ABSTRACT

Title of Document:	SAMUEL MORTON, JOSIAH NOTT, AND THE ORIGINS OF THE 'AMERICAN SCHOOL': AUTHORITY, GENIUS, AND SYSTEMS-BUILDING IN NINETEENTH CENTURY ETHNOLOGY
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This thesis traces the origin and development of the "American School" of ethnology from the natural historical debate over the nature of hybridity and the definition of species between the naturalist John Bachman and the ethnologist Samuel George Morton to the posthumous management of Samuel Morton's reputation and authority by the physician and ethnologist Josiah Nott and his collaborators in *Types of Mankind* for the purposes of establishing themselves as ethnological authorities in their own right.

SAMUEL MORTON, JOSIAH NOTT, AND THE ORIGINS OF THE 'AMERICAN SCHOOL': AUTHORITY, GENIUS, AND SYSTEMS-BUILDING IN NINETEENTH CENTURY ETHNOLOGY

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Thesis submitted to the Faculty of the Graduate School of the
University of Maryland, College Park, in partial fulfillment
of the requirements for the degree of
Master of Arts
2009

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Introduction

This thesis traces the origin and development of the "American School" of ethnology from the natural historical debate over the nature of hybridity and the definition of species between the naturalist John Bachman and the ethnologist Samuel George Morton[1] to the posthumous management of Samuel Morton's reputation and authority by the physician and ethnologist Josiah Nott and his collaborators in *Types of Mankind* for the purposes of establishing themselves as ethnological authorities in their own right. This narrow debate over the question of species and the nature of hybridity went to the issue of who could be a naturalist or an ethnologist in America due to the amateur nature of American science and the intellectual practices of natural history and ethnology in the mid-nineteenth century.

American science in the 1840s and 1850s had developed in such a manner so that there was no universally recognized body for the granting of expertise or authority, especially in the realm of ethnological inquiry. As there was no centralized patronage or disciplinary bodies in the United States, such as the Royal Society in Britain or the British Association for the Advancement of Science, natural historians and ethnologists cultivated their reputations as truthful arbiters of scientific fact, managed through a small set of periodicals and institute publications and a select number of appointments in academic spaces, to control vast networks of suppliers of natural historical specimens. Such networks allowed ethnologists and naturalists to produce and to improve their work. If scientists and the public praised such a work, as

[1] See Claude Blanckaert, "Of Monstrous Métis" in *The Color of Liberty, Histories of Race in France* (Duke University Press, 2003) especially, pg. 54ff.

"science," as a truthful account of the complexities of nature, as was the case with Morton's 1839 *Crania Americana*, an ethnographic work on ancient Mesoamericans, the naturalist or ethnologist could move forward in his endeavor, making his narrative ever more detailed and authoritative.

The work of the geologist, physician, and ethnologist Samuel George Morton (1799-1851) on the nature of hybridity- in which he argued for the ability of members of distinct, though closely related species, to produce fertile offspring- was perceived as going immediately to the very serious issue of whether human beings were one species or many. By arguing for the proliferation of hybrids, Morton was able, according to Claude Blanckaert, to "obliterate" the "classical objection" objection of the "monogenists" who "justified the order of nature by the mutual aversion of individuals belonging to separate species." Morton was opposed in these conclusions by the South Carolina naturalist and theologian John Bachman (1790-1874) who upheld not only the existence of mutual repugnance between members of closely related species but also considered fertility among members to be the mark of species. Bachman's natural historical conclusions supported a larger theological system of ideas that argued for not only the unitary species identity of human kind but also for the veracity of the account of the book of Genesis.

Furthermore, by disagreeing with Bachman and criticizing the authorities that he deployed in order to structure his arguments, Morton established himself as a natural historical authority in his own right. That an issue such as taxonomy and the manner

in which "species" was defined went to questions of theology and the place of man in the order of nature points to a fundamental feature of natural historical argumentation, that of an interlocking "system" of arguments. In these systems, claims against one element of the system -the definition of species provided by monogenesist naturalists and ethnographers- go to the integrity of the larger theological claims.

The two main chapters of the thesis- the first concerning the debate over hybridity and the understanding of species in antebellum natural history and ethnology, the second concerning the posthumous use of the authority and "genius"[2] of Samuel George Morton by Josiah Nott and his collaborators to found an "American School" of ethnology- provide critical insights into the nature and construction of authority and the presentation of "authoritative" arguments in antebellum science. These elements are visible in these contexts due to an intellectual environment defined by competing natural historical and ethnological systems, divided over the question as to the original unity or diversity of human kind as well as the exact mechanism behind biological change in nature.

[2] There is an extensive literature on the rhetorical and strategic uses of "genius" in scientific narrative. Most important for the argument of this thesis are Simon Schaffer's "Scientific Discoveries and the End of Natural Philosophy," in *Social Studies of Science*, and "Genius in Romantic Natural Philosophy," in *Romanticism and the Sciences*, ed. Andrew Cunningham and Nicholas Jardine (Cambridge University Press, 1990) as well as Richard Yeo's, "Genius, Method, and Morality: Images of Newton in Britain," in *Science in Context*. These relate the construction of scientific genius to the promotion of specific research programs, pedagogies, methodologies, and the defense of specific institutional and professional arrangements. Jan Golinski in his *Science as Public Culture: Chemistry and Enlightenment in Britain* (Cambridge: Cambridge University Press, 1992) narrates how the chemist Humphry Davy deployed the public persona of a "genius" in order to promote his specific instrumentation methods and research agenda as well as to gain access to scarce scientific resources. Davy's program and his emphasis on the genius discoverer was also an effort to discount the chemistry and radical philosophy of Joseph Priestly.

Before Darwin's *Descent of Man* (1871) and the principle of natural selection and the discovery of biological vehicles for the transmission of heritable characteristics in 1890 by August Weismann,[3] there existed no consensus on the exact mechanism underlying human differences. Advocates of biological change by the action of climate or "civilization," such as the enlightenment naturalist Comte de Buffon, Baron Montesquieu, the philosopher Immanuel Kant, and the Victorian ethnologist James Prichard, and those who believed in the propagation of distinct "types", such as the French philosopher Voltaire, the enlightened historian Lord Kames, Samuel Morton, and Josiah Nott, could both marshal varieties of evidence to support their positions.

Historians have termed the position of Buffon, Montesquieu, Kant, and Prichard, as "monogenesis," as it argued for the species identity of human beings and the creation of all human beings in a single divine act. In opposition to this was the doctrine of "polygenesis," which emphasized the multiplicity of human species. Polygenesist naturalists believed in the existence of originally, separately created "types," "races" or stocks, and as importantly, discounted the characterization of "species" as defined the fertility of subsequent generations of offspring. Moreover, polygenesist naturalists and ethnologists underscored the persistence of hybrids in nature and the differing mechanisms through which members of closely allied species overcame "mutual repugnance." Monogenesis was the natural historical "orthodoxy" as it could trace an undiminished lineage from the older enlightened natural and civil history into

[3] On Weismann, see Carl L. Degler, *In Search of Human Nature* (Oxford University Press US, 1992), chapter 1, "Invoking the Darwinian Imperative."

the early nineteenth century, with advocates in Baron Cuvier, J. F. Blumenbach, and Petrus Camper, all founders of the discipline of comparative anatomy and ethnology.[4] Due to the nature of natural historical argumentation in the late eighteen and early nineteenth centuries, to discount the monogenesist account of species was to discount the monogenesist view of the order of nature. As Audrey Smedley notes, "Kames scoffed at Buffon's definition of species" disbelieving that fertile, healthy offspring was the distinguishing marker of same species parentage, and "denied that climate was responsible for the great variations in biophysical characteristics," and insisted that "fundamental and primordial differences in innate behavior, as well as overt physical traits, were indicative of species distinction."[5]

[4] On Kant, J.F. Blumenbach, and Camper, see especially, "Policing Polygeneticism in Germany," in *The German Invention of Race* (SUNY Press, 2006), on Camper and his defense of monogenesis, see *Race and Aesthetics in the Anthropology of Petrus Camper* (Rodopi, 1999), especially, chapter 4, "The Question of Color."

[5] Audrey Smedley, *Race in North America* (Westview Press, 2007), pg. 167. Colin Kidd underscores how important Buffon's monogenesis and his conception of species was to the "mainstream" of the Enlightenment natural historical project and for the contours of nineteenth century thought. He writes, "On the one hand, Voltaire's polygenesis had about it a whiff of anti-scriptural notoriety for those skeptical *philosophes* who were tempted to live dangerously" in contrast with the "naturalistic reasoning of Buffon." *The Forging of the Races* (Cambridge: Cambridge University Press, 2006), 86. Most practitioners in the late eighteenth and early nineteenth century viewed polygenesis as a speculative enterprise associated with radicalism and materialism. This is not to say, however, that all French *philosophes* were polygenesists, as Diderot's *Encyclopedia* article supported Buffon. See *Diderot and the Metamorphosis of Species* (CRC Press, 2006), especially chapter 4, "The Chain of Beings." The shifting of some natural historical and anatomical ground to polygenesis is apparent however in the position of Baron Cuvier. As Bruce David Baum notes in his *The Rise and Fall of the Caucasian Race* (New York: NYU Press, 2006), while Cuvier was a monogenesist he defined "races" in terms of "hereditary particularities," and identified three races: Caucasian, Mongolian, and Ethiopian. Cuvier also argued for Caucasians to be the civil and aesthetically pleasing. On the other hand, Cuvier still trafficked in traditional enlightened categories of barbarism and civility. Like Montesquieu, the civilization of Mongolians was "static" and that of Ethiopians was "barbarous." (*The Rise and Fall of the Caucasian Race*, 102) For Buffon's formulation of his monogenesist position see, *Buffon: A Life in Natural History* (Ithaca: Cornell University Press, 1997) by Jacques Roger, especially chapter 12, "The Birth of Anthropology." On the influence of Buffon on Immanuel Kant and Kant's opposition to polygenesis, see *The Philosophy of Biology* by Marjorie Glicksman Grene (Cambridge: Cambridge University Press, 2004), especially chapter 4, "Kant and the Development of German Biology."

Neither system, however, was fully capable of assimilating the vast varieties of ethnographic, archeological, and natural historical evidences. As such, there was a continual contest over what synthesis of this evidence presented the closest thing to a truth of nature. Ethnologists and natural historians gathered these evidences from colonial exploration and archeological fieldwork, becoming more expansive and extensive beginning with the voyages of Captain Cook in the 1760s and 1770s and reaching a crescendo in the 1830s and 1840s.[6] The middle of the nineteenth century saw the discovery and diffusion of thousands of works on Hebraic, Cuneiform, Indus, and Hieroglyphic scripts resulting from British, French, and German excursions into Egypt, North Africa, the Indus Valley, and Palestine.[7] As importantly, during this period there were several discoveries of paleontological significance in Europe and Britain. Such excursions, yielding archeological, natural, and paleontological specimens not only vastly increased the complexity of the problem of human difference and the relationship of the human being to the rest of nature but seriously disrupted the biblical chronology by providing a detailed pre-history of human beings.[8]

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[6] On the interconnections between the refinement and expansion of methods and instruments of collection in natural history, the development of the identity of the naturalist, and the organization and transmission of knowledge gained through the expansion of empire through exploration, and the negotiations leading to local knowledge, see especially, Felix Denver's *Geography Militant*, particularly his discussion of "cultures of exploration" pg.9ff. On the impact of the South Seas and on the interconnections between the study of languages, antiquarianism, and the development of anthropology, see John Gascoigne's *Joseph Banks and the English Enlightenment* (Cambridge: Cambridge University Press, 2003), especially chapter 4, "From Antiquarian to Anthropologist."

[7] Klaus Karttunen in "Expansion of Oriental Studies in the 19th Century," in *Schools of Oriental Studies and the Development of Modern Historiography* (Mimesis Edizioni, 2004) gives a good overview, noting that the first half of the nineteenth century represented an "Achsenzeit" with "important breakthroughs and fundamental methodological developments in almost every field of the wide area of studies dealing with the languages and civilizations of Asia and North Africa." See his article in *Schools of Oriental Studies and the Development of Modern Historiography*, pg. 161ff.

[8] On the impact of archeology and the account of human pre-history in the nineteenth century, see Bruce Trigger, *A History of Archeological Thought* (Cambridge: Cambridge University Press, 2006).

The middle of the nineteenth century in America saw also the diffusion of philosophic and natural historical systems due to the absence of regulative philosophic and historical ideologies. Neither socialism nor positivism had any real influence in America, especially in the antebellum South, due to the conjoining of progressive social change, social revolution, and class and racial war.[9] Herbert Spencer's progressivism and Social Darwinism would emerge only in the 1870s.[10] The French Revolution, the Terror, and the Haitian Revolution had disproved Enlightenment universalism in America.[11] Although Arthur de Gobineau had by 1853 begun writing his *An Essay on the Inequality of the Human Races*, historical pessimism and grand theories of degradation did not emerge until the 1890s and the fin-de-siecle in Europe.[12] European Romanticism influenced American ethnology

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Particularly important were the discovery of human remains, stone tools, and extinct animals in the same strata. Those of Paul Tournal near Narbonne, France and Jules de Christol near Montpellier, France were the most important discoveries in the early nineteenth century. See especially the section entitled, "The Antiquity of Humanity" in Trigger, pg. 138ff.

