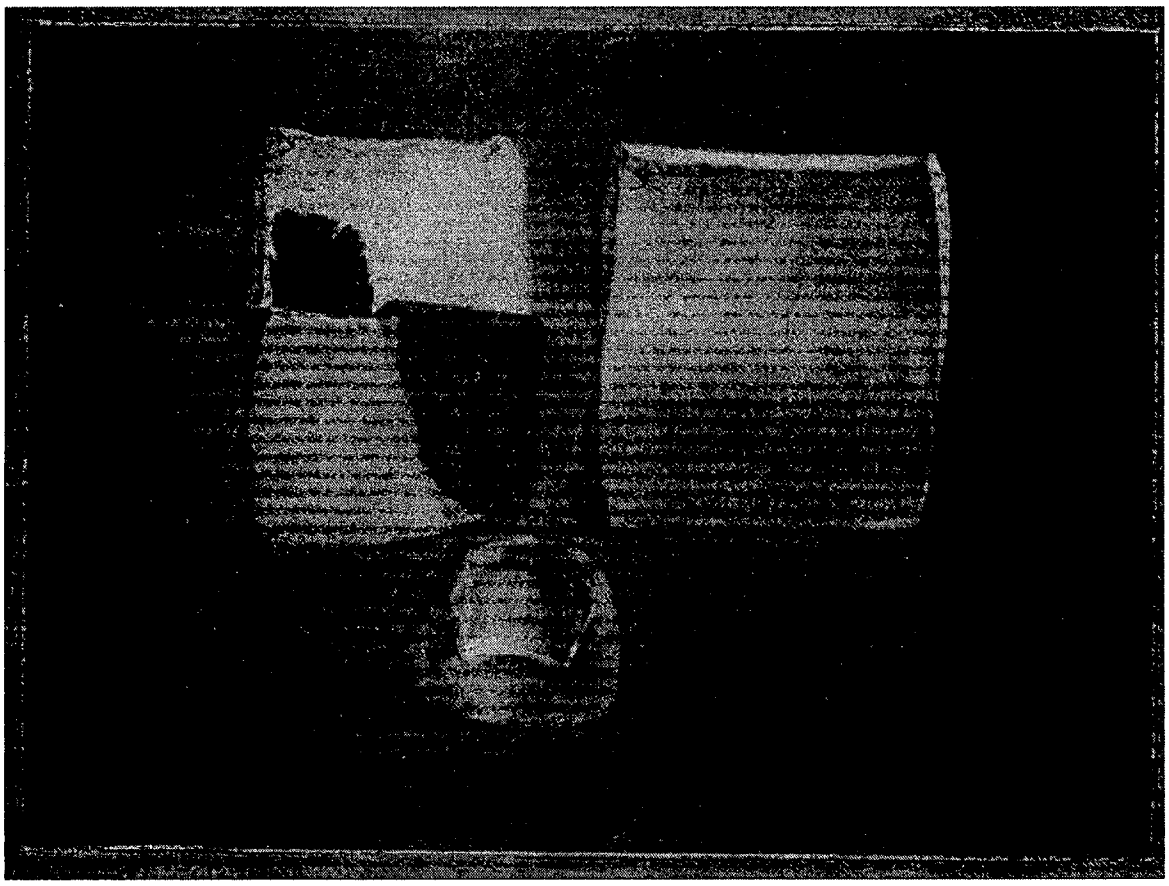


Figure 5.4 – Albinus' skin. Figure I, as discussed above, presents an imaginary reconstruction of all three layers of skin in a way that would have been quite different from the experience of Albinus himself. Figure II represents the epidermis totally detached from other layers of skin. Albinus hypothesized that fingernails were essentially outgrowths of the epidermis, aerated along Galenic lines; hence the amputated thumb-tip in Figure III. Source: Bernard Siegfried Albinus, *De sede et caussa coloris Aethiopum et caeterorum hominum* (Leiden: Haak, 1737), 19.

As the semi-dark epidermis in his illustration suggests, Albinus located coloration primarily in the reticular layer, but noted a certain amount of color in the epidermis itself in proportion to the color of the reticulum. Albinus was not alone: natural philosophers increasingly saw blackness as a phenomenon that was not isolated in a single layer or substratum of skin, but as a feature that was spread throughout all layers of skin. Unfortunately, the main proponents of this approach, like Albinus, have given us no evidence for the types of microscopes and preparation techniques they used to arrive at their multiple-layer theory.

Toward the end of the eighteenth-century, the anatomist Laurentius Walsh (1760-1808) expressed an idea with growing traction among the anatomical community. He writes:

> The interior layer of the cuticle, or the mucous body, can best be seen in black people, because the greatest amount of black material is concentrated here, although it is not all of it. The admirable man Monro, in his lecture on teguments, denies that it is the only location of blackness. He writes: "there it is most abundant, but it also adheres to other parts of the cuticle. However, proportionately to the amount that rises to the surface of the cuticle, it decreases elsewhere, inasmuch as it is drawn out by the air." The true skin of blacks, like ours, can become even blacker. Perhaps the entire body is even saturated with the same blackness.[87]

Walsh notes that "the greatest abundance of black material is concentrated [in the corpus mucosum], although it is not all [of the black material,]" citing Alexander Monro "Primus" (1697-1767) for support.[88] As we have seen, there was nothing problematic for Monro to mobilize an essentially humorial interpretation of complexion—namely, that blackness is "drawn out" through an activation with air—with what he overtly labels a "black material" perspective on complexion. Like Monro, Walsh did not have a particularly concrete explanation for *negritudo*, generally obviating a consideration of the physiological cause of blackness and content simply to refer to it as a "natural phenomenon." Importantly, however, Walsh extrapolates his conclusion into the possibility that "the entire body was imbued in every part with the same sort of

[87] "Interior cuticulae lamina, vel corpus mucosum, in negris hominibus omptime distingui potest, quod in ea parte plurimum nigrae materiae, quanquam non omnis, hic collocatur. Illustris vir Monro, id, in sua de tegumentis praelectione, solam nigritudinis sedem esse negat: 'Ibi,' inquit, 'copiosa est, sed ita tamen ut aliis cuticulae partibus adhaereat; sed quo proprius ad summam cuticulam pervenitur, eo minus ejus est, utpote quod ab aëre abstractum evanescat.' Cutis vera nigrorum, quam nostra, magis etiam nigrescit. Forsan etiam totum corpus aliqua ex parte eadem nigredine imbuitur." Walsh, D*e cute et tactu*, 7-8.

[88] For Monro and anatomy in general, see: Anita Guerrini, "Alexander Monro 'Primus' and the Moral Theatre of Anatomy," *The Eighteenth Century* 47 (2006): 1-18. For evidence Monro used a microscope, see: Alexander Monro 'Primus,' *Anatomy of the Humane Bones* (Edinburgh: Hamilton and Balfour, 1726), 14 et passim.

blackness" and that the "skin of blacks, like ours, can indeed become blacker."[89] The implication is that if anyone's skin can darken, then everyone must have some element of blackness—*negritudo*—regardless of the default tone of the complexion.[90] The theory that white skin could turn black entered into the clinical literature as well: John Astbury (fl. 1780-1810), in his essays on cutaneous diseases, notes that with jaundice "the skin itself turns black, which is how it came about that this disease used to be called 'the long way to negrodom.'"[91]

Walsh's theory of multiple-layer complexion was intimately linked with the question of change: if complexion did not emerge from a unique layer in blacks, and if "juice theories" had no traction owing to their isolation of complexion to a hypothetical system of glands found exclusively in blacks, then everyone must have some element of blackness in their skin and, in theory, darken in the same way that black skin darkens. The sequence of logic in Walsh's account suggests a radical inversion of the question of skin as it had been addressed by microscopists up until this point: whereas natural philosophers as early as Malpighi had looked at static black skin to understand static black color, Walsh suggests that the key to understanding the physiological basis of static complexion was to refocus on seemingly marginal cases of radical complexion change. Inverting the study of skin by centralizing the margins allowed microscopists to learn to see irregularity as an entry point into more holistic accounts of human groups by selectively drawing on the physical techniques of microscopy developed throughout the seventeenth and eighteenth centuries. The theorist who offered the most concrete research in this regard was Le Cat himself.

---

[89] "Cutis vera nigrorum, quam nostra, magis etiam nigrescit." Walsh, *De cute et tactu*, 8.

[90] Ibid.

[91] "Cutis ipsa nigrescit, quod fecit ut morbus hoc per stadium Niger appellari consueverit." John Astbury, *Dissertation medica inauguralis de morbis cutaneis* (Edinburgh: Balfour and Smellie, 1781), 3.

Le Cat: Threshold to Center

In practice, accounting for change was not as simple as Walsh suggests. Although Walsh notes that all skin can darken—regardless of complexion—he does not address the possibility of change in the opposite direction: dark complexions becoming lighter. Moreover, his theory that the entire body is saturated with blackness gives no explanation for generational changes in complexion, such as the seemingly anomalous cases when white parents produced black offspring or vice versa. Residing somewhere on the margins of human taxonomy, these cases could not be easily understood with mainstream techniques of analyzing skin and, as a consequence, proved difficult to categorize into prevailing dermatological perspectives on the skin. Similarly, prevalent theories produced no universally applicable rubric to distinguish between examples of clinical skin change, such as blushing and jaundice, and more complex cases of change such as individuals turning from "white" to "black."

Le Cat had a long-time fascination with the skin, one that emerges periodically throughout the corpus of his anatomical and physiological works.[92] Although well informed of contemporary natural-philosophical discussion, by his own admission Le Cat never thought to write a treatise on skin *per se*; it was not until 1764 that "[t]he phenomenon of the metamorphosis of Madame la D*** D*** into an Ethiopian made the news all over Paris. A friend very well-versed in natural history wrote my wife about it, and recruited her to get an explanation out of me."[93] Thus prompted to produce an account of the Madame's anomalous color change, he confesses that he "had often observed and reflected upon the color of negros,"

[92] See, for instance: Claude-Nicolas Le Cat, *Traité de l'existence de la nature et des propriétés du fluide des nerfs* (Berlin: 1765), 198-203; Le Cat, *Pièce, qui remporté le prix propose par l'Académie de Prusse* (Berlin: 1753); Le Cat, *Nouveau système sur la cause de l'évacuation périodique du sexe* (Amsterdam: 1765).

[93] "Le Phénomene de la metamorphose de Madame la D*** D*** en Ethiopienne fasoit la grande nouvelle de tout Paris. Un Ami très verse dans l'Histoire Naturelle écrivit le fait à mon Epouse, et l'engagea à m'en demander l'explication." Le Cat, *Traité,* vii.

and decided to put down his theories in a work entitled *Traité de la couleur de la peau humaine en général*. The story of the genesis of the *Traité* itself reveals the deeply interconnected nature of anomaly, static group, and humanity at large: asked to write a work about the perceived ethnic change in a single individual, he admits an interest on negro skin in particular, and then produces a treatise on skin color "in general." The sequence of movements that starts with the extreme outlier of Madame la D*** D***, moves to a particular subgroup of humans, and closes with humanity at large offers a very concrete example of the importance that marginal cases could play in reconceptualizations of human group identity.

As might be expected of someone who put a portrait of his instrument in the composition he wrote, Le Cat premised the vast majority of his research on microscopical findings. It must be admitted that Le Cat himself did not create any momentous technical innovations, as almost all of his research on skin was done with macerated cadaver samples cleared with ethanol—essentially the same preparatory method as Ruysch some 50 years prior.[94] Like many microscopists, he worked in numerous anatomical fields that were popular in the middle of the eighteenth century: brain research, histology, ocular and sense research, and more general clinical cases among others.

Le Cat was a multiple-layer theorist along Walsh's lines, and his notion of complexion identifies him as a member of the "black materialist" group of natural philosophers—by the 1760s, the dominant cluster of theories explaining the nature of complexion. Unlike previous theories of material blackness, however, Le Cat wholeheartedly disagreed with the idea that bile or any sort of humoral element caused blackness: in fact, an entire section of his treatise is committed to the argument that "the color of negroes does not come at all from bile."[95] The

[94] See above, 177.

[95] Le Cat, *Traité*, 72-84. The title of the entire article is "La couleur des nègres ne vient point de la bile."

natural-philosophical base of his rejection is twofold: first and most simply, bile is not black, nor is it white: it is yellow. Somewhat comically, he notes that "I do not believe that a single author of note has advanced the idea that whites get their color from bile. ... So by what logic could it be the cause of color in negroes?"[96] Moreover, he notes that bile—a "vascular liquor"—has no physical means to get to the reticular corpus under normal circumstances. He explains that "in the mucous body one does not find a single vascular vessel that could deposit any fluid there; nervous clusters alone deposit their nervous fluid there; bile has no access to nerves; it is therefore totally shut out from the privilege of giving natural color [couleur naturelle] to the skin, although it often gets in the skin in the cases of disease."[97] Le Cat's qualified acceptance of bile arriving in the skin during sickness in some way safeguards him from scenarios like clinical complexion change, which black materialists often could not explain; at the same time, it opens up the possibility for some other cause of "natural color," which he ascribes to nervous fluids.

That only the nerves had access to the reticular corpus became a central feature of Le Cat's theory of complexion. While not exactly a "juice theorist" in the same way as Hunter or Marana, Le Cat did believe that a "black mucous" was found in the reticular layer of dark skin alone; but rather than posit a set of separate "juice glands" like Tyson, he located the source of black mucous in the nerve tips found abundantly in the skin. Le Cat arrived at his nervous theory of black mucous in a round-about sort of way: originating in his experiments on human optics, Le Cat found what he thought to be an unrelated "black ink" in the vascular layer of the eye, but

[96] "Je ne crois pas qu'aucun Auteur de nom ai avancé que les Blancs tiennent leur couleur de la bile...Par quelle raison maintenant sera-t-elle la cause de la couleur des Nègres?" Ibid., 72-73.

[97] "[D]ans ce corps muqueux on ne trouve aucun vaisseau liquoreux qui puisse y verser ses sucs; les mamelons nerveux seuls y déposent leur suc nerveaux; la bile n'a point d'accès dans les nerfs; elle est donc exclue à tous égards du privilege du donner la couleur naturelle de la peau, quoiqu'il lui arrive souvent de lui en donner un maladive..." Ibid., 73.

further research suggested that this ink "was found on the interior of almost all glands."[98] Glands, he subsequently discovered, were nothing more than "protuberances of nerves," thereby concretely linking his black ocular ink to nerve structures throughout the body; but as yet he made no connection of this black fluid with the expression of blackness in skin.[99] The missing piece of the puzzle came to Le Cat when he read the Elder Meckel's account of medullary "ink" in the brain: Le Cat concluded that the brain, through its relationship to the nerves, actually governed the dispersal of black mucous, and subsequent experiments on black brains and black penises led Le Cat to conclude that black mucus was transported throughout the entire black body by the brain and ultimately saturated black semen, resulting in a hereditary expression of material blackness divorced from any consideration of environment and without recourse to a system of Tyson-esque glands unique to black bodies exclusively.[100] Le Cat's theory takes the skin's liminality full circle: skin had once been ignored for its seeming irrelevance, slowly becoming the locus of meaningful coloration, and then that meaningful coloration was reintegrated into the innermost parts of the human body through the brain and semen.

The first half of Le Cat's treatise outlining his theory of nerves and coloration is, in a sense, only preparatory material for the central question of his study: to contemplate the "metamorphoses of a black into a white, or a white into a black, be it from birth or accident."[101] Unlike Walsh, Le Cat acknowledges that tracing changes in skin is not as simple as merely

---

[98] Ibid., 48.

[99] Ibid., 49.

[100] For Le Cat's own account of the progression of his thinking, see Ibid. 48-65; regarding Tyson's juice glands, Le Cat actually remarks, quite on the contrary, that "[l]a structure de la peau est la même dans les deux especes." Ibid., 73.

[101] This is the subject of the entire third part of Le Cat's treatise, entitled "De la Metamorphose du nègre en blanc, ou du blanc en nègre, soit de naissance, soit accidentellement." Ibid., 100-179.

acknowledging the possibility that white and black skin can "get darker:" not only can change happen in different directions, but it can happen across time and through generations. After dismissing cases of skin change emerging from what he sees as "normal" or clinical causes (e.g., blushing and jaundice), Le Cat isolates four types of irregularities in complexion: whites born to blacks, blacks born to whites, whites changing into blacks, and blacks changing into whites. For each scenario he offers a different solution emerging from his own material explanation of blackness.

For blacks turning into whites, Le Cat gives two historical examples that will be familiar to readers from other chapters of this dissertation: William Byrd's "dappled" Royal Society negro of 1697, one of the predecessor performances to Parsons' "white negro" of 1765; and the colonial cook-maid Frank, related to the Royal Society by John Bate. Both of these individuals were losing their dark complexion in patches, especially in the face and hands, and Le Cat's explanation for both is similar. For Frank, Le Cat explains that since she had been a cook: "the action of [the fire] on the hands and arms of Frank the Cook, and above all on her face (well saturated with nerves), could have given to the entire nervous system a universal spasmodic reaction, which narrowed the tissue of the [nerve] clusters of her skin, from which black mucous would have been pushed, and would no longer leave passage except for gelatinous lymph, which is the kernel of whiteness."[102] Importantly, it was a structural change in skin that caused Frank's whiteness: the heat of the stove's fire physically squeezed out her black pigment from the nerves and allowed only white lymph to reach the level of the skin. Similarly for Byrd's boy,

[102] "Donc l'action de cet élément sur les mains, sur les bras de la Cuisiniere Frank, et prinipalement sur son visage très-fourni de nerfs, peut avoir donné à tout systême nerveux un referrement spasmodique universel, qui en retroiciffant la tissure des mamelons de sa peau, en aura suprimé l'oethiops, et n'aura plus laissé de passage qu'à la lymphe gélantineuse, principe de la blancheur." Ibid., 122.

Le Cat concludes that it was the boy's vivacity and spirit—supplemented by physical causes—that squeezed out the blackness from his skin. He writes:

> The young negro of Captain Wager [in Byrd's account] had more vivacity and spirit than ordinary negroes. His natural dispositions suppose in him more sensibility than in others of his species. This increased sensibility in the nerves had been excited by the strengthening of the tissue of the nervous clusters—be it through the cool climate of Virginia, or through sorrows, or through punishments, or some sort of styptic humor, that would be able to affect the nerves, without producing what we would call an illness; the black mucous would then be squeezed out of the clusters and the corresponding locations on the skin would become white.[103]

Again, structural interactions explain the boy's whiteness: blackness is literally "squeezed out" from the skin and back into the body via the nerves. On the one hand, the boy's exceptionalism from others of his "species"—his vivacity and sensibility—contributed to his becoming white; on the other hand, Le Cat seems to neutralize any potential moral objections in the cause of the boy's nervous excitement by putting "punishment" and "climate" on equal causative footing.

Le Cat is careful to point out both for Frank and the boy from Virginia that these changes did not constitute "what we would call an illness:" their changes were emphatically non-clinical. No contrast could be stronger than his explanations for the inverse situation, namely whites turning into blacks. The three examples he gives of this phenomenon include a Swiss boy developing "a black crust all over," a 16 year-old girl whose "face all over has the appearance of a mask, having become all of a sudden black like that of a negro;" and Madame D*** D*** herself, who at the age of "about 30...had a forehead that changed in color from pink to dark grey; and subsequently, little by little, all her face was covered, not with a pink color, not with a

[103] "Le jeune nègre du Capitaine Wager avoit plus de vivacité et d'esprit qu n'en ont les Negres ordinaires; ces dispositions naturelles suposent en lui plus de sensibilité que dans tous ceux de son especes; que cette sensibilité plus grande dans ses nerfs ait été excite au resserrement du tissue de ses houpes nerveuses, soit par le froid du climat de la Virginie, soit par des chagrins, des châtimens, soit par quele humeur stiptique, qui aura pu affecter ses nerfs, sans produire ce qu'on apelle maladie, l'oethiops aura été suprimé dans ces houpes, et les endroits de la peau correspondans auront été blancs." Ibid., 129.

red color, not with a shadowy color, but a handsome black, except for her eyes and the edges of her lips, which kept their natural rose color."[104] While we might expect Le Cat to provide a materialistic explanation for these cases based on his microscopic findings—for instance, something like the coldness of the Alpine climate dilated the boy's nerves and subsequently allowed the secretion of black mucous—Le Cat in fact describes the complexion change from white to black as nothing more than "ailments of the skin."[105] The boy, he explains, "will shed his skin each year, like snakes do their skins;" he comforts the girl by explaining that "nothing is so common as black spots on the skin;" and Madame D*** D*** "like the preceding cases, seems to be a malady of the skin."[106] The ramifications are telling: although it was possible for a black, through internal mechanisms, to become white, a white could never become black except by disease.

Equally interesting are his explanations for generative anomalies. Among the examples of whites born to blacks that Le Cat references are the famous "boy from Macondé" of 1744 and Bartel's description of the "King's albinos" in Loango, both of which have appeared elsewhere in this dissertation. Regardless of geographic origin, Le Cat offers the same explanation for all whites born to blacks: "[h]ow is a white negro born to parents who are true negroes?...it is for

---

[104] The whole of Le Cat's observations on whites becoming blacks is found in: Ibid., 130-155. He describes the boy as having "une croute noire. Ibid., 130. Of the girl's face, he writes, "son visage dans toute l'étendue qui a coutume dêtre couverte d'un masque, devint tout à coup noir comme celui d'un Negre;" Ibid., 132. Describing the Madame, he writes: "son front parut se teindre d'une couleur de rouille de fer obscure; ensuite peu à peu tout le visage se couvrit, no npas d'une couleur de rouille, ni rousse, ni obscure, mais du plus beau noir, excepté les yeux et le bord des levres [sic], qui garderent leur couleur de rose naturelle." Ibid, 138.

[105] The phrase "maladie de la peau" is most frequently used by Le Cat to describe these situations; see n. below.

[106] The boy "se dépouilloit tous les ans de cette croute et de ces plis, comme les serpens de leur surpeau, parce qu'en effect cette croute étoit une vraie surpeau maladive;" Ibid., 131; the girl he assures "rien n'est si commun que des taches noires à la peau," Ibid., 134; For the Madame, he writes: "La Métamorphose de Madame la D** me paroît, comme celle des sujet des deux observations précédentes, une maladie de la peau." Ibid., 147.

the same cause that drives all whites from a black origin, and this cause can only be imagination."[107] Le Cat does not explain the seeming disruption of traits in terms of anatomy, or skin structure, or microscopy: for Le Cat, it was entirely the visual experience of seeing something white, governed through the obscure mechanisms of the imagination, that caused black individuals to give birth to white children. He acknowledges both his seemingly anachronistic standpoint and his own ignorance about the operation of the imagination when he writes that "although the power of the imagination is strongly fought against these days, [it is] only because we do not understand its mechanism—a pitiful reason. Such facts recommend it that it is difficult for a sensible man to refuse this principle."[108] To justify his conclusion, he refers to an "experiment" from animal husbandry: one of his "friends" painted a dog's white patches red and then bred it with a bitch that was black and white. Le Cat claims that the bitch "had puppies which, while having the black and white of the mother, also had the artificial red and maroon of the father."[109] Further extrapolating from the case of Marie Sabine, discussed above, Le Cat deduces that the inverse of the law of imagination holds equally true: "on the basis of this principle, a pregnant white woman, strongly struck by a black dog or any other object that color, can have a negro infant (at least in color)."[110]

---

[107] "Mais d'où vient un Negre blanc naît-il de parens vrais negres? ...c'est pourtant la même cause qui tire tous ces blancs d'une origine noire, et cette cause ne peut être qu l'imagination." Ibid., 107-108.

[108] "Quoique le pouvoir de cette imagination soit fortement combattu aujourd'hui, uniquement parce qu'on n'en comprend pas le comment, raison pitoyable, tant de fait l'établissent, qu'il est difficile à un home sense de se refuser à ce principe." Ibid., 18.

[109] "Un de mes amis, Observateur intelligent [sic], a répété, sur des chiens, l'expérience des agneux de Laban. Il avoit un chien épagneul marbré de gris et de blanc; il peignit les places blances d'un roux-de-feu et d'une couleur de maron. Il réussit, dit-il, à faire une bigarrure éclatante. Dans le même tems, il avoit une chienne de poil ras tachetée de noir et de blanc; elle fut couverte par le chien et jetta des petits qui, en pregnant le blanc et le noir de leur mere [sic], porterent aussi le roux-de-feu et le maron artificial de leur pere [sic]." Ibid., 79.

[110] "En partant de ce principe, une femme blanche enceinte, vivement frapée d'un chien noir ou de tout autre objet de cette couleur, peut faire un enfant negre [sic], au moins par la couleur." Ibid., 21.

Indeed, his discussion on the few cases of blacks being born to whites supports his theory that imagination alone causes color differences between generations. Le Cat provides only one example of a white woman giving birth to a black child: in keeping with his theory of imagination, this woman, who resided in a "very famous Village," was "greatly struck by the view of a black lackey of a Prince" and, through the mechanism of imagination, gave birth to a child that was black in color.[111] Le Cat openly admits that "black children born to white parents are very rare, and much rarer than white negroes."[112] To explain the imbalance in generational distortions, he explains in mechanistic terms that "white is a much brighter color, much more likely to strike the imagination than black; and that is why Ethiopians more often have white children than whites do blacks."[113]

The most conspicuous aspect of Le Cat's explanation for generative anomalies is that it is totally divorced from his microscopic research: never does he mention skin layers, nerves, black mucous, or even disease as a potential cause for generative anomalies. Le Cat's conclusions on the importance of imagination provide a fascinating insight into the epistemological mechanisms at work in interpreting the skin: although microscopic technique was valuable for discovering the layers of the skin and even the material basis of color, natural philosophers turned to a much different technique when cases of extreme irregulairity appeared. It was largely natural philosophers' *own* imagination that grafted meaning onto these irregular cases of complexion, and the realm of the imaginary—both as a potential cause for

---

[111] "[U]n exemple assez recent, et qui s'est passé dans une Ville très-célebre; on se souvient qu ce phénomene a été l'effet de l'imagination d'une femme grosse frapée, de la vue du laquais negre [sic] d'un Prince." Ibid., 109.