[9] On Southern reaction to the Revolution of 1848, see especially, Eugene D. Genovese, *The Mind of the Master Class* (Cambridge: Cambridge University Press, 2005), especially, "The Age of Revolution through Slaveholding Eyes," with Genovese noting that, the political economists and Southern statesmen, "John Randolph, Thomas Cooper, Thomas Roderick Dew, and John C. Calhoun had identified the destructive implications of the great social upheavals in Europe and predicted mounting ferocity" (53.)

[10] On Spencer and his complex association with 'Social Darwinism' as well as laissez-faire social policy, see especially, Mike Hawkins, *Social Darwinism in European and American Thought* (Cambridge: Cambridge University Press, 1997), "Herbert Spenser and Cosmic Evolution" and Richard Hofstadter, *Social Darwinism in American Thought* (Beacon Press, 1992).

[11] For the role of the Terror as inspiring a conservative counter-revolution and disproving liberal universalism, see both Jesse Goldhammer, *The Headless Republic: Sacrificial Violence in Modern French Thought* (Ithaca: Cornell University Press, 2005). Trygve R. Tholfsen has observed that, "It was not 1789 that so profoundly affected the consciousness and politics of Europe in the nineteenth century, but rather the radical revolution of 1792-94 and the radical ideology of Jacobinism." See Trygve R. Tholfsen's *Ideology and Revolution in Modern Europe* (New York: Columbia University Press, 1984), especially chapter 2, "The Enlightenment and the French Revolution."

[12] For a contemporary view of the problem of degeneration and its relationship to arts, civilization, morals, and taste, see Max Simon Nordau *Degeneration* (D. Appleton ,1895.) In the *fin-de-siecle*, as Ross G. Forman notes, "The racialialization of notions of decline manifested itself most spectacularly at the end of the century with the concept of degeneration." Degeneration theory, furthermore, "gave a new twist to Social Darwinism by arguing that the resurfacing of primitive traits explained a whole

and natural history by imparting a general sense that science should begin with the individual intuition into a truth of nature and end with a totalizing system, linking history, theology, the natural world, and the individual subjectivity.[13] The most important feature of this world-view was that men (or groups of men) were capable of exerting profound control over the course of history and the workings of nature but, as importantly, men were also subject to great irrational forces emerging from their organic natures. The Romantic scientist should then not try to construct a cold, rational, and mechanical view of nature, distinct from the self, but to take into account how his subjective view of the world leads to a profound insight into the system of nature. Thus, scientific knowledge was akin to painting or the composition of poetry, a harmonious object that resulted from the "genius" creativity of the spectator. There was then a freedom to posit schemes of historical development that unified nature, history, and theology in a manner appropriate to the

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host of ills experienced by modern civilization" (104.) Thus, degeneration theory needed not only Darwinian evolution but also a visibly industrial world that was distinctly 'modern.' See Ross G. Forman, "Empire," in *The Cambridge Companion to the Fin de Siecle* (Cambridge: Cambridge University Press, 2007), pg. 104ff. The best narrative account of the *fin de siecle* ideas remains, Daniel Pick's *Faces of Degeneration* (Cambridge: Cambridge University Press, 1993.)

[13] The Romantic sensibility is most readily approachable through a comparison with the Enlightenment. Here Isaiah Berlin is helpful. He underscored the distinction between Romantic and Enlightenment world-views through a comparison between Voltaire and Carlyle's accounts of Muhammad. Voltaire, Berlin noted, "was not particularly interested in Muhammad" and his play was intended as an attack upon the Church. Nevertheless, the Muhammad that emerged was a "superstitious, cruel, and fanatical monster, who crushes all efforts at justice" and is therefore denounced by Voltaire as the enemy of reason and civilization. Carlyle, in his typically Romantic work, *On Heroes, Hero-Worship, and the Heroic in History*, describes Muhammad as "a fiery mass of Life cast up from the Bosom of Nature herself." Carlyle's Muhammad is "blazing with sincerity and power" and what is admirable about him is not the truth of his religious beliefs (an Enlightenment concern) but rather the intensity of his convictions. With Muhammad, Carlyle argued, "something elemental occurred…a great and moving episode in the history of mankind" (Berlin, *The Roots of Romanticism* (Princeton: Princeton University Press, 11.) Nicholas Jardine in his "*Naturphilosophie* and the Kingdoms of Nature," in *Cultures of Natural History* (Cambridge: Cambridge University Press, 1996) gives an admirable summary of the intellectual content of Romanticism. Richard Yeo had also underscored how Romantic science, beginning in the early nineteenth century, increasingly accepted specialized scientific taxonomies, with physics referring to studies of optics, electricity, and magnetism, and natural history breaking down into zoology, physiology, biology, and comparative anatomy. See Richard Yeo, "Natural Philosophy (Science)" in the *Oxford Companion to the Romantic Age* (Oxford University Press, 2001.)

needs of the individual practitioner and which had developed from his unique insight. This freedom was visible in Josiah Nott's view of civilizational progress as defined by racial type and hybridity as well as his account of the role of "instinct" in his contributions to the 1854 work, *Types of Mankind*.

The contests over the authority of the naturalist in the tradition of Buffon not only reflected institutional and social dynamics in American science but also wider confluences in the history of ideas. With both authority and ideas in constant flux, the argumentative strategies behind the assemblage and presentation of evidences become all the more critical and all the more visible. With no irrefutable proof pointing to either the original unity or diversity of the human species, or evidence clearly and unequivocally outlining the human beings' relationship to the order of nature or the forces behind his biological and civilization development, the manner in which the argument is presented and supported and the person, the authority and the tradition he represents, presenting the narrative becomes essential.

Accordingly, in his debate with Bachman, Samuel Morton's desire to present a more empirically and conceptually satisfying picture of the characteristics of species and the mechanisms of hybridity was viewed as a critique of the enlightened natural historical tradition and its continued support of monogenesis. A critique of this natural historical tradition, even on such a narrow issue of species taxonomy and the action of hybridity in nature, would add greatly to the reputation and authority of the ethnologist Morton, who was now, after *Crania Americana*, able to make

authoritative pronouncements on not only the natural history of human beings, but upon the entire order of nature. If Morton was able to determine the nature of species and the mechanism for biological change, the ethnologist and his methodology were then superior and closer to the truth than the established enlightenment natural history and its defense of monogenesis. The contest over hybridity and species was then a contest between an established and threatened scientific identity, made even more acute by Bachman's position in an important though still provincial Charleston, South Carolina, and a partisan of a novel methodology that had the potential of usurping the established authority of the naturalist.

After Morton's death, Josiah Nott and his collaborators, in order to promote their own systems, which they believed to be an extension of Morton's ethnology, and further, to establish themselves as ethnological authorities, underscored Morton's natural historical and ethnological achievements by utilizing the rhetoric of the "genius" practitioner. Morton's "genius" was neither a construction of a system nor simply a methodological or practical insight, such as the use of skull measurements, but rather a collection of methodological insights, taxonomical discussions, and inquiries into natural historical laws.

Discussions of Morton's genius hinged upon his victory in the hybridity debate with John Bachman and in his application of the methodology of "ethnology" to primitive and present-day man in a manner far more extensive than either Blumenbach or Camper. This, in the eyes of the adherents of the "American school," validated the

usefulness of ethnology as an explanation of human variation and the status of ethnology as a science. Unlike James Prichard, moreover, Morton began from the "scientific" premise of the original diversity of human beings, a realization made possible through his work on hybridity and species. According to members of the "American school," Morton's insights achieved corroboration through his systematic measurement of skulls, a collection unrivalled by any other naturalist or ethnologist due to the esteem that Morton had amassed by his death in 1851.

Josiah Nott and his collaborators used the insights of Morton, and the account of his genius and early death, to construct an ethnological system quite distinct from Morton's own writings in the pages of *Types of Mankind*. The key to the promotion of their own systems and to their establishment of themselves as ethnological authorities was their emphasis on not only the genius of Morton but upon the dependence and foundation of their own systems upon his insights. Key to this construction was the rhetoric of consistency, essential to 18th and 19th century accounts of genius, particularly that of Isaac Newton, and utilized fully in Nott and his collaborators hagiography of Samuel Morton, who attempted to manage the posthumous reputation of Morton by giving his views a systematicity which they did not possess. As importantly, Nott and his collaborators in *Types* treated Morton's writings as propositional and canonical- clear, true, and authoritative- rather than as Morton frequently intended them - limited in scope. Furthermore, Nott utilized Morton's intention shortly before his death to produce a systematic work of

ethnography in order to present *Types of Mankind* as an extension of Morton's own work and legacy.

Josiah Nott and his collaborators granting of consistency and intentionality towards systematicity were an essential methods by which the authors of *Types of Mankind* were able to place themselves within a "school." This placement within a school enabled Nott and his collaborators to situate their arguments within the research program begun by Morton, presented as a radical break with past accounts of human difference and the natural world. As such, they were able to present themselves both as students, faithful followers, of the methodology of Morton as well as naturalists in their own right. Such an anchor allowed Nott and his collaborators to assemble varieties of evidences into coherent systems of arguments. Nott, more than any other contributor to *Types of Mankind*, used the authority and genius of Morton to articulate a distinct system of his own. The degree to which Nott's own ethnology is distinct from that of Morton has been hereto obscured by Nott's insistence of his following the path laid for him by Morton himself. Far from being a mere acolyte or follower, it was Nott himself who founded the "American" school through a skillful construction of a research program using the prestige of Morton and the tragedy of his death. Thus, a fundamental contribution of this thesis will be a new interpretation of the foundation of the "American school" as a device used by Nott himself to become an authoritative naturalist in antebellum America and to articulate a system distinct from that of the "founder" Morton.

A reassessment of the American School's origins in narrow natural historical debates and the status of Morton's contributions are essential due to the place of the American school within both the history of ideas and the history of anthropology. Some scholars, notably Terry Jay Ellingson and Stephen Jay Gould, view the American School as science mutated in the service of popular racial attitudes, an expression of the toxic racism of the antebellum South. Ellingson, in his discussion of the "objectivity" of scientific inquiry in antebellum America in the face of scientific racism, presents the cranial measurements of Morton as a cautionary tale of the mixing of prejudice and bad "science." Ellingson remarks that the claims of "scientific racism" to "scientific legitimacy" were not simply "rhetorical" but "rested to some extent on advances in quantitative data gathering." Contemporary efforts to replicate Morton's findings by Stephen Jay Gould[14] demonstrated "their complex edifices of extensive measurements and data were erected on a warped scaffolding of popular racial prejudices that skewed and distorted their scientific results."[15] The position of Gould and Ellingson however is far better than that of William Stanton, who argued in his *The Leopard's Spots* that the American School's ethnology paved the way for many of Darwin's insights.[16] Better still John Carson's account of Morton's pivotal contribution to the widespread scientific "plausibility" in America of "Western truths": "that humans, specially white Europeans, held pride of place in the animal kingdom and that European civilization was superior to all others."[17]

[14] See Stephen Jay Gould, *The Mismeasure of Man* (Norton, 1996), especially the chapter entitled "American Polygeny and Caniometry."
[15] Terry Jay Ellingson, *The Myth of the Noble Savage* (University of California Press, 2001), 152
[16] William Stanton, *The Leopard's Spots* (Chicago: University of Chicago Press), 195-196
[17] John Carson, *The Measure of Merit* (Princeton: Princeton University Press, 2006), 90-91

Morton, according to Carson, "undoubtedly did more than any other scientist to establish cranial capacity as the preferred method for demonstrating that the human races fell into a graded series."[18] Morton's cranial measurements were pivotal to the impulse in ethnology "to analyze and order races or groups, through an investigative strategy centered on reducing cranial characteristics to a compilation of measurements that could easily be arrayed into linear hierarchies and aligned with mental attributes" creating a "powerful language of racial difference."[19] Morton's research, especially his use of cranial measurements to distinguish between races, was essential to the conjoining of "race" and "intelligence" in the middle of the nineteenth century in America. In the antebellum South, such a pairing had distinct implications for the slaveholder ideology, allowing for justifications of a natural hierarchy.[20]

Bruce Dain's condemnation of Morton and the American School for its support of racial inequality and for his contribution to scientific racism is eloquent. Dain concludes, "Ethnological racism tried to cement human diversity to a grimmer vision of nature's balance. It's supposed concreteness and objectively claimed to discover natural truth, in an attempt not to make progress compatible with social hierarchy….but to segregate progress and restrict it to whites."[21] Morton, according to Dain, though presenting himself as a disinterested scientist moved only by the evidence, was so wedded to the assumption of Caucasian superiority that he relied upon "individual cases where cranial capacity alone could not firmly establish

[18] Ibid, 85.
[19] Ibid, 83
[20] Ibid, 96.
[21] Bruce R. Dain, *A Hideous Monster of Mind* (UPR, 2002), 206

Caucasian superiority."[22] Thus, much of the scholarship in the history of ideas and the history of racial ideas in America on Morton and the America school underscores its interconnection to popular racial prejudice, its faulty methodology, and its "pseudo-scientific status." Reginald Horsman, in his *Race and Manifest Destiny*, constructing a distinct narrative from the works noted above, views the work of Josiah Nott and Samuel Morton as a justification and a reflection of the militant violent expansionism of Manifest Destiny and the slaveholder ideology. Horsman also connects the development of violent racial essentialism to the expansion of the frontier, the ossification of sectional conflict, and the American war with Mexico.[23]

All of these treatments tend to assume that discussion of the American School is exhausted in reference to either its mistaken pretensions towards scientific disinterestedness or objectivity or in detailing the connection of the work of Josiah Nott and Samuel Morton to slaveholder or white supremacist ideology. Constructing a support for either Manifest Destiny or the slaveholder ideology was, however, not the sole intention of either Josiah Nott or Samuel Morton. In the case of Morton, he wished to address matters of both ethnology and natural history. In this way, he could become a greater ethnological authority. Josiah Nott, similarly, wished to establish himself as an ethnologist in the tradition of Morton as well as to establish his own identity through his contributions to *Types of Mankind*. The prejudicial nature of the works in question reflects the taxonomy of human difference available to the writers in question and the political realities of antebellum America. Josiah

[22] Ibid, 217
[23] Reginald Horsman, *Race and Manifest Destiny* (Harvard University Press, 1981), especially "The Dissemination of Scientific Racism."