[112] "[C]'est un fait constant que les enfans noirs, nés de parens blanc, sont au moins très rares et beaucoup plus rares que les Negres [sic] blancs." Ibid., 110.

[113] "Le blanc est une couleur bien plus éclatante, bien plus proper à fraper cette imagination que le noir; et que c'est là pourquoi les Ethiopiennes donnent plus souvent des Blancs que les Blanches des Negres [sic]." Ibid., 110-111.

color distortions and as an epistemic realm for natural philosophers—takes on the status of a technique itself. Beginning at the margins but becoming centralized as pivotal moments when boundaries could be negotiated and defined, accounting for change and irregularity blended sophisticated research on the nervous system with ideas of imagination going back to antiquity. Throughout all of the research on skin and complexion, clusters of gestures developed that allowed researchers to interact with skin in a new way, thereby centralizing the liminial space of the body as a crucial point for consideration of the nature of that boundary. At the same time, these new gestures did not close off the possibility of recruiting misunderstood concepts like "imagination" into key moments of human difference.

Conclusion

Despite critical awareness of the microscope's shortcomings, nearly every eighteenth-century treatise on skin makes some mention of researchers using the device, either personally or through the citation of findings whose authority emerged precisely from the use of a microscope. Although it had a complicated relationship with the world of sensible phenomena at a theoretical level, the microscope remained a common if qualified tool for natural-philosophical discoveries. By the middle of the eighteenth century, and as early as the 1710s, the microscope was uniquely positioned to address ambiguities about the structure of skin and the location of complexion by rendering layers of the skin and its constituent units accessible to the eyes of researchers. The use of the microscope for the study of skin arose from a range of disciplinary backgrounds: on the one hand, traditionally descriptive sciences such as anatomy accrued almost experimental valences as researchers uncovered the deep relationships between the structure and function of the body's threshold. On the other, traditionally practical

disciplines such as medicine and cutaneous pathology were forced to confront the need for a more exact descriptive language in communicating their diagnoses and observations to a broader audience. Both communities turned to the microscope to provide the detailed examination they needed to codify their findings about the nature and structure of skin: the examination of the microanatomy of the skin informed ideas about the validity of the process itself, and the different perspectives on skin shaped and motivated one another through their amplification of ideas about the skin.

Rendering the "invisible" visible through artificial magnification problematized pre-existing theories about the composition of skin, most starkly in providing a new ability to access layers of skin that had been previously inaccessible. Microscopes also expanded the limits of what could legitimately be known about the functions of the human body: as the theory of complexion evolved from heat-based explanations premised on a dual-layer theory, to the black materialist rationale informed by humoral understandings of the body, and finally to multiple-layer theories positing a physiologically distinct unit of blackness, the microscope was the means to visualize these new phenomena and contextualize them within natural-philosophical schemes of human division. Importantly, what microscopists discovered with the microscope was intimately linked to the *technique* of microscopic viewing: choosing an instrument such as solar microscope, simple microscope, or compound microscope could itself affect the findings of research, as the case of the Elder Meckel illustrates. Additionally, the wide spectrum of preparatory techniques might cause one natural philosopher to see transparent skin and another opaque, radically affecting their perceptions as to whether or not it was the epidermis or reticular layer that caused coloration to the naked eye. Even after reaching their conclusions, natural philosophers often had to decide how to communicate the visual sensation of the microscope to peers: when they reproduced their findings, they frequently used artificial means

to create temporal impossibilities and, quite possibly, color and contrast exaggerations to adjust for chromatic distortion. As a tool and technique, the microscope was by no means unambiguous or standardized.

The microscope excelled at analyzing static examples that could be placed before its lens at a distinct moment, but more complex cases such as complexion change within an individual or across generations seemed to lie just outside the parvenu of the answers that microscope could provide. Philosophers such as Albinus, Walsh, and Le Cat knew that change in color implied a change in dark material, but they found it difficult to provide an account of the physiological basis of that change. The story of Le Cat offers a particularly poignant example of how microscopic research might be recruited to reposition and explain these moments of change: although he is comfortable and even eager to describe the change from black to white in terms of microanatomy, he reverts to either pathology or semi-occult theories of "imagination" to account for reverse changes or disruptions of generative laws. The telling evidence suggests that while microscopes had the power to reposition marginal cases in the consideration of human difference, they frequently could not explain them: the microscope opened up new considerations without necessarily closing them. Whereas the worlds of geography and spectatorship positioned visible characteristics as evidence of non-visual facts that extended far beyond the realm of skin itself, the inverse is true of the world of microscopy: the visuality of the skin was harnessed to reach conclusions on essentially *non-visible* systems too small to see with the naked eye itself.

Why the slow or hesitant entry of the microscope into the historiography of human difference? Part of the answer lies in the simple fact that what microscopists saw in their observations, although rooted in the visual experience of complexion, was not human difference in the sense that it was used in other contexts. This comes out clearly when considering modern

historiography's overwhelming focus on the concept of "race," frequently to the exclusion of other concepts of human difference: not a single microscopist discussed in this chapter articulates an idea of human taxonomy in "racial" terms, instead either withholding any theory of human taxonomy or content to employ alternative categories such as "species" or "variety." Although microscopists showed a preoccupation with physical determinants of complexion (such as juices, humors, or black mucous), these seldom acquired an epistemological value that was linked to, for instance, some hypothetical interior potential of a group. As a result, researchers have neglected an important building block for understanding how natural philosophers approached concepts of human difference in the early-modern world.

6. Coda: New Approaches to the History of Human Difference

The historiography on the concept of human difference—considered from the standpoint of the history of science and medicine—is hardly codified into a single body of research. Substantial scholarship exists on the margins, but studies have not focused on the particular problems of trying to analyze the natural-philosophical aspects of the construction of human difference from its constituent viewpoints. This dissertation has drawn upon, and partially united, fields with rich and independent historiographic traditions: performance, microscopy, and geography all created facets of the prismatic lens through which eighteenth-century thinkers thought, spoke, and speculated about the nature and limits of human taxonomy. As an attempt to expand the history of human difference across a wide range of natural-philosophical discourses, the research presented here challenges the boundaries of traditional disciplinary scholarship by demonstrating that the complexity of human difference in the eighteenth century spanned many disciplines by using many sets of techniques. Just as human beings occupied an epistemic space that simultaneously operated in many conceptual realms, the study of human difference must confront its many faces in order to do itself justice. Difference is easily noticed: but essentializing and systematizing difference into a theory of limits and categories can only be achieved through the skillful application of acquired techniques that emerge from agreed-upon sets of premises and procedures that in turn become codified as disciplines. In a world where disciplinary culture was only beginning to be codified as such, human difference enters at the point when disciplines were still inchoate as loosely assembled sets of techniques, an ambiguity nicely mirrored in the lack of agreement on static categories of

human groups. The gap in current historiography both in terms of content and method has allowed for new attention to the peculiarities of the material apparatus of natural-philosophical observation in the eighteenth century, while simultaneously strengthening existing histories of "race" by shifting the discussion away from the black/white dichotomy and toward a world where black and white simultaneously existed on a single individual.

A "history of race" would necessarily be limited either to the prosopography of thinkers who used "race" as a valid taxonomic indicator or to the teleological analysis of a concept that, during the eighteenth century, had not yet crystallized into a static epistemological perspective. This dissertation has demonstrated that creating and justifying ideas of human difference in the eighteenth century took place in conceptual environments that existed outside of—or at least, alongside of—the strict epistemic space of "race" itself. As much as drawing distinctions between groups of humans, the thinkers analyzed here situated individuals within a constellation of phenomena that included monsters, geographical space, celestial bodies, and material physiology as much as, if not more than, taxonomically or culturally constructed notions of human groupings. Nor does substituting "race" with one of the competing terms such as "variety," "nation," or "species" adequately shift the epistemic register when discussing the concept of human difference in the eighteenth century: natural philosophers approached human difference from a variety of standpoints and, as their lexical constellations illustrate, as a concept that transcended the vocabulary available to them at the moments of their encounters.

Historians often gloss over the profound embodiedness of historical persons, an elision that is especially poignant within the domain of encounters with human difference. In the case of exploration, the individuals whose textualized accounts we read today underwent the very real act of living amongst the people they describe—often, as in the case of Valentijn, for years or decades. As a physical experience, there could be no more immersive, embodied process

than the abandonment of one's native country and customs in order to pursue natural-philosophical inquiry in regions abroad. Some explorers, such as Wafer, went beyond geographic dislocation and adopted the lifestyle and appearance of the people they encountered, emphasizing the physicality and immediacy of the experiences that produced textualized accounts. Likewise in Paris and London, seeing the albino of the Académie or the "white boy" of the Royal society were not purely cerebral activities, but required real-time interaction with human beings in staged settings and the extempore negotiation of dramatic elements such as scenography and audience. Within the realm of the invisibly small, the few examples of extant images function as textualized surrogates for the profoundly physical experience of the microscopist himself: the reality for microscopists included an elaborate sequence of physical preparations covering everything from dismembering a cadaver, soaking putrified flesh in water, choosing an instrument, and focusing the microscope. What we are left with, in all three domains, are highly regulated and distilled reports of extremely complicated physical processes.

Although division of humanity into groups has a long history in the European context, the shape, validity, bases, and ways in which those divisions were created depended on what techniques were available to natural philosophers at the time. The early-modern world offers a particularly fascinating insight into the relationship between physical technique and intellectual results: a vast range of new techniques emerged simultaneously with an increased interest in seemingly anomalous people encountered outside the traditional "old world" parvenu of the natural-philosophical system that thinkers inherited from the previous epoch. More than a temporal coincidence, the rise of interest in previously marginal humans and the adoption of new techniques to understand them appear to share a deeply embedded dialectic relationship: marginal people contributed to the adoption and perfection of new techniques, while the techniques themselves evolved to meet the epistemological needs generated by the

consideration of these marginal examples. The new techniques included physical processes unavailable to historic periods as well as new social processes, such as salons, learned academies, and exploration: rather than abstract these phenomena as general "factors," this dissertation has interpreted them as embodied, learned sequences of actions that produced a specific result—as techniques of vision that could be communicated to others in order to help them create an epistemologically meaningful experience from otherwise nebulous encounters. In some cases, the techniques themselves were codified through textualized works designed to promulgate the epistemological value of the new approaches: Woodward's *Brief Instructions,* Adams' *Microscope Made Easy,* and Dorvigny's *Le Nègre Blanc,* for example, open up the techniques contained within to a broader audience of potential natural philiosophers.

Emerging from these physical techniques were cognitive strategies that invested them with meaning: improvisation of description, the catharsis of dramatic trauma, and envisioning nervous physiology imply a difference from historical precedents not simply in terms of process, but in terms of degree. Unlike previous modes of vision, early-modern natural philosophers attempted to preserve—or produce—a taxonomy of human difference that looked inward and outward simultaneously, harnessing external qualities to arrive at conclusions that were profoundly non-visual in nature. This includes temporal, spatial, and moral landscapes: the white body of a person in the Isthmus of Panama, for example, is not in itself interesting—Wafer himself could have satisfied that criterion. What was interesting was the implied break in temporal mapping: the skin became a signifier of something more than its external experience. As the breach of generative patterns cannot be observed in a single individual, exploration invested the individual's skin with meaning vis-à-vis a temporal understanding of parents and offspring, a gesture echoed by Maupertuis in his intimate encounter in a French *maison.*

Many non-visual assessments led to positioning individuals within a moral landscape, either of the person being observed or the observer himself. When Maupertuis describes the traumatic experience of the "little monster" he observed at a private house, or when Voltaire uses the experience of the boy to arrive at conclusions about his *own* society, both thinkers are subtly articulating a moral assessment about the world as they are making an observation about their skin color. In some cases, moral assessment suggested a tacit hierarchy of normality among human groups: Le Cat's explanation of the nervous basis of black skin changing to white contrasts strongly with his pathological explanation of the inverse, implying that, to some extent, blackness was a *disease* outside the bounds of the "healthy" individual.

Whereas a body's temporal or moral positioning uses the skin as a constitutive unit in a broader landscape of judgments that transcended generations or continents, the opposite trend also occurred: interpreting skin not as a visual sensation in its own right, but as itself an amalgam of smaller units of tissue layers, pigmentary materials, and anatomically defined structures. Marginal cases provided the opportunity to see visual characteristics and arrive at non-visual conclusions; equally so, their skin offered the chance for microscopists to draw conclusions about *non-visible* phenomena within that skin. Establishing a morally neutral taxonomy of human difference—insofar as it entered the discussion at all—appears only as a satellite interest for many thinkers studying human difference.

This dissertation has approached the history of human difference as one of change over both time and space, and readers will find ample occasion to trace historical change both within and outside of the sources cited here. Considered as a contribution to the wider historiography of the field, this dissertation has addressed the history of human difference across a range of disciplines: the history of natural-phiilosophical travel, the history of natural-philosophical spectacle, and the history of natural-philosophical instrumentation. There remain, of course,

many questions to answer: if new techniques for seeing human difference originated in the early-modern world, they developed in the time of the modern. When notions of human difference acquired distinctly *racial* connotations in the nineteenth century, the newly fashioned *scientist* could pick and choose techniques that were most able to satisfy the demands of his or her research. In many cases, the use of the same techniques extended well beyond the pretensions of natural-philosophers of the preceding century. By returning to the embodied processes that these individuals deployed in the creation of their disembodied theories, a rich and important avenue will be opened up to the consideration of the history of "race."

7. Bibliography

Primary Sources

Abdollatiphi Historiae Aegypti Compendium. Edited by J. White. Oxford: Typis Academicis, 1800.

Adams, Francis, ed. and trans. *Extant Works of Aretaeus, the Cappadocian.* London: Sydenham Society, 1856.

Adams, George. *Micrographia Illustrata*. London: George Adams, 1746.

-----. *Essays on the Microscope*. London: George Adams, 1746.

Aëtius of Amida. *Aetii Medici Graeci Contractae.* Basil: 1542.

Albinus, Bernard Siegfried. *De sede et caussa coloris Aethiopum et caeterorum hominum*. Leiden: Haak, 1737.

Argensola, B. L. de. *Conquista de las Islas Malucas*. Madrid: Maulia, 1609.

Astbury, John. *Dissertatio medica inauguralis de morbis cutaneis*. Edinburgh: Balfour and Smellie, 1781.

Aulus Gellius. *Noctium Atticarum Libri XX*. Edited by Carolus Hosius. Stuttgart: Teubner, 1981.

Babrius. *Fabulae*. Edited by Alfred Eberhard. Berlin: Weidmannos, 1875.

Baker, Henry. *Microscope Made Easy*. London: R. Dodsley, 1742.

Barrère, Pierre. *Dissertation sur la cause physique de la couleur des nègres*. Paris: Chez Pierre-Guillaume Simon, 1741.

Bate, James. "An Account of the Remarkable Alteration in Colour of a Negro Woman." *Philosophical Transactions* 51 (1759): 175-78.

Battel, Andrew. *A Description of the Kingdoms of Loango, Kongo, Etc.* In *A New General Collection of Voyages and Travels*, vol. 3, 132-211. London: 1746.

Berchem, J.P. Berthout van. "Des Animaux Quadrupèdes, rangés suivant l'ordre de leurs rapports." *Mémoires de la Société des Sciences Physiques de Lausanne*. 1783.

Bichat, Marie François Xavier. *Traité sur les membranes en général et de diverses membranes en particulier*. Paris: Richard, Caille et Ravier, An VII [1799].

Blaeu, Willem. *Aethiopia Superior vel Interior vulgo Abissinorum sive Presbiteri Joannis Imperium*. Map. Amsterdam: Blaeu, 1642.

-----. *Aethiopia Inferior vel Exterior.* Map. Amsterdam: Blaeu, 1642.

Blumenbach, Johann Friedrich. *De generis humani varietate nativa, editio tertia.* Gottingen: Vandenhoek and Ruprecht, 1795.

------.. "Medizinische Bemerkungen auf einer Schweizerreise." In *Medicinische Bibliothek*, vol. 2, 537-47. Gottingen: Johann Christian Dieterich, 1786.

------. *De oculis Leucaethiopum et iridis motu commentatio.* Gottingen: Johann Christian Dieterich, 1786.

Bontius, Jacobus. *Historiae naturalis et medicae Indiae orientalis Libri Sex.* In *De Indiae Utriusque re naturali et medica*, edited by Gulielmus Piso. Amsterdam: Elzevirios, 1658.

Bourrit, Marc-Théodore. *Nouvelle description des glacieres et glaciers de Savoye.* Geneva: Paul Barde, 1785.

------. *Description des aspects du Mont-Blanc.* Lausanne: Société Thypographique, 1776.

Boyle, Robert. *Experimenta et considerations de coloribus.* London: Herringman, 1665.

Buffon, Georges Louis Leclerc, Compte de. "Addition à l'article qui a pour titre, Variétés dan l'espèce humaine." *Histoire Naturelle, Générale et Particulière, Supplément* 4 Paris: 1777.

Byrd, William. "An Account of a Negro Boy that is dappled in Several Places of his Body with White Spots." *Philosophical Transactions of the Royal Society* 19 (1697): 781-82.

Catlin, George. *Letters and Notes on the Manners, Customs, and Condition of the North American Indians,* vol. 1. London: Tilt and Bogue, 1842.

Cortéz, Hernán. *De Insulis nuper inventis Narratio.* Cologne: Mouesiani and Birckman, 1532.

Cruickshank, William. *Anatomy of the Absorbing Vessels of the Human Body.* London: C. Nichol, 1790.

Dalin, Olaf von. *Tal om Swerige* (Stockholm: 1767), B. II.2, 122-23.Dickenson, Robert. *Essay on Cutaneous Diseases.* London: Barr, 1800.

Diderot, Denis. *Salon de 1767.* Paris: Deterville, an viii [1799].

Dorvingy, Louis François Archambault *dit. Le Nègre Blanc: comédie en un acte en prose.* La Hate: Constapel, 1775.

Encyclopedia Britannica, 9th ed., s.v. "Albino." New York: Werner Company, 1902.

Equiano, Olaudah. *The Interesting Narrative of the Life of Olaudah Equiano or Gustavus Vassa, the African, written by Himself,* vol. 1. London: 1789.

Galen. *De locis affectis.* Venice: Ziletti, 1559.

------. *On the Natural Faculties.* Edited and translated by Arthuer John Brock. London: William Heineman, 1928.

Gaubus, Johannus. *Epistola problemata prima.* Amsterdam: Wolters, 1696.

-----. *Epistola Problemata prima.* Amsterdam: Wolters, 1696b.

Gebauerus, Ernestus Ferdinandus. *De morbis cum colore cutis depravato*. Halle: Lehman, 1714.

George the Monk. *Georgii monachi chronicon*. Edited by Carl de Boor. Stuttgart: Teubner, 1978.

Greville, Robert Fulke. *Diaries of Colonel the Honorable Robert Fulke Greville, Equerry to His Majesty King George III*. John Lane: London, 1930.

Gumilla, Joseph. *El Orinoco ilustrado y defendido,* vol 1. Madrid: Manuel Fernandez, 1745.

Harington, Sir John. *The School of Salernum: Regimen Sanitatis Salernitanum*. London: Oxford University Press, 1922.

Hill, John. *The Construction of Timber from its Early Growth*. London, 1774.

Homann, Johann. *Guinea Propria, necnon Nigritiae vel Terrae Nigorum Aethiopia Inferior*. Map. Nuremberg: Homann, 1743.

Homem, Diogo. *Atlas Universal.* Map. Lisbon: Homem, 1565.

Hondius, Henricus. *Africae nova Tabula.* Map. Amsterdam: Hondius, 1631.

Hooke, Robert. *Micrographia: or Some Physiological Descriptions of Minute Bodies made by Magnifying Glasses.* London: Martyn and Allestry, 1665.

-----. *Lectures and Collections*. London: J. Martyn, 1678.

Hunter, William. "Remarks on the Cellular Membrane and Some of its Diseases." In *Medical Observations and Inquiries,* vol 2. London: William Johnston, 1764.

"In Commodious Apartments." *Public Advertiser*. London: February 11, 1758. Issue 7270.

Josselyn, John. *An Account of Two Voyages to New-England*. London: Widdows, 1674.

Journal du citoyen. La Haye: 1774.

"Just arrived from the Glaciers." *London World*. London: 30 April 1789.

Kant, Immanuel. *Von den verschiedenen Racen der Menschen zur Ankündigung der Vorlesungen der physischen Geographie im Sommerhalbenjahre 1775*. Königsberg: G.E. Hartung, 1775.

Kjöping, Nils Matsson. *Een Kort Beskriffning uppå Trenne Resor Och Peregrinationer sampt Konungarijket Japan*. Wisingborgh: 1667.

Kuehlewein, Hugo. *Hippocratis opera quae feruntur Omnia.* Leipzig: Teubner, 1894.

Le Cat, Claude-Nicolas. *Traité de la couleur de la peau humaine.* Amsterdam, 1765.

-----. "On the Figure of the Canal of the Urethra." *Philosophical Transactions* 41 (1741): 356-61.

-----. *Traité de l'éxistence de la nature et des propriétés du fluide des nerfs* (Berlin: 1765), 198-203.

-----. *Pièce, qui remporté le prix propose par l'Académie de Prusse* (Berlin: 1753);

-----. *Nouveau système sur la cause de l'évacuation périodique du sexe* (Amsterdam: 1765).

Leeuwenhoek, Antoni van. "Concerning the Animacula in *semine humano*." *Philosophical Transactions* 21 (1699): 306.

Leguat, Françoit. *Voyage et avantures de François Leguat*. London, 1708.

Lim, Paul Ratouis de. "Un Pastel de J.-B. Perronneau au Chateau de Drottingholm." *La revue de l'art ancien et moderne* 41, no. 232 (1922): 390-393.

Linnaeus, Carolus. "Anthropomorpha." *Amoenitates Academicae*, 6 (1760): 76.

Lucian of Samostata. *Opera.* Edited by Joannes Georgius Graevius. Amsterdam: Blaeu, 1687.

Magnus, Olaus. *Historia de gentibus septentrionalibus*. Rome: 1555.

Malpighi, Marcello. *De Tactus organo anatomica observatio.* Naples: Aedidium Longum, 1665.

-----. *De viscerum structura exercitation anatomica*. Naples: Aegidium Longum, 1665.

Marana, Giovanni. *Letters of a Turkish Spy,* vol. 8. London: G. Strahan, 1734.

Margravius, Georgius. *Historiae Rerum Naturalium Brasiliae*. Amsterdam: Elzevirium, 1648.

Marmontel, Jean-François. *Poetique françoise* II. Paris: Lesclapart, 1763.

Maupertuis, Pierre Louis. *Venus physique*. 6th edition. Paris: s.n., 1751.

-----. *Dissertation sur l'occasion du nègre blanc*. Leiden: 1744.

Meckel, Johan Friedrich. "Nouvelles observations sur l'épiderme et le cerveau des nègres." *Histoire de l'Académie Foyale des Sciences et Belles Lettres de Berlin* 13 (1757): 61-71.

Medical Essays and Observations, vol. 1. Edinburgh: John Balfour, 1771.

Mémoires de l'Académie des Sciences. Paris: 1744.

Mercator, Gerhard. *Nova et Aucta Orbis Terrae Descriptio ad Usum Navigantium Emendata Accommodata*. Map. Duisberg: 1569.

Meek'ren, Jobi a. *Observationes medico-chiurgicae*. Amsterdam: Boom, 1682.

Miechowita, Maciej. *Tractatus de duabus Sarmatiis.* Cracow: 1521.

Mitchell, John. "An Essay upon the Causes of the Different Colours of People in Different Climate." *Philosophical Transactions of the Royal Society* 43 (1744): 102-150.

Monro 'Primus,' Alexander. *Anatomy of the Humane Bones*. Edinburgh: Hamilton and Balfour, 1726.

Münster, Sebastian. *Africa, Libya, Morland, mit allen kunigreichen so zu unsern zeiten darin gefunden warden*. Map. Basel: S. Münster, 1550.

"Novel concert by the Four Snow White Negro Boys!" *American Broadsides and Ephemera*, Series 1, no. 6368. Boston: 1844.

Ogilby, John. *Africa, being an Accurate Description of the Regions of Egypt, Barbary, Lybia, etc.* London: Johnson, 1670.

Parsons, James. "An Account of the White Negro shewn before the Royal Society." *Philosophical Transactions of the Royal Society* 55 (1765): 45-53.

-----. "Human Physiognomy Explain'd." *Philosophical Transactions* 44 (1746): 1-82.

Patot, Tyssot de. *The Travels and Adventures of James Massey*. London: John Watts, 1733.

Patrick, Mary Mills. Sextus Empiricus and Greek Scepticism. Cambridge: D. Bell, 1899.

Paul of Aegina. *Septem Libri*. Berlin: Teubner, 1921.

Pechlin, Johann. *De habitu et colore Aethiopum qui vulgo nigritiae liber.* Koln: Joach Reumani, 1677.

Pliny. *C. Plini Secundi Naturalis historiae libri XXXVII*, 6 vols. Leipzig: Teubner, 1854-65.

Polybius. *Historiae*. Edited by Ludwig Dindorf. Stuttgart: Teubner, 1985.

Proces-verbaux de l'Académie Royale pour l'an 1744. Paris: 1761.

"Prodigy of Nature." *Public Advertiser*. London: June 9, 1758. Issue 7371.

Ptolemy. *Tetrabiblos*. Edited by Wolfgang Hübner. Stuttgart: Teubner, 1998.

Radt, S. L. *Strabons Geographika*, 10 vols. Göttingen: Vandenhoeck and Ruprecht, 2002-2011.

Raynal, Gillaume Thomas. *Histoire philosophique et politiques des établissements dans les deux Indes*, vol. 3. The Hague, 1774.

Read, Alexander. *The Manual of the Anatomy or Dissection of the Body of Man*. London: Constable, 1638.