Nott's sanction of white supremacy, while a major constituent of his system building, was a *means* rather than an end to the work. The loss of the complexities of purpose and intention of the members of the "American School" has led scholars to grant both a consistency to Morton's views and an intention to his writings that he did not possess. As importantly, to consider Morton the founder of an American school is to take an uncritical stance towards the writings of school itself and to take Nott's stated intentions at face value.

The occlusion of the distinctiveness of Nott's positions in favor of his simply being a "follower" of Morton in an "American School" has much to do with the modern narrative of the professionalization of anthropology. Scholars view Morton as founding a school of his own based upon a methodological or conceptual insight, in part, because scholars narrate the development of modern anthropological science in terms of the schools and research programs founded by the "genius" practitioners. This sentiment is widespread in discussions of Bronislaw Malinowski as the founder of "functionalism" and Franz Boaz's transformation of anthropology from a racial science to a legitimate, scientific inquiry concerned with the inquiry into "culture" rather than race. Histories of modern anthropology and accounts of individual anthropologists unfailing emphasize the practitioner's methodological insight, leading to the elucidation of a novel research program. The construction of these research programs is in turn consonant with anthropology defining its own objects of research due to the process of disciplinary specialization and professionalization. Thus, Andrzej K. Paluch begins his account of Malinowski's anthropology with the

statement that "Malinowski offered a new vision of culture when he formulated his own system of functionalist anthropology."[24]

Similarly, accounts of the origin and formulation of structuralism by Claude Levi-Strauss also emphasize the genius practitioner founding a school according to specific methodological or conceptual innovations. As Christopher Johnson notes, the "phenomenon of structuralism" began with Levi-Strauss' inclination to make anthropology as rigorous as the natural sciences. Accordingly, Strauss took inspiration from Ferdinand de Saussure's discoveries in linguistics and argued for "the symbolic nature of social institutions" where the "collective constructs that mediate relationships between differing members of a community are symbolic to the extent that their construction is a matter of arbitrary convention,"[25] forming a social system independent of the material realities of the lower social orders. It was Levi-Strauss, more than any other French anthropologist of the era, who "provides the most consistent and comprehensive program for French anthropology in the years following the war."[26]

Whether Malinowski or Levi-Strauss actually founded research programs consistent with their own stated intentions is not the substantial issue here. What is at issue however is the degree to which scholars view the history of anthropology and ethnology as progressively more scientific and objective due to the foundation of

[24] "Malinowski's Theory of Culture" in *Malinowski between two worlds* ed. R.F. Ellen, (CUP Archive, 1988), 66
[25] *Claude Levi-Strauss* (Cambridge University Press, 2003), 2
[26] Ibid, 3

more theoretically sophisticated research programs. Accordingly, scholars have applied the same standards and narrative frameworks to both Morton and Levi-Strauss. In much the same way as Levi-Strauss in the twentieth century constructed a research program, so too must have Morton in the nineteenth. As both men had a great influence and respect among there peers, both must be responsible for founding a "school." As research programs, schools, and the genius practitioner exist as the essential building blocks in narratives of the history of the development of anthropology, which divides all practitioners into innovators and followers, the very notions of school and genius remain unexamined concepts. Josiah Nott's innovations to Morton's own program demonstrate a strategic use of this rhetoric for the purposes of building authority and reputation and therefore fundamentally complicate the relationship of the genius innovator and the follower of the research program in the context of the construction of an authoritative scientific identity. It is then the purpose of this work to understand the nature of Morton and Nott's ethnology and their connections to the social fabrics and social rhetorics in which they were articulated.

Chapter 2: The Morton-Bachman Debate: Hybridity and the Limits of Inquiry, 1847-1850

This chapter narrates the exchange between John Bachman, a Charleston, South Carolina naturalist and theologian and Samuel George Morton, a professor of anatomy at the University of Pennsylvania, over the persistence of "hybridity" in the natural world, the power of "domestication," and the ability of both principles to provide sufficient evidence for the species unity of the human race. Briefly, Morton, in his article for *The American Journal of Science and Arts*, published in 1847, argued that hybridity or inter-breeding between species would produce fertile offspring. Thus, hybridity, contrary to a consensus existing in natural history since the mid-eighteenth century, was not "the test of a specific character," and was not useful as a method to distinguish between species. Thus, the argument held by John Bachman, as well as a prominent school of eighteenth century naturalists, including Georges-Louis Leclerc, Comte de Buffon, concerning the sterility of hybrids, could no longer demonstrate that human beings such as "Caucasians" and "Malays" were "varieties" of the same species, or "race."

Samuel George Morton defined himself as an "ethnologist" and achieved prominence in naturalist circles for his account of ancient Native Americans in his 1839 work, *Crania Americana*. John Bachman considered himself a "naturalist" or practitioner of "natural history." The debate between Samuel George Morton and John Bachman began when Morton, in 1847, read a paper at The Academy of Natural Sciences in Philadelphia, which later appeared in the noted science periodical *The*

American Journal of Science and Arts. Bachman, in 1850, responded to Morton's account of "hybridity" as well as to his natural history in his *Doctrine of the Unity of the Human Race Examined*.

Samuel Morton's engagement with the concept of "species," and the characteristics accorded to "races," from the purported standpoint of an "ethnologist," was an argument for his and ethnology's methodological superiority to the procedural traditions of natural history, which he claimed had so far been mistaken in their account of species characteristics. Ethnology, insofar as it was able to define "species" and "races" in a more empirically robust fashion, was a more exact and rigorous method than that of natural history. Bachman, for his part, realized this consequence of Morton's argument, and was keen to advocate for the unity of human kind as a theologian, but wished to do so through a defense of the tradition of natural history and through an explication of the central concepts of "species," "races," and "hybrids" from within that tradition.

By advocating the methodology of ethnology and by criticizing the natural historical tradition, Morton was advancing James Prichard's method of ethnology, but not Prichard's conclusions, at the expense of the community of naturalists in South Carolina, of which Bachman was arguably its most prominent member along with James Audubon. Morton's account of "hybridity," to Bachman, was an assault on the practices and methodology of natural history as well as the authority and prestige of naturalists. This was even more the case since, according to Bachman, Morton, as a "naturalist," should have conducted his inquiry with a better regard to facts. Morton, in his capacity as an ethnologist and, to his critics, as a "naturalist," extolled the

collections available to him through the Philadelphia natural history community, and by extension sought to enlarge the prestige of the Academy of Natural Sciences in Philadelphia. Thus, even such intricate disputes as the status of hybrids in nature went to the core of considerations of reputation and of authority in antebellum science.[27]

The place of "hybrids" in nature was of crucial significance to natural history since it not only broached the topic of what constituted a "species", but also addressed the question of the place of human beings in the natural order. It also underscores that in the mid-nineteenth century, natural history, as a form of inquiry, was still developing both taxonomy and concepts to integrate human beings into the order of nature. This integration hinged on the question of which laws natural historians saw as governing the order of nature, e.g. species of plants and lower animals, as well as the development of human beings. The degree to which natural laws governed human development depended upon discussions of whether human beings were exempt in some fashion from the order of nature and which mechanisms

[27] The key to understanding the mechanisms regulating the production of natural knowledge in scientific communities around such concepts as trust, credit, or authority is revealed most readily in the context of scientific conflicts. As Jan Golinski has observed, "The social links that bind scientific subcultures together are essential conditions for the production of consensually accepted knowledge." Scientists for the majority of their practicing lives, "live their lives within a supporting matrix of trust." It is only when trust breaks down "that the social mechanism is exposed to view." Golinski, following Harry Collins, notes that while controversies are not typically lengthy or frequent, they reveal "the relations of authority and credit which are concealed in knowledge that has become widely accepted." I understandably, given the context, differ with Collins slightly on the importance given to institutions in determining the "core set" of individuals involved in the controversy. Jan Golinski, *Making Natural Knowledge: Constructivism and the History of Science*, (University of Chicago Press, 2005), 29-30. See also H.M. Collins, *Changing Order: Replication and Induction in Scientific Practice, Beverley Hills & London: Sage*. On the relationship between trust and quantification see, T.M. Porter, *Trust in Numbers* as well as Steve Shapin's *A Social History of Truth*. Shapin and Porter are concerned, as I am, with the question of why and for what purpose a group of practitioners trusted or disparaged specific methodologies for precision measurement and quantification. In the context of antebellum ethnology, trust and authority regulated which practices and narratives were to be encouraged and which were to be avoided. Each community therefore built their networks on the trust accorded to practices and narratives. See also *Structures of Scientific Collaboration*, Wesley Shrum, Joel Genuth, Ivan Chompalov (MIT Press, 2007)

from which they were exempt. Ethnology had its own specific criteria for the integration of humanity into the natural order and its own methodological and evidentiary practices for doing so.

For Bachman, the questions surrounding the unity or diversity of humanity were, in 1850, unanswerable, since there had been no account of the anatomic and cultural difference of the different "varieties" of human beings of the same detail as that accorded to ancient Native Americans in Morton's *Crania Americana*, a work for which Bachman had profound respect. A further problem was the inability of any ethnologist other than Morton to access cranial specimens of the quality possessed by the Academy of Natural Sciences. With such access, Bachman believed that naturalists and ethnologists would be able to assent conclusively to one position or to another.

The debate between the two practitioners of natural history and ethnology was not a systematic one. Morton only wished to argue explicitly that hybridity was an insufficient characteristic of species, that naturalists had been incorrect about hybrids, and that "domestication" could be used to account for the physical differences between "races" of men. Morton only explicitly referred to the argument for the unity of humanity at the end of his piece, noting that the "mere fact that several of the races of mankind could produce with each other, a more of less fertile progeny constitutes, in itself, no proof of the unity of the human species."[28] Morton then did not wish to engage the issue directly.

[28] Samuel George Morton, "Hybridity in Animals, considered in reference to the question of the Unity of the Human Species," Read before the Academy of Nat. Sci. of Philadelphia, Nov. 4 and 11, 1846, *The American Journal of Science and Arts*, v.3 (1847), 212.

The lack of a definitive answer to the question of the unity or diversity of humanity, and Bachman's perceived slight of Morton's work, led Josiah Nott, in 1854, to contribute to *Types of Mankind*. *Types*, as I will demonstrate in the next chapter, was a specific series of texts contributed to rehabilitate the reputation and authority of Morton, as a illustration of the virtues of the ethnographic method, which both depended upon but could critique the prevailing natural history, and as the creation of a community of "authorities" in their subject.

Josiah Nott, Morton's follower, continued to debate Bachman on these same issues, in 1854, after Morton's death in 1851, but under conditions distinct enough to merit separate treatment in the next chapter. In this chapter, I will focus on the intellectual and institutional contexts that defined the Morton-Bachman debate. The debate between Morton and Bachman, has the following features, and is significant, I argue, for the following reasons.

First, the debate illustrates how such concepts as "race" and its relationship to "species" and "variety" evolved in a contested fashion in natural history and ethnology in antebellum learned society. Second, the debate goes to the important issue of who in antebellum America could make claims and authoritative pronouncements in a discipline, what arguments and evidence could be used in the context of natural historical and ethnological accounts, and what constituted proper methodology and proper uses of evidence.

Third, the series of debates between Morton and Bachman and later between John Bachman and Josiah Nott were particularly acute due to the "dynastic" as well as "patchwork" quality of American science. In antebellum America, scientific

institutions prospered or declined due to the labors of enterprising individuals. The ability of scientific institutions to function effectively depended upon the reputations of the individual spokespersons who in turn represented a community of practitioners. The character of American science in the antebellum period as well as the specific locales and institutions, from which these debates originated, Morton's Philadelphia and Bachman's Charleston, determined the scope and content of the debate.

Finally, the debate demonstrates that when "authorities" engaged in specific controversies, they did so in specific forums of the "public sphere," through print journals and from the position of established circles such as in Bachman's Literary Club of Charleston, and in Morton's Academy of Natural Sciences in Philadelphia. The manner of settling disputes in the public sphere as representatives of communities explains why very specific and narrow discussions over such issues as hybridity and domestication became so fractious. When Morton, for example, began to discuss hybridity, he did so as a "naturalist" representing Philadelphia but also as a partisan for the new practice of ethnology. Bachman, for his part, believed himself to be representing a community of natural historians in Charleston. As importantly, since the disciplines of natural history and ethnology both worked to integrate humans into the order of nature, and since Morton's original work of ethnology in 1839, *Crania Americana*, had only discussed the ethnology of human beings, Morton's intrusion into natural history even over specific issues was noteworthy.