Ribeyro, John. *History of Ceylon Presented to the King of Portugal in 1685*. Ceylon: Colombo, 1847.

Riolan, Jean. *Athropographia et osteologia*. Paris: Moreau, 1626.

Robertson, William. *History of America*, vol. 2. London: Strahan, 1788.

Rossi, Paolo. *I filosofi e le macchine, 1400–1700*. Bologna: Feltrinelli, 1962.

-----. *Philosophy, Technology, and the Arts in the Early Modern Era.* Translated by Salvator Attanasio. New York: Harper and Row, 1970.

Ruysch, Frederik. *Thesaurus Magnus et Regius*. Amsterdam: Waesbergios, 1726.

-----. "Fragment of Injected Skin with Epidermis Removed." Peter the Great's Museum of Anthropology and Ethnography, Russian Academy of Sciences, St. Petersburg, no. 4070-74.

Saussure, Horace-Bénédict de. *Voyages dans les Alpes: précédés d'un essay sur l'histoire naturelle des environs de Genève*, vo. 4. Geneva: Barde, Magnet et Companie, 1786.

Shierbeek, Abraham, ed. *Collected Letters of Antoni van Leeuwenhoek*, 4 vols. Amsterdam: Swets and Zeitlinger, 1952.

Smith, Samuel Stanhope. *Essay on the Causes of the Variety of Complexion and Figure in the Human Species*. Edinburgh: C. Elliot, 1788.

Solinus. *Polyhistoria, sive De mirabilibus mundi*. Venice: Nicolaus Jenson, 1473.

Storr, Gottlieb Conrad Christian. *Alpenreise vom Jahre 1781*. J. G. Müller: Leipzig, 1784.

Suidae Lexicon, vol. 1. Edited by Ludolphus Kusterus. Cambridge: Typis Academicis, 1705.

St Martin in the Fields Settlement Examinations, 1725-93. London Lives. Manuscript reference F5064, 77. Accessed December 5, 2014, http://www.londonlives.org/static/SMDSSET.js.

Swammerdam, Jan. *Biblia natura sive historia insectorum*. Leiden: Severinus and Van der Aa, 1737.

Tacitus. *Germania*. Edited by Eduard Wolff. Leipzig: Teubner, 1896.

Valentijn, François. *Oud en Nieuw Ost Indien*, vol. 2. Amsterdam: van Braam, 1724.

-----. *Oud en Nieuw Ost Indien, Beschryvinge van Amboina*, vol. 4. 's Gravenhage: H. C. Susan, 1856.

Villards, Carron du. "Quelques mots pour servir à histoire anatomique et physiologique des yeux albinos." *Bulletin médicale Belge* 3 (March 1838): 61-89.

Vitruvius. *On Architecture*, 2 vols. Edited and translated by Frank Granger. Cambridge, MA: Harvard University Press, 1955-1956.

Voltaire. *Essai sur les Moeurs et l'Esprit des Nations* III in *Oevres Completes*. Basel: Jean-Jaques Tourneisen, 1785.

Vossius, Isaac. *De Nili et Aliorum Fluviorum Origine*. Hag. Com.: 1666.

Wafer, Lionel. *A New Voyage and Description of the Isthmus of America*. London: James Knapton, 1699.

Waldseemüller, Martin. *Carta Marina navigatoria Portugallen navigations atque totius cogniti orbis terrae maris*. Map. Strassborg: M. Waldseemüller, 1516.

Walsh, Laurentius. *Dissertatio physiologica de cute et tactu*. Edinburgh: Balfour and Smellie, 1784.

Whiston, William. *A Supplement to the Literal Accomplishment of Scripture Prophecies* (London: Senex, 1725), 126.

"White Negro Woman." *Literary Panorama*, vol. 3. London: Taylor, 1808.

"White Negro Woman." *Public Advertiser*, May 17, 1758; Issue 7349.

Wilkins, Simon, ed. *Sir Thomas Browne's Works*, vol. 3. London: William Pickering, 1885.

Wit, Frederick de. *Totius Africae Accuratissima Tabula*. Map. Amsterdam, 1683.

Woodward, John. *Brief Instructions for Making Observations in All Parts of the World*. London, 1696.

Secondary Sources

Abulafia, David and Nora Berend, eds. *Medieval Frontiers: Concepts and Practices*. Aldershot: Ashgate, 2002.

Adams, Ellen. "Defining and Displaying the Human Body: Collectors and Classics during the British Enlightenment." *Hermathena* 187 (2009): 65-97.

Adkins, Arthur W.H. and Peter White, eds. *The Greek Polis*. Chicago: University of Chicago Press, 1986.

Albert, Jean-Pierre, ed. *Coloris corpus*. Paris: CNRS, 2008.

Albert, Maurice. *Théâtres de la foire (1660-1789)*. New York: Franklin, 1970.

Albuquerque, Martim de. *Fantasia e objectividade nos descobrimentos*. Lisbon: Alêtheia Editores, 2006.

Alder, Ken. *The Measure of the World*. Washington, D.C.: Smithsonian, 2003.

Allendy, René. *Les temperaments*. Paris: Vigot, 1922.

Altick, Richard D. *Shows of London*. Cambridge: Harvard University Press, 1978.

Anderson, William. "A Discussion on Art and its Relation to Anatomy." *British Medical Journal* 2 (1895): 349-58.

Appleby, Joyce Oldham. *Shores of Knowledge: New World Discoveries and the Scientific Imagination*. New York: Norton and Company, 2013.

Arasaratnam, Sinnappah, trans. *François Valentijn's Description of Ceylon*. London: Hakluyt Society, 1978.

Averdunk, Heinrich. *Gerhard Mercator und die geographen unter seinen nachkommen*. Gotha: J. Perthes, 1914.

Avezac, Marie Armand Pascal de. *Martin Hylacomylus Waltzemüller, ses ouvrages et ses collaborateurs*. Paris: Challamel âiné, 1867.

Axelsen, Bjørn, and Michael Jones, "Are all Maps Mental Maps?" *GeoJournal* 14, no. 4 (1987): 447-64.

Baader, Gerhard. "Early Medieval Latin Adaptations of Byzantine Medicine in Western Europe." *Dumbarton Oaks Papers* 38 (1984): 251-259.

Barbour, Reid and Claire Preston, eds. *Sir Thomas Browne: The World Proposed*. Oxford: Oxford University Press, 2008.

Baroja, Julio Caro. *Historia de la fisiognómica: el rostro y el character*. Madrid: Ediciones ISTMO, 1988.

Barrera-Osorio, Antonio. *Experiencing Nature: the Spanish American Empire and the Early Scientific Revolution*. Austin, TX: The University of Texas Press, 2006.

Bates, A. W. *Emblematic Monsters: Unnatural Conceptions and Deformed Births in Early-Modern Europe*. Amsterdam: Rodopi, 2005.

"Beginnings of Anatomical Dissection." *Scientific Monthly* 6 (1918): 568-72.

Benoit, Robert. "Conceptions médicales à l'université de Paris d'après les cours de Jean Riolan à la fin du XVIe siècle." *Histoire, Économie et Société* 14 (1995): 25-50.

Benthien, Claudia. *Skin: On the Cultural Border between Self and the World*. New York: Columbia University Press, 2002.

Berg, Lasse. *När Sverige upptäckte Afrika*. Stockholm: Raben Prisma, 1997.

Berkeley, Jr., Edmund. "Three Philanthropic Pirates." *Virginia Magazine of History and Biography* 74 (1966): 433-44.

Bernasconi, Robert. *Concepts of Race in the Eighteenth Century*, 9 vols. Bristol: Thommes Press, 2001.

Bernd, Roling von. *Drachen und Sirenen: die Rationalisierung und Abwicklung der Mythologie an den europäischen Universitäten*. Leiden: Brill, 2010.

Bertrand, Joseph. *Académie des sciences et les académiciens de 1666 à 1793*. Amsterdam: B.M. Israel, 1969.

Bindman, David. *Ape to Apollo: Aesthetics and the Idea of Race in the 18th Century*. London: Reaktion Books, 2002.

Bindman, David and Henry Louis Gates, eds., *Image of the Black in Western Art*, 10 vols. Cambridge: Harvard University Press, 2010.

Bliquez, Lawrence J. "Greek and Roman Medicine." *Archaeology* 34 (1981): 10-17.

Bourguet, Marie-Noëlle and Christian Licoppe, "Voyages, mésures et instruments: une nouvelle experience du monde au Siècle des lumières." *Annales* 52e, no. 5 (1997): 1115-51.

Boussuge, Emmanuel. *Situations de Fougeret de Monbron (1706-1760)*. Paris: Honoré Champion, 2010.

Botsford, George Willis. "Some Problems Connected with the Roman *Gens*." *Political Science Quarterly* 22, no. 4 (1907): 663-692.

-----. "The Social Composition of the Primitive Roman Populus." *Political Science Quarterly* 21, no. 3 (1906): 498-526.

Boylan, Michael. "Galen: On Blood, the Pulse, and the Arteries." *Journal of the History of Biology* 40, no. 2 (2007): 207-230.

-----. "Galen's Conception Theory." *Journal of the History of Biology* 19, no. 1 (1986): 47-77.

-----. "The Galenic and Hippocratic Challenges to Aristotle's Conception Theory." *Journal of the History of Biology* 17, no. 1 (1984): 83-112.

Boys-Stones, George, ed. *Seeing the Face, Seeing the Soul: Polemon's Physiognomy from Classical Antiquity to Medieval Islam*. Oxford: Oxford University Press, 2007.

Bracegirdle, Brian. *A History of Microtechnique*. Ithaca: Cornell University Press, 1978.

Bracke, Wouter and Herwig Deumens, eds. *Medical Latin: from the Late Middle Ages to the Eighteenth Century*. Brussels: Koninklijke Academie voor Geneeskunde van Belgie, 2000.

Bradley, Keith R. "Dislocation in the Roman Family." *Historical Reflections / Réflexions Historiques* 14 (1987): 33-62.

Broc, Numa. *La géographie des philosophes, géographes et voyageurs français au XVIIIe siècle*. Paris: Éditions Ophrys, 1975.

"Bucaneer Surgeons." *British Medical Journal* 2 (1922): 397-98.

Burnard, Trevor. "Slave Naming Patterns: Onomastics and the Taxonomy of Race in Eighteenth-Century Jamaica." *The Journal of Interdisciplinary History* 31, no. 3 (2001): 325-346.

Burnett, Mark Thornton. *Constructing "Monsters" in Shakespearean Drama and Early Modern Culture*. New York: Palgrave Macmillan, 2002.

Buwick, Frederick. *Illusion and the Drama: Critical Theory of the Enlightenment and Romantic Era*. University Park: Pennsylvania State University Press, 1991.

Bylebyl, Jerome J. "The Medical Meaning of Physica." *Osiris* 6 (1990): 16-41.

Cameron, Averil. "Thinking with Byzantium." *Transactions of the Royal Historical Society* 21 (2001): 39-57.

Campbell, John. "Chance in the Tragedies of Racine." In *Chance, Literature, and Culture in Early Modern France*, edited by John D. Lyons and Kathleen Wine, 111-24. Farnham: Ashgate, 2009.

Campe, Rüdiger and Manfred Schnider, eds. *Geschichten der Physiognomik.* Freiburg im Breisgau: Rombach Verlag, 1996.

Charlier, P. "A Glimpse into the Early Origins of Medieval Anatomy through the Oldest Conserved Human Dissection." *Archives of Medical Science* 10 (2014): 366-73.

Chester, Lucy P. "The Mapping of Empire: French and British Cartographies of India in the Late-Eighteenth Century." *Portuguese Studies* 16 (2000): 256-75.

Clay, Diskin. "Greek Physis and Epicurean Physiologia." *Transactions and Proceedings of the American Philological Association* 100 (1969): 310-47.

Clay, Reginald S. and Thomas H. Court. *The History of the Microscope*. London: Charles Griffin and Co., 1932.

Cohen, Alix A. "Kant on Epigenesis, Monogenesis and Human Nature: The Biological Premises of Anthropology." *Studies in History and Philosophy of Biological and Biomedical Sciences* 37 (2006): 675-693.

Cohen, William B. *The French Encounter with Africans: White Responses to Blacks, 1530-1880.* Bloomington: Indiana University Press, 1980.

Condren, Conal, Stephen Gaukroger and Ian Hunter, eds. *Philosopher in Early Modern Europe: the Nature of a Contested Identity*. Cambridge: Cambridge University Press, 2006.

Cooper, Glen M. "Galen and Astrology: A Mésalliance?" *Early Science and Medicine* 16 (2011): 120-146.

Corrado, Adriana, ed. *Travelling and Mapping the World: Scientific Discoveries and Narrative Discourses*. Bologna: I libri di Emil, 2010.

Corsi, Pietro and Paul J. Weindling, "Darwinism in Germany, France, and Italy." In *The Darwinian Heritage*, edited by David Kohn, 683-729. Princeton: Princeton University Press, 1985.

Cortesão, Armando, ed. *Portualiae monumenta cartographica*, vol. 4. Lisbon: Imprensa Nacional-Casa da Moeda, 1987.

-----. *History of Portuguese Cartography*. Lisboa: Junta de Investigações do Ultramar, 1969.

Costa, Palmira Fontes da. "Medical Understanding of Monstrous Births at the Royal Society of London during the First Half of the Eighteenth Century." *History and Philosophy of the Life Sciences* 26 (2004): 157-75.

-----. "The Culture of Curiosity at the Royal Society in the First Half of the Eighteenth Century." *Notes and Records of the Royal Society of London* 56 (2002): 147-66.

Craveri, Benedetta. *Age of Conversation*. Translated by Teresa Waugh. New York: New York Review, 2005.

Cross, W. Redmond. "Dutch Cartographers of the Seventeenth Century." *Geographical Review* 6 (1916): 66-70.

Cunningham, Andrew. *The Anatomist Anatomis'd*. Farnham: Ashgate, 2010.

-----. *The Anatomical Renaissance: The Resurrection of the Anatomical Projects of the Ancients.* Aldershot: Scolar Press, 1997.

Curran, Andrew S. *The Anatomy of Blackness: Science & Slavery in an Age of Enlightenment.* Baltimore: Johns Hopkins University Press, 2011.

-----. "Rethinking Race History: the Role of the Albino in the French Enlightenment Life Sciences." *History and Theory* 48, no. 3 (2009): 151-179.

Curran, Andrew and Patrick Graille. "The Faces of Eighteenth-Century Monstrosity." *Eighteenth-Century Life* 21 (1997): 1-15.

Curth, Louise Hill. "Astrology and Astrological Medicine." In *'A Plaine and Easie Waie to Remedie a Horse.'* Leiden: Brill, 2013. 89-113.

Daston, Lorraine and Elizabeth Lunbeck, eds. *Histories of Scientific Observation.* Chicago: University of Chicago Press, 2011.

Diefenbacher, Michael, Markus Heinz and Ruth Bach-Damaskinos. A*userlesene und allerneueste Landkarten: der Verlag Homann in Nürnberg 1702–1848*. Nürnberg: Tümmels, 2002.

Dietz, Bettina. "Mobile Objects: the Space of Shells in Eighteenth-Century France." *British Journal for the History of Science* 39 (2006): 363-382.

-----. "Making Natural History: Doing the Enlightenment." *Central European History* 43 (2010): 25-46.

Dobson, Jessie. "Mary Sabina, the Variegated Damsel." *Annals of the Royal College of Surgeons of England* 22, no. 4 (1958): 273-278.

Donley, John Edward. *John Riolan, the Son, Conservative. A Sketch in the History of the Circulation of the Blood.* New York: Harvey, 1907.

Douglas, Bronwen. "Notes on 'Race' and the Biologisation of Human Difference." *Journal of Pacific History* 40 (2005): 331-338.

-----. "'Terra Australis' to Oceania: Racial Geography in the 'Fifth Part of the World.'" *Journal of Pacific History* 45 (2010): 179-210.

-----. "Seaborne Ethnography and the Natural History of Man." *Journal of Pacific History* 38 (2003), 3-27.

Dover, Cedric. "The Racial Philosophy of Johann Herder." *The British Journal of Sociology* 3, no. 2 (1952): 124-133.

Dripps, Robert D. "Rethinking Vitruvius." *Journal of Architectural Education* 40 (1987): 19-20.

Duisburg-Ruhrort, W. Renckhoff. *Gerhard Mercator, 1512-1594; Festschrift zum 450. Geburtstag.* Duisburg-Ruhrort: Verlag für Wirtschaft und Kultur W. Renckhof. 1962.

Durling, Richard J. "Addenda Lexicis, Primarily from Aëtius of Amida and Paul of Aegina." *Glotta* 64, no. 1/2 (1986): 30-36.

Duzer, Chet van. "A Northern Refuge of Monstrous Races: Asia on Waldseemüller's 1516 'Carta Marina.'" *Imago Mundi* 62 (2010): 221-31.

Earle, T.F. and K.J.P. Lowe, eds. *Black Africans in Renaissance Europe*. Cambridge: Cambridge University Press, 2005.

Eco, Umberto. "Semiotics of Theatrical Performance." *The Drama Review* 21 (1977): 107-117.

Edwards, Paul Geoffrey. *Black Personalities in the Era of the Slave Trade*. Baton Rouge: Louisiana State University Press, 1983.

Eliav-Feldon, Miriam, ed. *Origins of Racism in the West*. Cambridge: Cambridge University Press, 2009.

Elkins, James. "Two Conceptions of the Human Form: Bernard Siegfried Albinus and Andreas Vesalius." *Artibus et Historiae* 7 (1986): 91-106.

Fauré, Marcel, ed. *Le Sang au Moyen Age*. Monpellier: Université Paul-Valéry, 1999.

Feerick, Jean E. *Strangers in Blood: Relocating Race in the Renaissance*. Toronto: University of Toronto Press, 2010.

Finch, Jeremiah S. *Sir Thomas Browne: A Doctor's Life of Science and Faith.* New York: 1950.

Finnegan, Ruth H. *Oral and Beyond: Doing Things with Words in Africa*. Chicago: University of Chicago Press, 2007.

Fogarty, Richard and Michael A. Osborne, "Constructions and Functions of Race in French Military Medicine, 1830-1920." In *The Color of Liberty: Histories of Race in France*, edited by Sue Peabody and Tyler Stovall, 206-18. Durham: Duke University Press, 2003.

Ford, Brian J. *The Leeuwenhoek Legacy.* London: Farrand press, 1991.

Fournier, Marian. *The Fabric of Life*. Baltimore: Johns Hopkins University Press, 1996.

Fox, Robert. *Centre and Periphery Revisited: the Structures of European Science, 1750-1914*. Oxford: Oxford University Press, 2003.

Fox, Christopher, Roy Porter, and Robert Wokler, eds. *Inventing Human Science: Eighteenth-Century Domains*. Berkeley: University of California Press, 1995.

Friedman, John Block. *The Monstrous Races in Medieval Art and Thought*. Cambridge, Mass.: Harvard University Press, 1981.

Frost, Thomas. *Old Showmen, and the Old London Fairs*. London: Tinsley, 1874.

Gascoigne, John. "The Royal Society, Natural History and the Peoples of the 'New World(s)', 1660–1800." *British Journal of the History of Science* 42, no. 4 (2009): 539–562.

George, M., ed. *The Roman Family in the Empire: Rome, Italy, and Beyond*. Oxford: Oxford University Press, 2005.

George, Wilma and Brunsdon Yapp. *The Naming of Beasts: Natural History in the Medieval Bestiary*. London: Duckworth, 1991.

Gerzina, Gretchen Holbrook. *Black London: Life before Emancipation*. New Brunswick: Rutgers University Press, 1999.

Gillett, Andrew, ed. *On Barbarian identity: Critical Approaches to Ethnicity in the Early Middle Ages*. Turnhout: Brepols, 2002.

Gillespie, Charles Coulston. *Edge of Objectivity: an Essay in the History of Scientific Ideas*. Princeton: Princeton University Press, 1960.

Gillispie, Coulston. *Science and Polity in France at the End of the Old Regime*. Princeton: Princeton University Press, 1980.

Gilman, Sander L. "The Figure of the Black in German Aesthetic Theory." *Eighteenth-Century Studies* no. 4 (1975): 373-391.

Gissis, Snait B. "Visualizing 'Race' in the Eighteenth Century." *Historical Studies in the Natural Sciences* 41 (2011): 41-103.

Glaisyer, Natasha. "Networking: Trade and Exchange in the Eighteenth-Century British Empire." *Historical Journal* 42 (2004): 451-76.

Glass, Bentley. "Eighteenth-Century Concepts of the Origin of Species." *Proceedings of the American Philosophical Society* 104, no. 2 (1960): 227-234.

-----. "Maupertuis and the Beginnings of Genetics." *Quarterly Review of Biology* 22 (1947): 196-210.

Goldie, Mathew Boyd. *The Idea of the Antipodes: Place, People, and Voices*. New York: Routledge, 2010.

Golinski, Jan. *Making Natural Knowledge: Constructivism and the History of Science*. New York: Cambridge University Press, 1998.

Greene, John C. "The American Debate on the Negro's Place in Nature, 1780-1815." *Journal of the History of Ideas* 15, no. 3 (1954): 384-396.

-----. "Some Early Speculations on the Origin of Human Races." *American Anthropologist* 56 (1954): 31-41.

Greun, Erich. "Did Ancient Identity Depend on Ethnicity? A Preliminary Probe." *Phoenix* 67 (2013): 1-22.

Grimm, Friedrich Melchior Freiherr von. *Salons de Paris*. Paris: Henri Gautier, 1890.

Guerrini, Anita. "Alexander Monro 'Primus' and the Moral Theatre of Anatomy." *The Eighteenth Century* 47 (2006): 1-18.

Guilmette, Lauren. "In What We Tend to Feel is Without History: Foucault, Affect, and the Ethics of Curiosity." *Journal of Speculative Philosophy* 28 (2014): 284-94.

Gumilev, Lev Nikolaevich. *Searches for an Imaginary Kingdom: the Legend of the Kingdom of Prester John*. Translated by R. E. F. Smith. Cambridge: Cambridge University Press, 1987.

Gunnarsson, Britt-Louise. *Languages of Science in the Eighteenth Century*. New York: De Gruyter Mouton, 2011.

Hall, John M. *Ethnic Identity in Greek Antiquity*. Cambridge: Cambridge University Press, 2000.

Hamarneh, Sami. "Sources and Development of Arabic Medical Therapy and Pharmacology." *Sudhoffs Archiv* 54, no. 1 (1970): 30-48.

Hansen, Julie V. "Resurrecting Death: Anatomical Art in the Cabinet of Dr. Frederik Ruysch." *Art Bulletin* 78 (1996): 663-79.

Harley, J. B. "Silences and Secrecy: The Hidden Agenda of Cartography in Early Modern Europe." *Imago Mundi* 40 (1988): 57-76.

Harting, Pieter. *Het mikroskop, deszelfs gebruik, geschiedenis en tegenwoordige toestand,* vol. 3. Utrecht: Van Paddenburg, 1854.

Hartog, François. *Mirror of Herodotus: the Representation of the Other in the Writing of History*. Berkeley: University of California Press, 1988.

Haskell, Yasmin, ed. *Diseases of the Imagination and Imaginary Diseases in the Early Modern Period*. Turnhout: Marston, 2011.

Hassig, Debra. *Medieval Bestiaries: Text, Image, Ideology*. Cambridge: University of Cambridge Press, 1995.

Hellegouarc'h, Jacqueline. *Esprit de société: cercles et "salons" parisiens au XVIIIe siècle*. Paris: Garnier, 2000.

Hellman, C. Doris. "Legendre and the French Reform of Weights and Measures." *Osiris* 1 (1936): 314-40.

Helm, Jürgen and Karin Stukenbrock, eds. *Anatomie: Sektionen einer medizinischen Wissenshaft im 18. Jahrhundert*. Stuttgart: Verlag, 2003.

Heng, Geraldine. "Invention of Race in the European Middle Ages I: Race Studies, Modernity, and the Middle Ages." *Literature Compass* 8 (2011): 315-31.

Hodgen, Margaret T. *Early Anthropology in the Sixteenth and Seventeenth Centuries*. Philadelphia: University of Pennsylvania Press, 1964.

Hoffenberg, Peter H. *Empire on Display: English, Indian, and Australian Exhibitions from the Crystal Palace to the Great War*. Berkeley: University of California Press, 2001.

Hoffman, Michael A. "The History of Anthropology Revisited: A Byzantine Viewpoint." *American Anthropologist* 75, no. 5 (1973): 1347-57.

Honigsheim, Paul. "Voltaire as Anthropologist." *American Anthropologist* 47 (1945): 104-118.

Hubbell, Harry M. "Ptolemy's Zoo." *The Classical Journal* 31, no. 2 (1935): 68-76.

Hudson, Nicolas. "From `Nation' to `Race': The Origin of Racial Classification in Eighteenth-Century." *Eighteenth-Century Studies* 29, no. 3 (1996): 247-264.

Hunwick, John O. "A Region of the Mind: Medieval Arab Views of African Geography and Ethnography and their Legacy." *Sudanic Africa* 16 (2005): 103-136.

Insh, George. *The Darien Scheme*. London: Staples, 1947.

Isaac, Benjamin. *Invention of Racism in Classical Antiquity*. Princeton: Princeton University Press, 2006.

Ishida, Yoriko. *Modern and Postmodern Narratives of Race, Gender and Identity*. New York: Peter Lang, 2010.

Jasin, Joanne. "The Transmission of Learned Medical Literature in the Middle English Liber Uricrisiarum." *Medical History* 37 (1993): 313-329.

Johnson, Christine R. *The German Discovery of the World: Renaissance Encounters with the Strange and Marvelous*. Charlottesville: University of Virginia Press, 2008.

Jones, Amelia and Andrew Stephenson, eds. *Performing the Body/Performing the Text*. London: Routledge, 1999.

Jordan, Winthrop D. *White over Black: American Attitudes toward the Negro, 1550– 1812*. New York, 1977.