This chapter will have two sections. In the first section, I will consider the Morton-Bachman debate in some detail and consider how Morton's account of hybridity and domestication was not only an account of natural history in the

"traditional" sense, but sought to define how man fit within the order of nature. In the second section, I will discuss why this debate was significant in the wider contexts of American and Victorian science and ideas. I will explain how and why a slight article from Morton in 1847 resulted in a book length treatise from Bachman only three years later in 1850, and what such an exchange can demonstrate about the specific nature of disputes in antebellum America and the contexts in which they operated.

II. Morton's "Hybridity in Animals" and Bachman's "Unity of Mankind"

Morton's article, "Hybridity in Animals," in its opening few paragraphs, was characteristic of the new tone of the inquiry of "ethnologists" in America and their methodological opposition to natural history. Morton assumed that the European natural history tradition, exemplified by Buffon and Linnaeus, was in need of a profound correction on the question of hybridity. Morton proclaimed the natural history discipline to have entered into a new phase, which he termed ethnology. By ethnology, Morton, following James C. Prichard, meant the study of "ethnographic affinities", which, as Morton diffusely argued, was the study of specific "racial origins" of primitive "stocks," whether plant or animal, and the patterns of their distribution over time. Morton noted, "Further researches into Ethnographic affinities, may render it probable that what are now termed five races of men, would be more appropriately called groups; that each of these groups is again divisible into a greater or smaller number of primary races, each of which has expanded from an

aboriginal nucleus or centre."[29] Since "Ethnographic affinities" pertained to the original creation of tribes, whether of plants, animals, or human beings, it was the inquiry into what defined a "species" or "race." An inquiry into hybridity would assist naturalists in its construction of precise and definitive terms, particularly such indefinite concepts as "race," "species," and "variety."

Naturalists used the term "species," according to Morton, in order to express, "separate origin and distinctiveness of race, evidenced by the constant transmission of some characteristic peculiarity of organization". "Race," for naturalists, specifically referred to "successions of individuals propagated from any given stock."[30] For Morton, this was an imprecise definition, as "the term race has been indefinitely and conveniently used in those instances in which it is difficult to decide whether an individual of any tribe of plants or animals, is a distinct species, or only a variety of some other species." For Morton then, the naturalist usage of "race" pointed to a fundamental ambiguity in discussions between naturalists since the eighteenth century, over how to define members of a given "species" of plants or animals.

Morton argued that it was an "ethnologist," James C. Prichard, rather than a natural historian who could supply an exact definition and proper understanding of such essential concepts as "race," "species," and "variety." Ethnology, through a correct definition of "race," could properly define the species question, to a new and proper degree of specificity. Morton to this end declared, "Races are properly successions of individuals propagated from any given stock." When "races" furthermore, were proven to "possess certain primordial distinctions, which have been

[29] Samuel George Morton, "Hybridity in Animals" 40
[30] *Ibid,* 40

transmitted unbroken," only then Morton noted, should "they should be regarded as true species."[31]

Ethnology was then not only an account of the characteristics of a given race, but also was an account of the mechanisms through which they have remained distinctive. It was thus an explicitly "historical" project, as it sought to establish, through authorities, as well as through physical evidence whether, in the existing historical record, "races," had always maintained the same characteristics, and what, if anything, could be said to account for *change over time*. Only if this were the case could races be considered as having the definite characteristics of species. The question of what defined a "species" was what prompted Morton to address the question of hybridity, as hybridity went to the root of what characteristics could be said to apply uniformly to a given race or "stock."

Through a novel account of the persistence of hybrids in nature -through the application of ethnological principles- Morton believed himself to have usurped an entire tradition in eighteenth century naturalism, and accused the naturalists of having ill-defined concepts and definitions. Morton's account of hybridity opened him up to criticism by Bachman, due to the methodological requirements of ethnology. The emphasis in ethnology on assembling accounts of the history of species, stocks, and varieties, as reflected in Prichard and Morton's account of race as having stable characteristics through time, required Morton to depend on all manner of secondary authorities, both ancient and modern. Morton's account of hybridity did not only rely upon secondary authorities due to the inherently historic dimension of ethnology; he

[31] *Ibid.*

was also reliant upon the collections in the Academy of the Natural Sciences in Philadelphia as well as his own network of correspondents.

The historical element aspect of "ethnology" and reliance upon authorities immediately became apparent in Morton's account of horse hybrids. The historical element was essential to Morton's account of hybridity since in order argue against the naturalist position that hybrids were an aberration in nature, Morton had to demonstrate both the existence of fertile hybrids in both the present and as part of the historical record. Morton began his account with the testimony of Homer, who noted the existence of the "common mule."[32] Morton also noted that the "mule" was a common animal among both the "ancients" and the Romans who referred to the *ginnus* as the offspring of a mule and a mare.[33] Baron Georges Cuvier, the esteemed French naturalist and geologist, in the present had, according to Morton, "seen the cross between the ass and the zebra" as well as between "a zebra and a horse."[34] The observation of "productiveness" which had "little or no limit" among the "true horses" led naturalists to argue that, "they all belong to the same species." Naturalists had mistakenly also ascribed, according to Morton, any variations found among these horses to the action of climate or "solely to the diversified circumstances in which they have been placed."[35]

However, according to Morton, the researches of the Victorian naturalist, Hamilton Smith, had corrected the prevailing error that "true horses" were all of the same "species" or racial "stock." Smith divided the "horses into five primitive

[32] *Ibid*, 40.
[33] *Ibid*, 41
[34] *Ibid*.
[35] *Ibid*, 42.

stocks" since it appeared to Smith that these five stocks of horses constituted, "distinct, though osculating species, or at least races separated at so remote a period, that they claim to have been divided from the earliest times of our present Zoology."[36] The greatest evidence for the persistence of five stocks of horses was their continued existence "in the wild state on the table-lands of Central Asia." Morton continued, "It therefore becomes a reasonable supposition that some varieties of the horse now known to us, may be hybrid mixtures of proximate species; more especially, since the facts collected by Hamilton Smith, De Azara, and De la Malle, show conclusively that all, the domestic horses were reclaimed from an original wild state."[37] Thus, the ability of horses to be domesticated, i.e. intermixed through hybridization, was then *not a sufficient argument* for all domesticated horses belonging to the same species. Instead, such was the power of domestication that differing races of horses could intermix, as the testimonies of authorities demonstrated.

With his account of bovine hybrids, Morton moved to another naturalist argument, which explained perceived differences between varieties of animals due the operation of "local causes," such as climate, another argument that sought to provide sufficient evidence for the unity of human kind. To this end, Morton declared, "The ox tribe has always been referred to as one of the strongest evidences of the operation of local causes in producing varieties of breed." While there existed fossil evidence of a specific common species, such a "stock" or "parent type," both terms Morton used to designate an extinct common ancestor, this evidence was

[36] *Ibid*.
[37] *Ibid*, 42.

insufficient to account for the wide varieties of bovines accounted for in the present by various authorities. It was doubtful, according to Morton, "whether all the modifications now familiar to man are derived from this animal." The alternative explanation, and the more plausible one according to Morton, was that "species" of bovines could hybridize with one another, regardless of outward physical differences and specific species characteristics. The varieties of bovines now present were due to hybridity, which "has more or less modified their forms during the long lapse of thousands of years."[38]

Morton's account of "Gallinaceous Hybrids," in Part II of his essay, also began with a critique of the conventional explanation of variation by conventional naturalists. Morton's account of "fowl" hybrids was clearly courting danger, as birds, along with classifications of lower mammals, were Bachman's strengths. Morton declared that, "variation of size, form and plumage, so remarkable among the different breeds of domestic fowls," which for supporters of a theory of the unity of mankind, demonstrated the effects of climate, were not "varieties" of the same species, but in fact, distinct "species." The influence of climate was insufficient to account for the varieties of fowls. Rather, Morton claimed, the proliferation of various "fowls" and fowl hybrids demonstrated that, "these birds are in far greater degree modified by the power possessed by their several species."

Furthermore, Morton concluded, these separate species of fowl were capable of "mingling with each other and producing a fertile hybrid progeny."[39] Hence, the argument that sterile hybridity reflected the parentage of distinct species was false;

[38] *Ibid,* 43.
[39] *Ibid,* 203.

species could and did hybridize. Morton continued, dismissing the effect of climate, noting that the 'tail-less fowl' has been "triumphantly quoted as evidence of the power of climate and locality to produce changes," but this was due in fact to the power of species to hybridize.[40] Morton noted, "This bird is deficient in the last dorsal vertebrae, and consequently has no tail. But it was asserted, even by some naturalists, that this fowl was originally possessed of a tail, but lost it on being sent from England to Virginia, and domesticated in the latter country." Morton asserted that a traveler's account proved that the tail-less fowl, which naturalists had depended upon as a proof of the action of climate upon a single species, in fact demonstrated that this fowl was a separate species, specifically "a native species of Ceylon."[41] Morton's reliance upon written descriptions as well as the accounts of naturalists was significant in and of itself, as it allowed Bachman to argue that the dependence on authority was antithetical to proper natural historical practice, and that Morton's account was not only factually suspect, but also methodologically vacuous.

Morton's extension of natural history and of the laws of hybridity to human beings was highly instrumental, and developed around the specific extension of domestication to human beings as a way of the persistent multiplicity of features among human "families." Morton only refers to human beings explicitly in his "Remarks," at the end of the essay. Morton noted that while hybrids were contrary to the general law he was "compelled to concede that this law has very many exceptions." Mules, to take one example, were, according to Morton, not always sterile, and as a more general statement, hybrids "were really produced in a state of

[40] *Ibid*.
[41] *Ibid*.

nature."[42] The persistence of hybrids and the increase of hybridity under the conditions of domestication, for Morton, would help explain the accounts of authorities such as De Azara and Hamilton Smith. Such would prove the natural law "that the faculty possessed by different species of animals of producing differing hybrid offspring, is in proportion to their aptitude for domesticity."[43]

It was the "domesticity" principle by which Morton crossed the boundary between human and animal. This ground had already been prepared by Morton's previous contentions: hybrids were persistent in nature, climate could not account for the degree of diversification present in the animal kingdom, that the degree of diversification present in nature was explicable, in part, by the intermixing of species through hybridization, and that hybridity was no longer a sufficient characteristic to define species. To this, he added that the process of domestication augmented hybridization, and the ability of species to intermix was in proportion to degree and aptitude of the species to be domesticated. Morton used the principle of domestication to explain in a more empirically robust manner the accounts of travel, and his own experience with human skull specimens.

For Morton, the effect of climate alone as well as the hypothesis that all varieties of human beings originated from a single race, as all having the characteristics of a single species, was not sufficient to account for the perceived differences between the "Malay" and "Caucasian" families. In order to account for the perceived differences among men, Morton, theorized that "man" was five separate species, each of whom populated a specific region of the globe, and who had become

[42] *Proceedings of The Academy of Natural Sciences* (Vol. 3, 1846 & 1847), 210
[43] *Ibid*, 210-11.

distinct species due to the local conditions placed upon them in their geographical region. Morton countered that hybridity between species did exist in nature, thus it would not be impossible that since differing races of humanity intermixed, they did so regardless of being of distinct species, with distinct characteristics. Man was able to do so, since, to a greater degree than any other animal or plant in nature; he was able to hybridize most fully under the conditions of domestication.

Morton to this end, noted, "Man possesses this aptitude in the highest degree, being as Blumenbach expresses it, the most domestic of animals" and thus it would be natural that man could posses "the power of fertile hybridity, even if the human family should prove to embrace several distinct species." Thus, Morton's account of "hybridity" is not proof for the multiple "stocks of mankind," but rather demonstrates that "the mere fact that the several races of mankind produce with each other, a more or less fertile progeny, constitutes, in itself, no proof of the unity of the human species."[44] Thus, Morton's account ends with his conclusion of the insufficient proof accorded to the unity of mankind by the arguments developed from hybridity.

John Bachman, in his *Doctrine of the Unity of the Human Races*, set out to address the following features of Morton's argument: its reliance upon authority, its account of hybridity, and its account of the power of domestication to explicate the differences between "races of men." As significantly, Bachman took as his central concern the contention that Morton had only explicitly addressed briefly: the unity of humanity. Bachman, through this mass of detail, wished to demonstrate the following. First, he argued that the rarity of hybrids pointed to the fixity of species with distinctive characteristics, with hybridity being a sound method for the

[44] *Ibid,* 212.

characterization of species. Secondly, given the separateness of species, it would then follow naturally that species in nature would be unable to produce viable hybrids. This was, for Bachman, an essential argument, since human beings, as part of the animal economy of nature, were able to produce fertile offspring regardless of outward "characters." As such, one could not argue that humans were separate species. Thus, the horses that have emerged were not the result of intermixing between species and domestication but rather depended upon "one primitive stock." Any differences observed in the genus of *Equus oaballus* were the result of climate. Thus, much like the "race" of man, it was improper with respect to the order of nature, to refer to "stocks" of horses, since there was simply, much again like man, a single "stock" or "race."[45]

Bachman also went to the heart of Morton's method. Bachman noted, "The authorities mostly relied on for facts to prove the theory advocated by Dr. Morton…Griffith, Cuvier, and Col. J. Hamilton Smith, are so constantly quoted as authorities that without careful examination the reader might be led to conclude that the facts were certified by several authors." While Bachman was appreciative of Morton's "labors," his account was empirically false and the authorities upon which he relied incorrect. To take one example, Bachman castigated Morton's reliance upon the authority of Hamilton Smith for the observed characteristics of dogs and horses. Hamilton Smith, Bachman observed, had been "for some time laboring to unsettle the public mind in regard to the origin of the various species of domesticated animals, endeavouring to account for the varieties in the several species on the bare supposition." Particularly egregious was Smith's description, "without any reliable

[45] *Doctrine of the Unity of the Human Races*, Canning, 1850, 44.

proof" of ancient domestication and ancient examples of fertile hybrids. These "hybrids," furthermore, according to Smith, "had produced fertile intermediate breeds, and in this way the varieties of horses, cattle, sheep, goats, swine, dogs, cats, and poultry, had originated." [46] However, at present, Bachman observed, that nonetheless, "These original species are now brought together in a state of confinement their hybrids are either mules, and incapable of procreation, or they can only be made to produce with the original species; and hence return to the primitive stock, and have never perpetuated an intermediate breed."[47]

Thus, even under conditions of "domestication," or "confinement," the hybrids, so essential to Morton's understanding of "species" of the multiple races of men, argued instead for the unity of mankind and the ordering of all mankind under one species. Bachman continued, "But naturalists who look for precision in description, and satisfactory reasons for the conclusions at which an author has arrived, can scarcely fail to observe that, there are, in all Col. Smith's writings, evidences of a want of decision, of an indulgence in conjecture, and of a disposition to build new theories upon mere speculation, without a proper regard to facts." Bachman's conclusion that many of Morton's theories depended upon speculation or conjecture, and were of a "very questionable character," was nonetheless, insufficient to disprove the attack on "the unity of the human species" could be based upon "the fertility of hybrids."[48]

It was not sufficient to attack one authority. Bachman considered the problem of the authority of sources and the verifiability of evidence important enough to

[46] *Doctrine of the Unity of the Human Races,* 44-45
[47] *Ibid,* 45.
[48] *Ibid,* 46.

comment upon, sometimes extensively, every authority Morton used. Bachman faulted Morton for quoting the authority of de la Malle to effect of demonstrating the "fecundity of the mule." Such an account depended originally, and survived without modification, upon the narrative of a Carthaginian agriculturalist. Bachman detailed, "We have two instances of this kind on record in America, as far as we can recollect…the foals were too feeble to live." "Even admitting the whole story of the Carthaginian naturalist Mago," Bachman continued, "no new race could, by his own account, be produced," since these hybrids would then breed with the original species, "hence they became either mules or horses."[49]

Bachman's critique of Morton's methodology and account of hybridization in birds proceeded along the same lines as the proceeding account of his description of hybrids in horses. Bachman was at great pains to discount Morton's theory of fertile hybridity and by extension the existence of multiple races or primitive stocks among humanity. More essentially, Bachman wished to point out all of the logical and factual fallacies so that the reader would no longer trust Morton's inferences on matters of natural history.[50] As striking, however, is the degree to which Bachman argued in favor of his, as well as other naturalists, superiority in empirical knowledge, or knowledge gained through assessment of physical samples. For naturalists, such as Bachman, the labor of natural history consisted not in reading from accounts, but in probing the sample, or observing the behavior of a specimen nature, all activities which existed outside of the world of accumulated textual knowledge in an advocacy of a strict empiricism. Bachman used the contrast between "authorities" and

[49] *Ibid,* 47.
[50] *Ibid,* 84

observation and personal examination to cast suspicion on ancient and medieval authorities and to privilege the observation of the authoritative naturalist. This was for Bachman the crucial distinction between the naturalist and the ethnologist. As the ethnologist relied upon accounts of the past, he could not speak about living culture. The naturalist, through his observation of living nature, rather than authority, possessed the superior methodology, demonstrated by the correction of Morton's view of hybrids.

In support of his theory of hybrids, Morton had, according to Bachman, "examined five of these original species in Dr. Wilson's collection of birds," which was deposited at the Academy of the Natural Sciences in Philadelphia. It is from these collections that Morton's "expertise" or authority to speak upon matters of natural history presumably derived, and from which he drew his conclusions. Bachman then related how he had visited the "Museum of the Prince of Missena" in Paris, which was "the best private collection we saw in Europe." In this museum, Bachman, "…had the best opportunities of seeing all the species." He viewed the species in this institution in both "prepared" states as well as "alive in the aviary." Bachman based the critique of Morton's natural history that followed, upon "the result of personal observation" in Paris. [51] Bachman constructed a narrative of observation in an effort to prove that Morton's efforts, methodology, and authority were lacking. Such an emphasis on the observation of specific specimens in specific institutions not only spoke to Bachman's stature as a naturalist, but also demonstrated his active participation in the community of naturalists, in contrast to Morton's passive reading. Having disproved, to his satisfaction, Morton's account of various

[51] *Ibid*

hybrids of the ass, rat, peacock, and guinea fowl,[52] Bachman then discussed the most persuasive evidence against the unity thesis.

In the fourth chapter of the work, Bachman outlined the evidence which most militated against the unity of humanity: the clear physical differences among men, especially the clear anatomical differences, usually discussed as specific 'marks' or 'characters.' In bringing to light these essential differences on ancient Native Americans, Bachman considered Morton's work on ancient Indian crania to be exemplary. That noted however, he asserted, "We are constrained to state that on examination of the valuable materials he has presented to us, we have arrived at different conclusions from those to which his mind seems to lean, and differ from him in our views of the origin of the Native American families."[53] More troubling however, were Morton's scattered references to the "intermediate tribes of nations that have derived their origin from the admixture of Mongolian, Maylayan, Caucasian, and African blood." These accounts "were calculated" to confuse the reader into thinking that "all the varieties" produce "in perpetuity an intermediate and fertile progeny."[54]

Bachman then noted, "The infertility of hybrids was always a stumbling block in the way of their theory," that is, the theory of the multiple races of men. Furthermore, if man could be proven to produce "fertile hybrids" while animals could not then it would be "they" who were obliged to prove that "man was an exception to this universal and invariable law that had regulated the whole of inferior creation." However, according to Bachman, "they," Morton included, had furnished no such

[52] *Ibid,* 84-114.
[53] *Ibid,* 116.
[54] *Ibid,* 116.

evidence. In order to free themselves from this "dilemma," the opponents of the unity argument argued "that in respect to the fertility of the hybrid, man was not particular," and that, furthermore, that many "races of animals" "could be found possessing the same physical powers of producing "intermediate and fertile races."[55] In order to prove such a conjecture, moreover, they have "ransacked the almost forgotten tales of ancient travelers, and dragged from obscurity the vulgar errors long hidden beneath the dust of antiquity"[56] while indulging in "conjectures and doubts."

All the examples in Morton's account had proven, Bachman noted, "absolutely sterile," and in those few instances where viable hybrids did exist, "nature so incessantly" worked to "restore the irregularity" that the "hybrid" either died off or "returned to one or another of the original race."[57] Bachman, in order to conclude the first part of the work then affirmed the traditional view of the order of nature, which had provided the framework for the accounts of naturalists such as Cuvier, Buffon, and Linnaeus. Here Bachman, motivated by the features of Morton's own argument, had to address, as he did above, the sterility of hybrids, but as importantly, to disassemble Morton's understanding of "domestication." Domestication, as noted above, provided for Morton the mechanism by which he could analogize between the animal economy and the diversity of human races.

"Nature," Bachman exclaimed, "in all her operations, by the peculiar organization of each species" and through the mutual "repugnance" of individuals of distinct species as well as the infertility of hybrids, demonstrated "most indubitable evidences that the creation of species is an act of Divine Power alone, and cannot be

[55] *Ibid,* 117
[56] *Ibid,* 118
[57] *Ibid.*

effected by any other means." Thus, Bachman, in his affirmation of the traditionally understood order of nature, was affirming the unity of humanity as well as the traditional naturalist understanding of species, held by Buffon, Cuvier, Prichard, and Linnaeus. "Species," as species, were those animal groups with specific characteristics who could not, nor were inclined, to mate, due to the ubiquity of "repugnance." Through the action of the principle of "repugnance," furthermore, and the rarity of hybrid offspring, the naturalist, through his close observation of nature, was able to define closely related animals within the same genus with specific characteristics if the union of a pair did not result in fertile offspring. Bachman declared, "No race of animals had ever arisen from the commingling of species," and furthermore, that "domestication" while producing profound effects upon animals nonetheless, "has never evolved a faculty to produce fertile hybrids."

In Bachman's view, this propped upon the two facets of the theory of the unity of mankind, and enabled him to articulate an account of 'species methodology' from this 'recovered' understanding of hybrids. He continued, that "two species of animals have ever been known to produce a prolific hybrid race, therefore hybridity is a test of specific character" and could then count as viable definition of a species or stock. Thus, if two closely related, i.e. similarly featured animals of the same genus, produced a sterile or feeble hybrid, those beings were sufficiently far enough to count as species, and the naturalist should note their characteristics accordingly. Finally, Bachman declared, "that man must be a single race since, all the races of mankind produce with each other a fertile progeny," and such external differences are those between "varieties." The ability of these varieties to intermix constituted, not a

singular proof for the unity of the races of men, but rather one of the most powerful and undeniable arguments in favour of the unity of the races."[58]

Nevertheless, in order to counter Morton's argument conclusively, he had to assess not only those features that unified mankind, and which spoke to their common origins, but also account for why there existed differences between "varieties" of men. To this end, Bachman began with all of those elements that defined the human species. He noted that all men were "omnivorous," "capable of inhabiting all climates," possess "a slower growth than any other animal." "All races," significantly, possessed the capacity to reason as well as possessed the same period of "gestation." For Bachman, all of these features were significantly features of the "genus" of men, of which there was only one "species."[59] Bachman contended that the 'wild' variety of man was the product of his original climate, and as such was distinctive from the 'domesticated' variety. Each type, 'wild' and 'domesticated' had specific features that could demonstrate the effect of climate as well as "domestication." As Bachman noted, by way of illustration, "that changes in men are constantly taking place…" and this was apparent from the "great variations," which have occurred "in several of the branches which we admit to be Caucasus". The Caucasians through their several variations based on geographical location, plainly illustrated the effects of "domestication."

There were furthermore among men "many intermediate grades of form and colour" and in this manner, man, more than any other animal "was subject to

[58] *Ibid,* 119.
[59] *Ibid,*

varieties" more than "any other known species of animal."[60] This demonstrated the following: domestication was exceptional to man, and what truly distinguished him from the animal kingdom. Thus, Bachman noted, descriptions of animals of Aristotle "are as applicable now" as they were in his day. As Bachman observed, "look at the countenances of our neighbors and members of our own families, gathered together around the social circle," one immediately notices, according to Bachman, "the most striking differences in the color of eyes, the hair, and the complexities." Thus, human beings varied due to the work of domestication and uniquely so. As importantly, these variations were not sufficient to classify them as separate species, since they did not go to such species "characteristics" as reason, skeletal structure, and erect posture.

Bachman's hypothesis was thus a reasonably effective explanation insofar as it accounted for differences among men. However, such an explanation was a weak one, since it relied upon the exception of human beings to the laws of nature, while also depending on the action of natural laws in regards to hybridity to extend over all nature, including human beings. Thus, men were both subject to and exempt from natural laws.

Ethnology, in the work of Morton, seized upon this inadequacy, but it remained a robust theory if it could ground its accounts in precision measurements, such as Morton had done in *Crania Americana*. When Morton's ethnology became less an activity defined by precision and observation and more an exercise in recitation, his claims were challenged from a natural history discipline that greatly wished to distinguish itself methodologically as a branch of inquiry (mirroring ethnology's own efforts during this same time) and to establish itself as an authority

[60] *Ibid,* 149

upon natural world. Natural history had to maintain its identity from both travel literature and civil history. Bachman's critique of Morton's authority paints an excellent picture of what a practitioner believed natural history *not to be* in antebellum America.

III. The Morton-Bachman Debate in Context

In 1850, John Bachman had lengthily, and to his mind, necessarily addressed each of Morton's claims. Bachman did so not only as an individual naturalist, but also as the presumed representative of a community of naturalists, and as a representative of a community of naturalists keen to assume their place at the forefront of American scientific culture and intellectual life. The conclusion of the debate, nonetheless, left the question of the unity of races open to dispute, as neither Morton nor Bachman were willing to concede the field. Morton was only willing to conclude, at least in print form, that hybridity was an insufficient mechanism to account for features of species and was an insufficient argument for the unity of humanity. Bachman, while criticizing Morton's conclusions as well as his methodology, was still open to the possibility of the multiplicity of races, but only if such conclusions were supported by cranial measurements using the same model as Morton's work but expanded to all five primitive races.

Morton's article on "hybridity" and Bachman's longer work revealed that neither naturalists nor ethnologists had fully developed either the vocabulary or systematicity necessary to construct a complete account of human difference, either in

1847 or in 1850. Both men responded to the engagement with specific doctrines. This had much to do, as I detail below, with the traditional stance of natural history towards human beings.