Kale, Steven. *French Salons: High Society and Political Sociability from the Old Regime to the Revolution of 1848*. Baltimore: Johns Hopkins University Press, 2006.

Kember, Owen. "Anaxagoras' Theory of Sex Differentiation and Heredity." *Phronesis* 18 (1973): 1-14.

Kemp, Simon and Garth Fletcher, "The Medieval Theory of the Inner Senses." *American Journal of Psychology* 106 (1993): 559-576.

Keuning, J. "The History of an Atlas: Mercator—Hondius." *Imago Mundi* 4 (1947): 37-62.

Keurentjes, M. B. G. "The Greek Patronymics in -(ί)δας / -(ί)δης." *Mnemosyne* 50 (1997): 385-400.

Kleingeld, Pauline. "Kant's Second Thoughts on Race." *The Philosophical Quarterly*, 57 (2007): 573-592.

Klemp, Egon. *Africa auf Karten des 12. bis Jahrhunderts*. Leipzig: Edition Leipzig, 1968.

Kooijmans, Luuc. *Death Defied: the Anatomy Lessons of Frederik Ruysch*. Translated by Diane Webb. Leiden: Brill, 2010.

Koppanyi, Theodore. "The Rise of Pharmacology." *Scientific Monthly* 41 (1935): 316-324.

Kors, Alan. "Monsters and the Problem of Naturalism in French Thought." *Eighteenth Century Life* 21 (1997): 23-47.

Krogt, Peter van der. "Amsterdam Atlas Production in the 1630s: A Bibliographer's Nightmare." *Imago Mundi* 48 (1996): 149-60.

Kunst, Jos. "Decidability Problems in the Humanities." *Liber amicorum J.L. Broeckx*. Ghent: 1986): 195-206.

Kybett, Susan Maclean. *Bonnie Prince Charlie: a Biography*. London: Unwin Hyman, 1988.

Lang, Philippa. "Medical and Ethnic Identities in Hellenistic Egypt." *Apeiron* 37 (2004): 107-131.

Langebaek, Carl Henrik. "Cuna Long Distance Journeys: The Result of Colonial Interaction." *Ethnology* 30 (1991): 371-80.

Larson, James L. *Interpreting Nature: the Science of Living Forms from Linnaeus to Kant*. Baltimore: Johns Hopkins University Press, 1994.

Lautner, Peter. "Γνωστικῶς and / or ὑλικῶς: Philoponus' Account of the Material Aspects of Sense-Perception." *Phronesis* 58 (2013): 378-400.

Lehoux, Daryn. "Observers, Objects, and the Embedded Eye: or, Seeing and Knowing in Ptolemy and Galen." *Isis* 98, no. 3 (2007): 447-467.

Lenfant, Dominique. "Monsters in Greek Ethnography and Society in the Fifth and Fourth Centuries BCE." In *From Myth to Reason? Studies in the Development of Greek Thought*, edited by Richard Buxton, 198-214. Oxford: Oxford University Press, 1999.

Lenoir, Timothy. "Kant, Blumenbach, and Vital Materialism in German Biology." *Isis* 71 (1980): 77-108.

Levine, Philippa. "States of Undress: Nakedness and the Colonial Imagination." *Victorian Studies* 50, no. 2(2008): 189-219.

L'Horme, Jean Pottier de. *Le dramatique tour du monde du chevalier de Surville*. Paris: Editions du Gerfaut, 2004.

Lindeboom, G. A. *The Letters of Jan Swammerdam to Melchisiden Thevenot*. Amsterdam: Smuts and Zeitlinger, 1975.

Little, Roger. *Nègres blancs: representations de l'autre autre*. Paris: L'Harmattan, 1995.

Livingstone, David N. "Cultural Politics and the Racial Cartographies of Human Origins." *Transactions of the Institute of British Geographers* 35 (2010): 204-21.

Lloyd, G. E. R. "Methods and Problems in the History of Ancient Science: The Greek Case." *Isis* 83 (1992): 564-77.

----- "Alcmaeon and the Early History of Dissection." *Sudhoffs Archiv* 59 (1975): 113-47.

Lombardi, Paolo. *Altro Seicento: Vampiri, Mummie, Follia e Profezia nel Secolo della Rivoluzione Scientifica.* Firenze: Le lettere, 2011.

Long, Pamela O. *Openness, Secrecy, Authorship: Technical Arts and the Culture of Knowledge from Antiquity to the Renaissance.* Baltimore: Johns Hopkins University Press, 2001.

Longrigg, James. "Anatomy in Alexandria in the Third Century B.C." *British Journal for the History of Science* 21 (1988): 455-88.

Lowe, Kate. "'Representing' Africa: Ambassadors and Princes from Christian Africa to Renaissance Italy and Portugal, 1402-1608." *Transactions of the Royal Historical Society* 17 (2007): 101-28.

Lozovsky, Natalia. "Roman Geography and Ethnography in the Carolingian Empire." *Speculum* 81, no. 2 (2006): 325-364.

MacGregor, Arthur. *Curiosity and Enlightenment: Collectors and Collections from the Sixteenth to the Nineteenth Century.* Yale: New Haven, 2007.

Magee, Joseph M. "Sense Organs and the Activity of Sensation in Aristotle." *Phronesis* 45 (2000): 306-30.

Maillet, Pierre-Louis. *Pierre-Louis Moreau de Maupertuis, 1698-1759: pour le bicentenaire de sa mort*. Paris: Palais de la Découverte, 1960.

Margócsy, Dániel. "Advertising Cadavers in the Republic of Letters: Anatomical Publications in the Early Modern Netherlands." *British Journal for the History of Science* 42 (2009): 187-210.

Mark, Peter. *Africans in European Eyes: the Portrayal of Black Africans in Fourteenth and Fifteenth Century Europe.* Syracuse: Syracuse University Press, 1974.

Mauss, Marcel. "Les techniques du corps." *Journal de Psychologie* 31 (1936): 271-293.

-----. "Techniques of the Body." in *Incorporations,* edited by Jonathan Craby and Sanford K. Winter. New York: Zone, 1992.

Mazzolini, Renato. "Albinos, Leucoaethiopes, Dondos, Kakerlakken: sulla storia dell'albinismo dal 1609 al 1812" in *La natura et il corpo: studi in memoria di Attilio Zanca,* edited by Giuseppe Olmi and Giuseppe Papagno. Firenze: Olschki, 2006.

-----. "Frammenti di pelle e immagini di uomini (1700-1740)" in *Natura-Cultura: l'interpretazione del mondo fisico nei testi e nelle immagini,* edited by Giuseppe Olmi. Firenze: Olschki, 2000.

Marinis, Marco de. *Semiotics of Performance*. Translated by Aine O'Healy. Bloomington: Indiana University Press, 1993.

McKie, Ed. *Thomas Hall of City Road: The Family in a Museum*. Warrington: Jeaned Books, 2008.

Meisenhelder, Tom. "African Bodies: 'Othering' the African in Precolonial Europe." *Race, Gender and Class* 10, no. 3 (2003): 100-13.

Meli, Domenico Bertolini. *Mechanism, Experiment, Disease: Marcello Malpighi and Seventheenth-Century Anatomy*. Baltimore: Johns Hopkins University Press, 2011.

Meli, Domenico Bertolini, ed. *Marcello Malpighi: Anatomist and Physicia.* (Firenze: Olschki, 1997.

Mellyn, Elizabeth W. "Passing on Secrets: Interactions between Latin and Vernacular Medicine in Medieval Europe." *I Tatti Studies in the Italian Renaissance* 16, no. 1/2 (2013): 289-309.

Mercier, Roger. *La réhabilitation e la nature humaine, 1700-1750*. Villemonble Seine: 1960.

Meyer, A. W. "Malpighi as Anatomist." *Science* 72 (1930): 234-38.

Miller, Timothy S. and Rachel Smith-Savage, "Medieval Leprosy Reconsidered." *International Social Science Review* 81, no. 1/2 (2006): 16-28.

Mittman, Asa Simon. *Maps and Monsters in Medieval England*. New York: Routledge, 2006.

Moe, Harald. *The Story of the Microscope*. Translated by David Stoner. Denmark: Rhodos, 2004.

Montagu, M. F. Ashley. "Vesalius and the Galenists." *Scientific Monthly* 80 (1955): 230-39.

-----. *Edward Tyson, MD, FRS, and the Rise of Human and Comparative Anatomy in England*. Philadelphia: American Philosophical Society, 1943.

-----. "Knowledge of the Ape in Antiquity." *Isis* 32 (1940): 87-102.

Morgan, Gwenda and Peter Rushton. "Visible Bodies: Power, Subordination and Identity in the Eighteenth-Century Atlantic World." *Journal of Social History* 39, no. 1 (2005): 39-64.

Morley, Henry. *Memoires of Bartholomew Fair*. London: Chatto and Windus, 1880.

Muller, Adam, ed. *Concepts of Culture: Art, Politics, and Society*. Calgary: University of Calgary Press, 2005.

Myers, Nicholas and Ladan Niayesh. "Naming the Other, Claiming the Other in Early Modern Accounts of First Encounters: From Mandeville to John Nichol (1607) and Richard Jobson (1623)" in *British Narratives of Exploration: Case Studies of the Self and the Other*, edited by Frederic Regard, 29-38. London: Pickering and Chatto, 2009.

Naylor, Simon. "Historical Geographies of Science: Places, Contexts, Cartographies." *British Journal for the History of Science* 38 (2005): 1-12.

Niekirk, Carl. "Man and Orangutan in Eighteenth-Century Thinking." *Monatshefte* 96 (2004): 477-502.

Nielsen, Kristian, ed. *Scientists and Scholars in the Field: Studies in the History of Fieldwork and Expeditions*. Aarhus: Aarhus University Press, 2012.

Nigg, Joseph. *Sea Monsters: A Voyage around the World's Most Beguiling Marine Map*. Chicago: University of Chicago Press, 2013.

Nigg, Joseph, ed. *Fabulous Animals at the Court of Science: a 17th Century Debate between Sir Thomas Browne and Alexander Ross*. Wakefield: Longwood Academic, 1991.

Nutton, Vivian. *Ancient Medicine*. New York: Routledge, 2004.

-----. "From Galen to Alexander: Aspects of Medicine and Medical Practice in Late Antiquity." *Dumbarton Oaks Papers* 38 (1984): 1-14.

Oberhummer, Eugen. "Die Karten Martin Waldseemüllers." *Geographische Zeitschrift* 11 (1905): 227-233.

Ogilvie, Brian W. *The Science of Describing: Natural History in Renaissance Europe*. Chicago: University of Chicago Press, 2008.

Ostenfeld, Erik Nis, ed. *Greek Romans and Roman Greeks: Studies in Cultural Interaction*. Aarhus: Aarhus University Press, 2002.

Painter, Nell Irvin. *The History of White People*. New York: Putnam, 2010.

Papademetriou, John. "Some Aesopic Fables in Byzantium and the Latin West: Tradition, Diffusion, and Survival." *Illinois Classical Studies* 8 (1983): 122-36.

Pastore, Alessandro. "Corps physique et corps politique: les enjeux de l'histoire sociale de la médecine (XVIe-XVIIe siècles)." *History and Philosophy of the Life Sciences* 25 (2003): 501-13.

Pimentel, Juan. *Testigos del mundo: ciencia, literature y viajes en la illustración*. Madrid: Marcial Pons Historia, 2003.

Percival, Frances Melissa. *The Appearance of Character: Physiognomy and Facial Expression in the Eighteenth Century*. London: Maney and Son, 1999.

Persaud, T. V. N. *History of Anatomy: the Post-Vesalian Era*. Springfield: Charles C. Thomas, 1997.

"Piracy and Medicine." *British Medical Journal* 1 (1924): 721-22.

Pirenne, Jacqueline. *Légende du "Prêtre Jean"*. Strasbourg: Presses universitaires de Strasbourg, 1992.

Platt, Peter G., ed. *Wonders, Marvels, and Monsters in Early-Modern Culture*. Newark: University of Delaware Press, 1999.

Popkin, Richard H. "The Philosophical Basis of Eighteenth-Century Racism." in *Studies in Eighteenth-Century Culture: Racism in the Eighteenth Century*, edited by Harold E. Pagliaro, 245-62. Cleveland: Case Western Reserve Univ. Press, 1973.

Punt, Hendrik. "Bernard Siegfried Albinus und die anatomische Perfektion." *Medizinhistorisches Journal* 12 (1977): 325-45.

Pusey, William Allen. *The History of Dermatology*. Springfield, IL and Baltimore: Charles C. Tomas, 1933.

Quinan, Clarence. "White Indians of Darien." *Science* (1924): 476-77.

Radin, Max. "Gens, Familia, Stirps." *Classical Philology* 9, no. 3 (1914): 235-247.

Raj, Kapil. "Introduction: Circulation and Locality in Early Modern Science." *British Journal for the History of Science* 43 (2010): 513-17.

Ramsaran, John A. "William Dampier (1652-1715)—Writer and Buccaneer in the West Indies." *Caribbean Quarterly* 5 (1959): 272-75.

Ratcliff, Marc. *Quest for the Invisible: Microscopy in the Enlightenment*. Farnham: Ashgate, 2009.