As significant was the degree to which Bachman found it necessary to assert his stature as a natural historian, and the methodology of the natural historian, to correct Morton's perceived ability to speak on matters of natural history from the standpoint of ethnology. This methodological move reflected weaknesses the argumentation of natural history: first, the less than convincing causal power of "climate" or more generally, "local causes," to explain variety, and secondly, the recent inclusion of human beings into the narrative of natural history. Ethnology, beginning with the work of James C. Prichard, was a specific response to the inability of the general natural historical account to address human variety sufficiently, and the likewise perceived inadequacies of the biblical account of creation. Ethnology, furthermore, emerged as an alternative to natural history in its ability to provide an empirically satisfying historical narrative that could account for the variety of human differences in a more satisfactory manner than natural history.

Intellectually and as a social community, natural history's methodology and practices were under siege. Compounding this problem, as I argued in the introduction, was the patchwork nature of the scientific enterprise in antebellum America. The stability of natural history depended, like much of nineteenth century science, on intricate networks of individual patrons who provided samples and relayed information. The strength of the inquiry of a community of practitioners and of an individual authority rested upon the collections amassed. Morton was thus

unimpeachable in specifically Native American "ethnography" since he had collected hundreds of skulls from correspondents all over the world. Morton's ability to function as a "naturalist" depended upon his "authority" in ethnography. Morton aligned himself with a specific institution, the Academy of Natural Sciences, and depended upon the collections of that institution as well as the specimens provided by members of the already powerful Philadelphia community.[61]

Accumulation of objects became a mark of authority. This "status" was circular and cumulative: one received more samples by being an authority. [62] One's stature depended on samples gained through prior stature. Conversely, any diminution of "stature" caused the wider natural history community to consider that individual or institution less of an authority. This would perhaps lead to a diminution in the number of specimens sent to the individual or institution. In turn, Morton received skulls due to his stature as an Indian ethnologist, which added to further accounts, which in turn lead to the receipt of more specimens, the amassing of further collections, and ultimately the critical accumulation of prestige and authority for both himself and his institution.

Such networks of collection and transmission as Morton's skull network, as Anne Secord and many others have noted in the context of collecting different materials, were essential to the existence and perseverance of natural history as an

[61] On the techniques and technologies used to acquire and manufacture stature and authority in the view of the wider community see Mario Biagioli, *Galileo's Instruments of Credit: Telescopes, Images, Secrecy*, (University of Chicago Press, 2006)

[62] The method of amassing skulls to display one's authority and expertise in ethnological inquiry underscores the contingent and socially specific nature of the fact, the "bedrock of systematic knowledge." Mary Poovey notes that in modernity numbers have "come to epitomize the modern fact." Ethnology's location of the locus of precision and certainty in the skull illustrates the fundamental character of its deeply held assumptions about methodology and the limits of inquiry. Mary Poovey, *A History of the Modern Fact: Problems of Knowledge in the Sciences of Wealth and Society* (University of Chicago Press, 1998), xii-xiii.

inquiry into the entire order of all nature. These networks existed, in the Victorian case, due to a series of social imperatives regulated by a wide community of individuals with mixed social standing. Such communities, which most often stretched over vast stretches of space, defined themselves through modes of deference and assertions of authority, and through intricate personal attestations to the truth or falsity of either a specimen or attribution, played a decisive role in the formulation, scope and legitimization of projects in natural history. The communal action behind natural history and the imperative associated with collecting was visibly manifest not only in the cabinets of curiosity but displays of natural history, presented to mirror the order of nature or, in the case of Victorians especially, the scope and power of empire.[63] In the American case, where society was nominally more egalitarian, certain types of "expertise" played perhaps a greater role in the "deference" accorded to an authority. Thus, it was all the more important that an individual practitioner and his reputation remain intact in the "public sphere."

Such a community as Morton's ethnologists or as Bachman's Charleston naturalists, cultivated and survived upon, as Steve Shapin has argued in *A Social*

[63] The literature on the politics and concepts behind the display of natural history is vast, and particularly rich in the case of Victorian museums and Victorian habits of collection, with those collections reflecting 'world-view.' See for example, Barbara J. Black, *On Exhibit: Victorians and their Museums*, Sharon Macdonald, *The Politics of Display: Museums, Science, and Culture.* For the assessment of "curiosities" and their illustration of the taxonomy accorded the entire natural order, see Daston, *Wonders and the Order of Nature* as well as, more recently, Barbara M. Benedict's *Curiosity: A Cultural History of Early Modern Inquiry*. For a good account at the types of individuals who engaged in collecting in Victorian England, see Samuel J. M. M. Alberti, "Placing Nature: Natural History Collections and Their Owners in Nineteenth-Century Provincial England," but most especially for the interpretative framework on which the above discussion depends, see Anne Secord, "Corresponding Interests: Artisans and Gentlemen in Nineteenth-Century Natural History," *The British Journal for the History of Science*, Vol. 27, No. 4 (Dec., 1994), pp. 383-408; for an account of the regulative power of "trust" in assessing matters of "natural knowledge" see Adrian Johns, "Identity, Practice, and Trust in Early Modern Natural Philosophy," *The Historical Journal*, Vol. 42, No. 4 (Dec., 1999), pp. 1125-1145; for a general overview of the place of science and its patronage and institutions see, *The Pursuit of Knowledge in the Early Republic*, as well as John C. Greene, "Science and the Public in the Age of Jefferson," *Isis*, Vol. 49, No. 1 (Mar., 1958), pp. 13-25.

History of Truth in the context of natural philosophy, the maintenance of "trust," where practitioners, through their methods, pronouncements, and "standing" in the community, depended upon on an inter-subjective authority to speak upon "matters of fact." Communities, such as Bachman's Charleston collective, depended upon notables to maintain their "authority" and their networks of collection. Such networks, as revealed by the society's minutes, depended exclusively upon donations of specimens, curiosities, and other artifacts. Such a community was all the more difficult to maintain given the lack of national patronage of scientific inquiry. Thus, any discussion in the public sphere of naturalists that disparaged the methodology of natural history would adversely affect, perhaps irrevocably, the fragile patronage of natural history, of which Charleston, South Carolina, was a notable center, but not the same stature as Philadelphia, New York, or Boston.

A fine example of how dependent scientific inquiry was upon reputation, "trust", and circulation due to networking, was the degree to which Morton's work of crania depended upon an exchange of skulls from persons of note, who themselves believed Morton to be an authority. Morton, in *Crania Americana*, as part of the methodology of establishing the authenticity of the sample, was keen to describe how he gained the skulls and from where each skull originated, whether individually or part of a collection. To take one example from *Crania Americana*, Morton noted that he received, "twenty-three adult skulls…through the kindness of Dr. Ruschenberger…from the cemetery of….the Temple of the Sun, near Lima."[64] More interesting is the narrative Morton supplied when he was unable personally to

[64] Samuel George Morton, *Crania Americana, Or, A Comparative View of the Skulls of Various Aboriginal Nations of North and South America to which is Prefixed an Essay on the Varieties of the Human Species; Illustrated by Seventy-eight Plates and a Colored Map*, J. Dobson, 1839, 132.

examine the original skull, and instead must rely upon a complex "reproduction" network. Morton admitted that though an "Orinoco" skull never came into his possession, he knew that the original was "preserved in the Museum of the Jardin du Roi, in Paris: Professor Flourens kindly permitted me a drawing to be made from it, which was taken by M. Werner, an excellent artist, under the supervision of my friend, Dr. Emund C. Evans, of this city (of Philadelphia)."[65] Morton's and Bachman's recourse, in 1839 and 1850, to the physical specimen, to an empirical account, which did not rely upon authority, but upon labor and measurement, had a strong tradition in United States, exemplified by Jefferson's exchange with Buffon over the habitability of New World nature. In order to rebuff Buffon's complex account of the inferiority of New World nature and the unsuitability of the American climate, Jefferson, in 1783, began his critique of Buffon's account of the natural world with the phrase, "But when we appeal to experience, we are not to rest satisfied with a single fact."[66] Such a tradition illustrates in part why when Morton departed from the attention to the sample, Bachman reacted so strongly against him.

For natural history in the United States, the dependence on informal associations and networks of "trust," of the authenticity of both persons and the objects they examined, and of networks of collection, transmission, and deposition of samples, was even more essential for three further reasons. These were: first, the lack of broad national patronage of science or an exemplum of practice in the form of the Royal Society; second, the continual emulation of British and European institutions by American societies and the long-standing perception of inferiority on the part of

[65] Samuel George Morton, *Crania Americana,* 135.
[66] Thomas Jefferson, *Notes on the State of Virginia,* (J.W. Randolph, 1853), 50

American scientific institutions; and finally, the comparatively, with Europe, nascent institutional and educational structure in the United States. Such had been the characteristics of American scientific institutions since their inception in the early republic. According to Simon Baatz, the structure of science in Philadelphia, for example, around 1800 was "extremely fragile," and depended not upon federal support, but upon the existence of societies such as the American Philosophical Society and the Linnaean Society of Philadelphia.[67]

Scientific activity, as such was restricted to, "gentlemen savants of wealth and leisure." While there were popular displays of science in the form of Peale's Museum, it was the "passive" appreciation of "wonders."[68] Scientific education was restricted to those select few who could attend the University of Pennsylvania. As importantly, while there were many informal clubs and associations, many were short-lived, and most were dynastic, depending on the guidance of a single individual moderating a like community of members and correspondents. Half of the members of the Linnaean Society, founded in March 1807, graduated from the University of Pennsylvania. Benjamin Smith Barton, the head of the Society, was himself professor of *meteria medica* at the University of Pennsylvania. However, by 1811, the Society had disappeared. Baatz notes that the failure of the Society was largely the fault of Barton himself, for while the Society established a cabinet of curiosities, it was never able to found a journal, which might perhaps have enabled it attain a degree of

[67] Simon Baatz, "Philadelphia Patronage: The Institutional Structure of Natural History in the New Republic,
1800-1833," *Journal of the Early Republic*, Vol. 8, No. 2 (Summer, 1988), pp. 111-138
[68] On Peale's museum as reflecting the moral order of nature, see especially, David R. Brigham, "Ask the Beasts, and They Shall Teach Thee": The Human Lessons of Charles Wilson Peale's Natural History Displays."

permanence.[69] More motley, but as ramshackle, was the Academy of Natural Sciences, established in 1812 (the same society from which Morton read his paper in 1847) who styled themselves "friends and gentlemen of science and of rational disposal of leisure moments."[70]

With equal vigor as the Philadelphia societies, antebellum colleges and the students who attended them frequently collected and arranged natural history specimens.[71] With the establishment of the American Association of the Advancement of Science in 1848, there began to be, between the publications of Samuel Morton's essay and Bachman's work, a move towards a more general framework of scientific organization. As I will demonstrate in chapter on Josiah Nott, such organizations actually, far from rendering science a "national" enterprise actually intensified local infighting over questions of power, stature, and doctrine, magnifying the "local" character of "science."

As Lester D. Stephens observes in his excellent work on John Bachman and antebellum naturalism, during the 1840s, the city of Charleston, South Carolina, "was gaining notice as an important center of natural history in the Old South." By 1850, no other city in the region "matched it in the number and quality of scientific contributions." Also without comparison in the South during the 1850s was the natural history museum in Charleston. South Carolina naturalists' eminence can also be attested by the degree to which they carried out correspondence with both European and American naturalists. Louis Agassiz, who visited Charleston in 1847,

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[69] Simon Baatz, "Philadelphia Patronage," 116.
[70] *Ibid,* 117-8
[71] Sally Gregory Kohlstedt, "Curiosities and Cabinets: Natural History Museums and Education on the Antebellum Campus," *Isis*, Vol. 79, No. 3, A Special Issue on Artifact and Experiment (Sep., 1988), pp. 405-426

visited yearly between 1849 and 1853. The city's prestige as a center for natural history was underscored, when in 1850, it was able to secure the third meeting of the newly established, and increasingly prestigious, American Association for the Advancement of Science. As Stephens concludes, "Agassiz's repeated praise of the Charleston naturalists and the Charleston museum and his assistance in getting the American Association for the Advancement of Science to hold its third meeting in Charleston indicated the national standing of the city in natural historical research."[72] Charleston's reputation in this regard was only superseded by Philadelphia, Boston, and New York.

These issue point to a final question as to why, in 1839, when Morton addressed the unity or diversity of the human species, as a partisan for the inquiry of "ethnology," his claims failed to generate much controversy, and instead won him wide acclaim. Through his account of migration and a broadly comparative framework of the material aspects of primitive culture, particularly of ancient Mesoamerican tribes, Morton, in *Crania Americana* demonstrated enough continuity with the traditions of the Enlightenment view into the origin and progress of peoples to remain uncontroversial. Morton was cautious in his stance, as previously noted, on the question of the unity of humanity, while in the hybridity article he couched his defense of ethnography as a superior method to define "species." The lack of controversy, furthermore, can only be explain by briefly accessing Morton's task in *Types of Mankind*, keeping in mind his argument on hybrids.

In *Crania Americana,* Morton understood "ethnology" to be distinct from "physical classification." In the "physical," scheme of classification, humanity "are

[72] Stephens, *Science, Race, and Religion in the American South*, x

grouped in great divisions characterized by similarity of exterior conformation" while the "ethnographic" depended upon an "arrangement…based upon analogies of language." Morton then concluded that while each system had its partisans, "that it is reasonable to suppose that method most natural and comprehensive which is derived from both of these sources, as well as from all others which tend to establish analogies among men." Morton, taking the best elements from both systems, assuming a kind of methodological "middle way," then divided humankind into "twenty-two families." In Morton's denotation of "families," he was careful to distinguish his conceptualization of "family" from that of "race", as for him "race" and "family" were not synonymous.[73] "These families," Morton noted, "are not assumed as identical with races, but merely as groups of nations possessing, to a greater of less extent, similarity of physical and moral character, and language." Families, furthermore, were comparatively recent developments of "aboriginal races" to which "they belong." Other families, however, "were of mixed and very diverse extraction, and of comparative recent origin."[74]

In *Crania Americana*, Morton's emphasis upon "aboriginal" "races" and "families" of "recent origin", physical characteristics, as well as moral character and language, made his opinions as to the unity of humankind hard to assess, as he gave a role to "local causes" and the action of climate. Morton's description of the material culture of Native Americans, with descriptions of their state of rudeness or refinement, existed in the specific descriptive language that had populated such

[73] Samuel George Morton, *Crania Americana, Or, A Comparative View of the Skulls of Various Aboriginal Nations of North and South America to which is Prefixed an Essay on the Varieties of the Human Species; Illustrated by Seventy-eight Plates and a Colored Map*, J. Dobson, 1839, 4-5
[74] Samuel George Morton, *Crania Americana,* 4-5

diverse texts as William Robertson's account of Native American tribes or John Millar's discussion of the origins of dwellings in the first portion of the *Origin of the Distinction of Ranks*. These attributes were apparent in Morton's discussion, quoting the Spanish Jesuit Clavigero, an opponent of Buffon and de Pauw, on the Toltecan family. Morton noted that, "Of all the nations of the new world they attained the greatest degree of civilization; they lived in society, collecting themselves into cities, under the government of kings and regular laws."[75] Morton then presented an account of the twenty-two families, which included the "Caucasian," "Arabian," Celtic," "Chinese," "Indo-Chinese," "American," "Totlecan," "Negro," "Caffrarian," and "Oceanic-Negro."[76]

Morton's account of "families" such as the "Caucasian" "family" included such details as, "they are extremely numerous, and embrace many primitive types, which differ in language yet possess in common, certain prominent physical characteristics." Morton understood the Toltecan family within the Enlightenment conception that the more refined a civilization became, the less violence occurred between its members. As Morton detailed, "They not only became less warlike, and preferred the cultivation of the arts to the exercise of arms; they also devoted themselves to architecture, and cultivated with care various useful plants and fruits."[77] By noting his reliance upon authorities as Acosta and Clavigero on Native Americans and ancient Mexico and Johann Blumenbach on the "families" of races, and Morton's claims were established within the specific culture of "men of letters," a learned, descriptive circulation of ancient peoples much like the literature of travel.

[75] Samuel George Morton, *Crania Americana*, 114
[76] Ibid, 6-7
[77] Ibid, 114.

For Morton, in 1839, ethnology had meant the inquiry into human beings only. This was far narrower than even Prichard's "ethnology," which was much closer to its natural historical roots. Morton did not engage, in 1839, in a description of the natural world. Though he made claims about all "families," only in the case of ancient Americans were these claims definitive, as they were supported empirically, according to the instrumentation and practice of conjoining skull measurements with descriptions of culture and history. In 1847, Morton interpreted the methodology of ethnology to give him the license and the authority to review the methods and practice of natural history, claims that Morton had not made in 1839, and to merge his study of human families with the study of the workings of the natural world. Bachman conjoined *Crania* and the hybrid article only in retrospect, as only in 1850, did Morton's musings on the "families" come to seem sinister. Thus, the methodological 'over-reach' of the hybrid article, the many institutional and structural deficiencies in American science, the conceptual underdevelopment of the two inquiries of natural history and ethnology, and the development of Morton's and Bachman's ideas, explains why the debate occurred in 1847, and why it was insufficient to conclude the matter in 1850.

Chapter 3: Types of Mankind: Systems-Building and the Arguments of Morton's "School"

I. Introduction

Types of Mankind, or Ethnological Researchers Based upon the Ancient Monuments, Paintings, Sculptures, and Crania of Races, first published in 1854 and in a second edition the next year, served as a memorial volume for Samuel Morton, and as a rallying call for a new science of ethnology dedicated to establishing the multiplicity of human species. It was written primarily by the physician Josiah Nott and Egyptologist George Gliddon (formerly U. S. consul at Cairo), and included selections from the Harvard naturalist Louis Agassiz (now best known for his theory of ice ages), geologist William Usher, and the physician William Patterson. It was also an open rebuke against the thesis of the "unity" of mankind upheld by John Bachman and the British naturalist James Prichard. As such, it was in some ways a continuation of Morton's work, but it also exploited the unfinished nature of Morton's work to help establish a more novel science of human races not emphasized by Morton. Where Morton took the inequality of races as a given to be physically explained, or to serve as evidence of the relationship of species to each other, the contributors to *Types of Mankind*, and Nott especially, argued for this science's political and social implications: the inevitable supremacy of the European species, and the imperative that that species' lineage not be diminished through interbreeding.

To understand the project and strategies of Josiah Nott and his fellow contributors to *Types of Mankind*, it is important to comprehend that they sought to ensure not only a political and social order, but, of more immediate importance to

them, a professional one. Across the world, advocates of the unity thesis and the unity of the human species did not necessarily hold differing political and social views from advocates of polygenesis and the multiplicity of human species. John Bachman for example was a staunch advocate of slavery. Furthermore, in the years preceding the American Civil War, slavery and Manifest Destiny did not require the backing of a purportedly disinterested scientific perspective, nor was the slaveholding ideology necessarily connected with an advocacy of plural creations. George Fitzhugh, among the most prominent of the pro-slavery ideologists, objected that, "We deplore the doctrine of *Types of Mankind* because it is at war with Scripture," and worse still advocating that blacks were "wicked beasts without the pale of humanity."[78] Rather, Nott and his allies' embrace of what to them was an obvious moral and political lesson, lent further to support to their multi-pronged effort to define what constituted proper method and proper presuppositions, and to secure a place for themselves at the forefront of the nascent American scientific community. Given the largely amateur status of science in America at this time, victory or loss in these debates was understood to entail possible elimination from serious scientific consideration, or, alternatively, a large degree of control over American science, and, consequently, more serious consideration in the European centers of the scientific world.

By the middle of the nineteenth century, American science largely gained attention as a source of scientific evidence: geographical measurements; reports on

[78] Fitzhugh's objection illustrated his own pro-slavery paternalism. Quoted in Frederickson, *The Black Image in the White Mind* (Wesleyan University Press, 1987), 84

American fauna, flora, and people; and, above all, physical specimens.[79] Samuel Morton's massive collection of skulls of the inhabitants of America, as analyzed in *Crania Americana* in 1839, had brought enormous attention and respect to him and his scholarly work. An anonymous review in the *American Phrenological Journal and Miscellany* noted that Morton's *Crania Americana* "The publication of *Crania Americana* will constitute an interesting and important era in the science of anthropology."[80] This chapter will argue that styling Morton as a man of "genius", and styling themselves as the intellectual heirs of Morton, necessarily became a major part of Nott and his allies' self-advocacy. This strategy mirrors similar efforts to cast work in the tradition of Isaac Newton

The legacy of Newton and the esteem with which Newton was held during the long nineteenth century, vitiating between that of a genius and a madman, was utilized quite frequently in order to defend or articulate specific philosophic or natural philosophical claims. Richard Yeo, in his "Genius, Method, and Mortality," has argued in his work on Newton's legacy after 1760 of the difficulties of affixing the label of "genius" on to Newton's work and methodology. As Robert Iliffe notes, "Although Newton's scholarly quarks of dress and regimen were extremely well

[79] It was even the case in the opening decades of the nineteenth century that too many facts had been gathered by scientists. George H. Daniels narrates the widespread sentiment among American scientists in the 1820s and 1830s there was the problem of too much data- such was the pace of discovery of novel specimens that systems of classification and organization proved inadequate. In the half-century after the death of Linnaeus' death, there was an increasing dissatisfaction with existing "artificial" systems –where there is the selection of one characteristic which rigidly classifies all members as belonging to that specific group- of classification as "thousands" of new plant forms "were being brought in from Africa, North America, the West Indies, and other areas new to European science." With all of these discoveries, "no acceptable systemization based on a natural (over-all structural and functional resemblance) basis had been developed," with no less than twenty-five competing systems, not including those inspired by *Naturphilsophie*. To the eminent botanist Asa Gray, this era of "systems-building" only turned things into a chaos. See "A Deluge of Facts," in *American Science in the Age of Jackson* (University of Alabama Press, 1994), pp. 114, 104-114.
[80] *The American Phrenological Journal and Miscellany*, 276.

known and were conventionally linked to some of the accepted cultural stereotypes of madness, by the middle of the eighteenth century, Conduitt and other allies had succeeded in elevating his character to the most rational and the most virtuous man ever produced by Albion." As Yeo underscores, the accepted understanding of genius, after Thomas Young's "Essay on Originality" (1759), praised, contrary to Newton's own stated intentions, the imaginative component of the "Origin of Philosophical Genius" of which Newton's philosophical methodology was the prime exemplar.

The elevation of Newton's intellect and imagination to the level of the holy continued well into the nineteenth century, until Jean-Baptiste Biot used Newton's illness to argue for the "frightful" existential condition of man between genius and madness, while other later disciples such as David Brewster, could not reduce Newton's contribution to simple inductive "drudgery" but could no longer ignore Newton's Scriptural and alchemical work. Newton's "black year," in which he destroyed an early book on light and colors, was then used in the 1830s, by Francis Galton, in order to argue for a link between genius and insanity.[81]

Simon Schaffer has underscored in his "Comets and Idols: Newton's Cosmology and Political Theology," the varieties of uses to which the "Newtonian" and the intentions of Newton were put. The "hermeneutical chaos" which accompanied the understanding and diffusion of Newtonian science, for Schaffer points to a fundamental truth, "highly esteemed scientific texts function like idols of interpretation, they are taken as stable, clear, and precise in ways utterly absent in

[81] Robert Iliffe,"Issac Newton: Lucatello Professor of Mathematiccs" in *Science Incarnate*, ed. Christopher Lawrence and Steven Shapin (Chicago: University of Chicago Press, 1998), 149-151.

literary texts." The goal of interpretation in these instances is "consistency, to be achieved by constituting a reliable, consensually agreed, and unambiguously authored and dated archive." The key factors in this consistency are a smooth intellectual development and "major reliable testimonies of his true views." A major difficulty for consistency was the distinction between public writings and private utterances and the status of unpublished manuscripts. In the case of Newton, there was a wide divergence of opinion (then and now) over the status of his alchemical and theological manuscripts and their relationship to his natural philosophical system.[82]

With Morton, the problems of consistency are similar in some essential aspects to that of Newton. Nott and his collaborators also argued for an inner, essential consistency lurking below the surface of his scattered, though substantial contributions to natural history and ethnology. Such a consistency was also used to bludgeon the doctrines of James Prichard, whose intellect and character plays an essential foil to the account of Newton. The problem of consistency and intention in the case of Morton presents an even more complex dilemma due to his sudden death due to which Morton produced nothing of the systematic order of James C. Prichard's *Researches into the Physical History of Man*. Such a demand for a major publication on that order was what motivated Nott most likely to produce something of the order of *Types of Mankind*.

As important as capitalizing on Morton's reputation was, though, it was also necessary to establish their own reputations as fully capable men of science in their own right, which meant not only being collectors of evidence, but using Morton's work as an endorsement of their own, and to integrate it into a fully formed research

[82]Simon Schaffer, "Comets and Idols," 206-208

program that could be identified specifically with them. In mid-nineteenth century anthropological science, this meant harnessing a diverse array of evidence---not only physical evidence, but also linguistic, archaeological, textual, and Biblically revealed knowledge---into a coherent "system" of arguments.

I argue that the development of argumentative "systems" has been an underappreciated facet of anthropological science in this era for two reasons. First, the development of argumentative systems was a key feature of seventeenth and eighteenth century science, and, following the transition of certain physical sciences to highly specialized forms of argumentation in the nineteenth century heralding the "end of natural philosophy",[83] systems-building has been believed to have ceased to have been an essential virtue in the nineteenth-century sciences in general, while the essentialism of physics became the clear standard. The lack of attention to systems in nineteenth-century sciences is also concomitant with a broader recent concern in science studies with the collection and construction of objective "scientific facts" in all eras.[84]

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[83] Thus, Simon Schaffer has argued that the appeal to genius and the advent of the disciplinary history marked the end of natural philosophy and the rise of "the reification of heroic discoverers and prized techniques" by "research schools." There emerged, according to the nineteenth century historian of science and philosopher William Whewell, a generational division of labor between the "elite" founders of the system and the "mere cultivators," those who through consistent drudgery or faithful labor, merely applied the methodological insights of the great founders to their practical applications. The implication of such a scheme is the absence of independent ideas in the follows of the founders of a school as well as the implication that the followers were simply faithful adherents adding detail to the system rather than introducing novel elements. Nott and his followers' use of the term "genius" and their use of Morton's biography as a disciplinary history obscure their own systematic contributions and substantive argumentative strategies. The purpose of this chapter then is to uncover them. (Schaffer, *Scientific Discoveries and the End of Natural Philosophy*, 413)

[84] Both Mary Poovey and Barbara Shapiro in their *A History of the Modern Fact: Problems of Knowledge in the Sciences of Wealth and Society* (Chicago: University of Chicago, 1998) and *A Culture of Fact* (Ithaca: Cornell University Press, 2003), respectively, argue, drawing from the investigations of Simon Schaffer, Peter Dear, and Lorraine Daston that "fact was an important conceptual category for early modern, English natural philosophy." Both Shapiro and Poovey narrate the process by which "the fact" achieved its normative status in natural philosophic systems, with Shapiro underscoring that "the fact" "was a rather late arrival in natural philosophy," having been a

Second, the biological and, specifically, genetic determinism that took hold later in the nineteenth-century anthropology, drawing especially on Darwin's theory of natural selection (first published in 1859), and that informed many later movements in eugenics, focused attention on specifically biological forms of evidence at the expense of the concern for developing a "natural history of man" that dominated earlier in the century, which had clear links to Enlightenment-era natural philosophy, and that depended on diverse forms of evidence.