Raven-Hart, R., trans. *Description of the Cape of Good Hope with the Matters Concerning It*. Cape Town: Van Riebeeck Society, 1971.

Raynaud, Philippe. *Politesse des Lumières: les lois, les moeurs, les manières*. Paris: Gallimard, 2013.

Regard, Frederic. *British Narratives of Exploration: Case Studies of the Self and the Other*. London: Pickering and Chatto, 2009.

Reinarz, Jonathan, and Kevin Siena. *A Medical History of Skin: Scratching the Surface*. London: Pickering and Chatto, 2013.

Richards, Paul. "Kant's Geography and Mental Maps." *Transactions of the Institute of British Geographers* 61 (1974): 1-16.

Richardson, Alan. *A Mental Theater: Poetic Drama and Consciousness in the Romantic Age*. University Park: Pennsylvania State University Press, 1988.

Riley, Mark. "Science and Tradition in the *Tetrabiblos*." *Proceedings of the American Philosophical Society* 132, no. 1 (1988): 67-84.

Rist, Gilbert. "La notion médiévale d'habitus dans la sociologie de Pierre Bourdieu." *Revue européenne des sciences sociales* 22 (1984): 201-21.

Roberts, Peder. *European Antarctic: Science and Strategy in Scandinavia and the British Empire.* New York: Palgrave, 2011.

Ronchi, Vasco. "The General Influence of the Development of Optics in the Seventeenth Century on Science and Technology." In *Vistas in Astronomy*, edited by Arthur Beer, 123-33. Oxford: Pergamon Press, 1951.

Rotschuh, K. E. "Studien zu Friedrich Hoffmann (1660-1742): Hoffmann und die Medizingeschichte, Das Hoffmansche System und das Aetherprinzip." *Sudhoffs Archiv* 60 (1976): 163-93.

Ruestow, Edward G. *The Microscope in the Dutch Republic.* Cambridge: Cambridge University Press, 1996.

Sarafianos, Aris. "The Natural History of Man and the Politics of Medical Portraiture in Manchester." *The Art Bulletin* 88, no. 1 (2006): 102-118.

Sarton, George and Erika von Erhardt-Siebold, "Remarks on the Theory of Temperaments." *Isis* 34, no. 3 (1943): 385-399.

Scarborough, John. "Romans and Physicians." *Classical Journal* 65 (1970): 296-306.

-----. "Early Byzantine Pharmacology." *Dumbarton Oaks Papers* 38 (1984): 213-232.

Schickore, Jutta. *The Microscope and the Eye* (Chicago: University of Chicago Press, 2007).

Schilder, Günter. *Monumenta Cartographica Neerlandica*, vol. 5. Canaletto: Alphen aan den Rijn, 1996.

Schoenmakers, Henri. *Performance Theory.* Leiden: Instituut voor Theaterwetenschap, 1986.

Seeber, Edward D. "The French Theatre in Charleston in the Eighteenth Century." *South Carolina Historical and Genealogical Magazine* 42 (1941): 1-7.

Selden, D. "How the Ethiopian Changed His Skin." *Classical Antiquity* 32, no. 2 (2013): 322-377.

Shah, Mazhar. *The General Principles of Avicenna's Canon of Medicine*. Karachi: Naveed Clinic, 1966.

Shapin, Steven. *A Social History of Truth*. Chicago: University of Chicago Press, 1996.

Shookman, Ellis, ed. *Faces of Physiognomy: Inderdisciplinary Approaches to Johann Caspar Lavater*. Columbia, S.C.: Camden House, 1993.

Sidky, H. *Witchcraft, Lycanthropy, Drugs and Disease: an Anthropological study of the European Witch-Hunts.* New York: Peter Lang, 1997.

Siegel, Rudolph E. "Principles and Contraditions of Galen's Doctrine of Vision." *Sudhoffs Archiv* 54, no. 3 (1970): 261-276.

Silverberg, Robert. *Realm of Prester John.* Garden City: Doubleday, 1972.

Singy, Patrick. "Huber's Eyes: The Art of Scientific Observation before the Emergence of Positivism." *Representations* 1 (2006): 54-75.

Siraisi, Nancy G. "Vesalius and Human Diversity in *De humani corporis fabrica.*" *Journal of the Warburg and Courtauld Institutes* 57 (1995): 60-88.

Smidt, Wolbert. *Afrika im Schatten der Aufklärung: das Afrikabild bei Immanuel Kant und Johann Gottfried Herder.* Bonn: Holos, 1999.

Smith, A. Mark. "The Psychology of Visual Perception in Ptolemy's Optics." *Isis* 79 (1988): 189-206.

Smith, Justin E. H. *Problem of Animal Generation in Early-Modern Philosophy.* Cambridge: Cambridge University Press, 2006.

Smith, Pamela. *The Body of the Artisan: Art and Experience in the Scientific Revolution.* Chicago: University of Chicago Press, 2004.

Smith, Pamela, Amy R. W. Meyers, and Harold J. Cook. *Ways of Making and Knowing: the Material Culture of Empirical Knowledge.* Ann Arbor: University of Michigan Press, 2014.

Smith, Richard L. "What Happened to the Ancient Libyans? Chasing Sources across the Sahara from Herodotus to Ibn Khaldun." *Journal of World History* 14, no. 4 (2003): 459-500.

Snowden, Frank M. *Before Color Prejudice: the Ancient View of Blacks.* Cambridge: Harvard University Press, 1983.

Son, Henry Stevens & Stiles. *Brief Account of the Original Waldseemüller World-Maps of 1507 and 1516.* London: 1907.

Søndergaard, Leif and Rasmus Thorning Hansen, eds. *Monsters, Marvels and Miracles: Imaginary Journeys and Landscapes in the Middle Ages.* Odense: University Press of Southern Denmark, 2005.

Spiller, Elizabeth. *Reading and the History of Race in the Renaissance.* Cambridge: Cambridge University Press, 2011.

Staffan Müller-Wille and Hans-Jörg Rheinberger, eds. *Heredity Produced: at the Crossroads of Biology, Politics, and Culture, 1500-1870.* Cambridge, Mass.: MIT Press, 2007.

Strack, Thomas. "Philosophical Anthropology on the Eve of Biological Determinism: Immanuel Kant and Georg Forster on the Moral Qualities and Biological Characteristics of the Human Race." *Central European History* 29, no. 3 (1996): 285-308.

Star, Susan. *Sorting Things Out: Classification and its Consequences*. Cambridge: MIT Press, 1999.

Star, Susan and James Griesemer, "Institutional Ecology: 'Translations' and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907-39." *Social Studies of Science* 19, no. 3 (1989): 387-420.

Stephens, Elizabeth. *Anatomy as Spectacle: Public Exhibitions of the Body from 1700 to the Present*. Liverpool: Liverpool University Press, 2011.

Stern, S. M. "A Collection of Treatises by 'Abd Al-Latif al-Baghdadi." *Islamic Studies* 1, no. 1 (1962): 53-70.

Stone, Jeffrey C. "Imperialism, Colonialism, and Cartography." *Transactions of the Institute of British Geographers* 13 (1988): 57-64.

Stuurman, Siep. "François Bernier and the Invention of Racial Classification." *History Workshop Journal* 50 (2000): 1-21.

Sturdy, David. *Science and Social Status: The Members of the Académie des Sciences 1666-1750*. Woodbridge: Boydell Pess, 1995.

Sturken Marita and Lisa Cartwright. *Practices of Looking: An Introduction to Visual Culture*. Oxford: Oxford University Press, 2009.

Summers, Montague. *The Vampire in Europe*. New Hyde Park: University Books, 1962.

Taylor, Diana. "Scenes of Cognition: Performance and Conquest." *Theatre Journal* 56, no. 3 (2004): 353-372.

Temkin, Oswei. "Byzantine Medicine: Tradition and Empiricism." *Dumbarton Oaks Papers* 16 (1962): 95-115.

Terrall, Mary. *The Man who Flattened the Earth: Maupertuis and the Sciences in the Enlightenment* (Chicago: University of Chicago Press), 146.

Terrral, Mary. "Speculation and Experiment in Enlightenment Life Sciences." In *Heredity Produced: at the Crossroads of Biology, Politics, and Culture, 1500-1870*, edited by Staffan Müller-Wille and Hans-Jörg Rheinberger, 253-275. Cambridge, Mass.: MIT Press, 2007.

Teyssou, Roger. *Histoire de la circulation du sang: Harvey, Riolan et les autres*. Paris: Harmattan, 2014.

Todorov, Tzvetan. *On Human Diversity: Nationalism, Racism, and Exoticism in French Thought*. Translated by Catherine Porter. Cambridge: Harvard Univ. Press, 1993.

Tončić-Sorinj, Luo. "Das Alte Afrika und der neue Globus." *Der Globusfreund* 10 (1961): 8-13.

Topazio, Virgil W. "Voltaire, Philosopher of Human Progress." *Proceedings of the Modern Language Association* 74, no. 4 (1959): 356-64Turner, Gerard L'Estrange. *Essays of the History of the Microscope*. Oxford: Senecio, 1980.

Turnbull, David. "Cartography and Science in Early Modern Europe: Mapping the Construction of Knowledge Spaces." *Imago Mundi* 48 (1996): 5-26.

Vannoni, Antonella. "Verso la scienza dell'uomo: le instruzioni per I viaggiatori da Boyle a Degérando." *Ricerca Folklorica* 32 (1995): 13-19.

Vaughan, Virginia Mason. *Performing Blackness on the English Stages, 1500-1800.* Cambridge: Cambridge University Press, 2005.

Vieira, Yara Frateschi. "Emblematic Monsters in Portuguese Pamphlets of the Eighteenth Century." *Portuguese Studies* 4 (1988): 84-99.

Vlassopoulos, Kostas. *Unthinking the Greek Polis: Greek History beyond Eurocentrism*. Cambridge: Cambridge University Press, 2007.

Voegelin, Eric. *Die Rassenidee in der Geistesgeschichte von Ray bis Carus.* Berlin: Junker und Dünnhaupt, 1933.

-----. *History of the Race Idea: from Ray to Carus.* Translated by Ruth Hein. Baton Rouge: Louisiana State University Press, 1998.

Wellington, Marie. "Montesquieu's Troglodytes and Voltaire's Quakers: a Case of Ideological Kinship." *Dalhousie French Studies* 28 (1994): 29-41.

Wenger, Etienne. *Communities of Practice: Learning, Meaning, and Identity*. Cambridge: Cambridge University Press, 1998.

Wengrow, David. *Origins of Monsters: Image and Cognition in the First Age of Mechanical Reproduction*. Princeton: Princeton University Press, 2014.

Wes, William. *Monsters and their Meanings in Early-Modern Culture*. Oxford: Oxford University Press, 2011.

Whitfield, Peter. *New Found Lands: Maps in the History of Exploration*. New York: Routledge, 1994): 54-55.

Williams, Glyndwr. *Expansion of Europe in the Eighteenth Century*. New York: Walker, 1967.

Wilson, Catherine. *The Invisible World: Early Modern Philosophy and the Invention of the Microscope*. Princeton: Princeton University Press, 1995.

-----. "Visual Surface and Visual Symbol: The Microscope and the Occult in Early Modern Science." *Journal of the History of Ideas* 49 (1988): 85-108.

Wilson, Kathleen. "The Performance of Freedom: Maroons and the Colonial Order in Eighteenth-Century Jamaica and the Atlantic Sound." *William and Mary Quarterly* 66, no. 1 (2009): 45-86.

Wirth, Thomas. "'So Many Things for His Profit and for His Pleasure': British and Colonial Naturalists Respond to an Enlightenment Creed, 1727-1777." *Pennsylvania Magazine of History and Biography* 131 (2007): 127-47.

Withers, Charles. *Placing the Enlightenment: Thinking Geographically about the Age of Reason*. Chicago: University of Chicago Press, 2007.

-----. "Geography, Natural History and the Eighteenth-Century Enlightenment: Putting the World in Place." *History Workshop Journal* 39 (1995): 136-63.

Worrall, David. *Harlequin Empire: Race, Ethnicity and the Drama of the Popular Enlightenment*. London: Pickering and Chatto, 2007.

Wuestman, Gerdien. "The Mezzotint in Holland: 'Easily Learned, Neat and Convenient.'" *Simiolus* 23 (1995): 63-89.

Young, Harvey. *Embodying Black Experience: Stillness, Critical Memory, and the Black Body*. Ann Arbor: University of Michigan Press, 2010.

Zand, Kamal Hafuth. *The Eastern Key: Kitab al-ifadah wa 'l-I'tabar of 'Abd Al-Latif al-Baghdadi"*. London: George Allen and Unwin, 1965.

Zecchini, Giuseppe, ed. *Lessico Suda e la memoria del passato a Bisanzio*. Bari: Edipuglia, 1999.

Ziegler, Joseph. "Philosophers and Physicians on the Scientific Validity of Latin Physiognomy, 1200-1500." *Early Science and Medicine* 12 (2007): 285-312.

Zinguer, Ilana and Isabelle Martin, eds. *Théâtre de l'anatomie et corps en spectacle*. New York: Peter Lang, 2006.