As I have argued in the previous chapter, the establishment of a scientific argument in early American naturalist circles was not simply a matter of amassing piles of evidence, but in assembling this evidence in a way that privileged a set of general principles that one endorsed, and that undermined principles endorsed by others. In this way, one simultaneously made a positive contribution to knowledge while engaging in high-stakes epistemological combat.

In a scientific world, where the temporal and spatial arrangement of species demanded physical explanation, the possibility of the hybridity of species could rise or fall depending upon one's ability to marshal the evidence in a convincing way, with the monogenesis or polygenesis of species (and, by extension, man) being an essential part of the argumentative structure resulting in a historical and geographical picture consistent with available evidence. So, the spatial, temporal, artistic, and technological qualities of races, mediated by an understanding of human hybridity

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well-established concept in legal discourse well before it was adopted by naturalists. (2) Poovey, related, underscores the position of the “factual” between the “phenomenal world” and systematic knowledge, which as an “epistemological unit” registers the tension between the “richness and variety embodied in concrete phenomenon and the uniform, rule-governed order of humanely contrived systems.” Because of the liminal position of the factual between phenomena and system, Poovey contends, the fact exhibits a particularity that explains its embroilment in theoretical disputes, early modern and contemporary. (1-2)

(the “mixing of the blood,”) could explain physical and historical evidence of the spreading and decline of civilizations---with implications for current ones in an age of unprecedented contact between different peoples with already evident consequences. Control over facts supported systems, and the establishment of systems secured scientific reputations.

Extant scholarship, by analyzing the circumstances under which individual facts within argumentative systems were created, does not analyze so much as participate in the hermeneutics within which epistemological combat over the content and principles of anthropology were determined. Steven Jay Gould, in an admirable effort to debunk racist science, has gone so far as to re-measure the cranial capacity of Morton's collection of skulls to demonstrate their statistical equality,[85] and to show the prejudice in Morton's measuring techniques, and thereby expose their pseudo-scientific foundations.

Nevertheless, it should be recognized that such efforts to validate or disprove facts, and, by extension, research programs, was at the very heart of the combative strategies at work in texts such as *Types of Mankind*. More useful for the scholar of American science, the science of anthropology, and ideas concerning race, is to understand that the very idea of what constituted a science of mankind was at play in this period, and to clarify both the importance of, and the general and specific strategies used by, that scholarly figure that Dorinda Outram has called the "sedentary naturalist".[86] My goal in this chapter is to illustrate the strategies used to do just this.

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[85] See the chapter entitled “American Polygeny and Craniometry,” in *The Mismeasure of Man*, by Stephen Jay Gould

[86] Following Baron Cuvier’s discussion of the distinction between the field naturalist, or the naturalist who examined the specimen in its natural setting, and the sedentary naturalist, who through his access

First, I will examine the efforts to establish Samuel Morton as an exemplary man of genius and scientific virtue, and thus to establish the scientific credentials of a specific "American school" of ethnology. Second, I will examine the biological forms of evidence that most closely connected this new form of ethnology with the work of Morton. Third, I will look at the close links between biological forms of evidence and the burgeoning culture of archeological and textual scholarship that existed in this period, and will explain why these links made sense in an era when anthropological and biological history were assumed to exist on similar time scales. Finally, I will examine the political facet of this scientific work propounded most clearly by Nott, and how he related scholarship concerning the fate of ancient civilizations to the fate of current ones unfolding at that point in history.

II. Morton, "Genius," and the Collaborative Unity of *Types of Mankind*

William Patterson was a professor of "therapeutics" at the Pennsylvania College of Medicine. The goal of his beginning section was to cast Morton not only as a methodological "genius," a pioneer, but also as a man who consistently labored in the pursuit of scientific truth and who closely worked with the materials of his study. Patterson's account was a conventional exercise in scientific biography. Like

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to books and prepared samples had less of an understanding of nature as it existed as a living specimen, but was able to understand nature as a systematic whole far better than the field naturalist. The location of the naturalist, Outram argues, through Cuvier, determines the nature of natural knowledge. Outram writes on the contrast. The field naturalist "has unbounded spaces at his disposal." The observations of the field naturalist are "vivid, instantaneous, active, and dramatic," but he had little "overview of the natural order as a whole, his view of individual beings is fragmented and insecure, in spite of their momentary precision and vividness." It was Cuvier's claim that real comprehension of nature came only from "not from the passage over terrain, but from the steady and immobile *gaze* of the sedentary naturalist," thus arguing that true knowledge emerged from the observers "distance from the actuality of nature." Cuvier's "epistemic battle" between the types of knowledge gained through differing positions of observation mirrored his effort to elevate natural history to something approaching the level of a true science or philosophy. (Outram, "New Spaces in Natural History," in *Cultures of Natural* History, 260-262)

Michael Faraday in John Tyndall's *Faraday as a Discoverer*, Morton possessed a keen, prodigious intellect as well as a chivalric, humane personality.[87] Morton was presented as a genius and a gentlemen in order to dissuade the reader of Morton's possible madness from the character of his insight. Morton was then no Newton and his self-less conduct posed far less problems for Nott's successors than for Newton's own supporters. Far from underscoring the disparity between insight and reason, Morton's biography was a narrative unfolding of purposing intellectual work punctuated by almost inhuman labor and flashes of systematic insight.

Patterson presents Morton as a pleasant person, consistently under the guide of his reason and his benevolent passions, in tune with both nature and the sublime, a man of sentiment and sensibility. Morton was a "gentleman" of science in the tradition of British politeness, who consistently sought out friendship and the community of other practitioners, and who sought to resolve amicably disputes between the members of the "noble Temple of science." Morton was "placid and regular"[88] and well known in the scientific and physician community for his "eminent services to medical science, both as a teacher and a writer." Far greater, however, were his contributions as a "Naturalist."

Patterson's desire was "to present Morton as the Anthropologist, and as virtually the founder of that school of Ethnology, of whose views this book may be regarded as an authentic exponent." Morton's founding of the school was due to the "magnetic power by which he attracted and bound to him, and made them feel glad to serve him." This magnetic power was manifest in his "Cabinet of Cranium."

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[87] *Telling Lives in Science: Essays on Scientific Biography* (Cambridge: Cambridge University Press), pg. 174ff.
[88] *Types*, xvii

Morton's collection of skulls, according to Patterson, demonstrated a tangible, universally held respect that Morton possessed in the community of scientists. This collection of skulls, as argued in the last chapter, not only was emblematic of his authority, but also allowed his ethnology to become increasingly authoritative and his stature to increase in the community. Such authority was used in order to bolster his conclusions, which then lead to more samples.

Such was Morton's reputation Patterson proclaimed, that many labored "without expectation of reward to secure a cranium" for Morton. Such was the strength of Morton's character and intellect that within the "noble Temple of Science," Patterson exclaimed, "among a body of men whom a more than priestly munificence enables to devote themselves to labor like his own, he was universally recognized and appreciated, and mourned as a leading spirit in this cosmopolite fraternity."[89] Such accomplishment was no accident according to Patterson. Morton's ethnography was the confluence of natural talent, a strong religious life, hard work, and a cosmopolitan education. Patterson presented Morton's natural history and ethnology as the culmination of Morton's very life.

Patterson's account of the life of Morton emphasized the varieties of his learning and the ease with which, though beginning with a provincial education at the hands of the Society of Friends, Morton became both a man of letters and a brilliant naturalist. Morton's early education in natural science, at the hands of his stepfather, Patterson noted, was in mineralogy and geology. The Society of Friends encouraged Morton to pursue medicine and zoology.[90] While at the University of Edinburgh, after

[89] Ibid, xix.
[90] Ibid, xxii.

attaining a medical degree at the Pennsylvania Medical College, Morton studied geology, "classical tongues," as well as French and Italian. He pursued clinical study in Paris in 1821, and in 1822, and presented doctoral thesis at the University of Edinburgh on the nature of pain,[91] the tone of which was "the beautiful spirit of philosophical optimism."[92] In 1824, Morton joined the Academy of the Natural Sciences in Philadelphia, and for the next decade published papers in paleontology. Throughout this period, though he was "largely engaged" in medical practice and in 1849, Morton published a textbook on anatomy, after making serious contributions in pathology, which though superseded by the "French school" of Bichat.[93]

Morton resolved, Patterson recounted, "to make a collection" for himself having been "forcibly impressed with this great deficiency in a most important branch of science." In order to achieve this goal, Morton acted as though "time, labor, and money were expended without stint" with many individuals sympathizing with his "scientific ardor."[94] Eventually, "over one hundred gentlemen" contributed to Morton's skull collection, with "nothing in Europe comparable to it." Such was the status of the collection (upon which many of the discussions in *Types of Mankind* reportedly drew their evidence from) that an "eminent British ethnology" sent a letter of "warm thanks" for the "privilege even of reading such a catalogue" which contained, Patterson exclaimed, "918 human crania."[95] Morton, "a pioneer," finding scarce written materials on the natural history of human beings "had to resort to the raw material and obtain his data at the hand of nature."

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[91] Ibid, xxiii-xxiv
[92] Ibid, xxvi
[93] Ibid, xxviii
[94] Ibid, xxix
[95] Ibid, xxxi

Patterson argued that American nature was uniquely suited to aid the construction of a science of ethnology as three of the five of Blumenbach's races were on America soil, with the Chinese race rapidly becoming the fourth.[96] The "Negro thrives under the shadow of his white master" and "extraordinary facilities for observing minor sub-divisions" were available to Morton due to the influx of immigrants. Morton published a series of articles and papers and scientists soon viewed Morton as accomplishing "more for ethnology than any living physiologist." The culmination of this work in ethnology was Morton's *Crania America*. *Crania Americana*, published in 1839, received "eulogistic letters" from "distinguished *savants*" such as "Baron (Alexander) Humboldt."[97]

The sentimental dutiful scientist and penultimate ethnographer emerged again in the context of the dispute with John Bachman. In this context, Patterson does his utmost to contrast the "very malignant appearance" of Bachman with the "tenderest sympathies of Morton." Morton refuted Bachman "with firmness and dignity" and "pile(d) up still more evidence," even after Bachman, using his authority as a "gentlemen" of the "cloth" made various accusations, which had the potential effect of "impair(ing) his business or his public standing" in the "scientific world."[98]

As to Morton's stance on "much vexed question of the unity or diversity of the various races of men" and the question of the origin of all humanity from a "single pair,"[99] Morton was "inclined to the view, mainly in consequence of the historical evidence he had accumulated, showing the unalterable permanency of the

[96] Ibid, xxxii-xxxiii
[97] Ibid, xxxiv-xxxv
[98] Ibid, lvi, See chapter 2.
[99] Ibid, lxiii

characteristics of race…." However, Morton was "slow to hazard the publication of an opinion upon so great a movement." Morton's "labors" showed "extreme caution" as a "true disciple of inductive philosophy." Morton accumulated "fact upon fact" "all intended for future use." Morton reserved "complete expression of his ethnological doctrines" due to his "extreme dislike of all controversies." [100]

The picture of Morton presented by Patterson was of gentle man who made an innovative and a decisive contribution to the store of scientific and humane knowledge. His contributions were, furthermore, easily explicable with a consideration of his life-long engagement with not only many branches of science but also the humane letters. The extent and breath of Morton's contribution to ethnological knowledge was not simply a matter of universal opinion, but was physically manifested in his catalogue of skulls. In this sense, there was no doubt as to the continuity of his legacy or his founding of a "school" or the preservation of the scope of his achievement, as all were permanently embodied in his collection of skulls, their organization, classification, and measurement.

Louis Agassiz, William Usher, and finally George R. Gliddon's articles were concerned with arguing against evidence for the persisting species unity of human kind as articulated by Prichard and Bachman. Such contributions did not address in detail the natural history of the races but rather, by arguing for geological deep time or the existence of plural original populations of human beings provided a foundation for Nott's racial science through their defense of Morton's natural history and through their denigration of the unity thesis. Such arguments were all designed to ensure that a strong case could be made for Morton's foundation of a "school" of ethnology,

[100] Ibid, lxvii

which presupposed a break with previous natural histories of mankind, and that their natural histories reflected the methodological insight of Morton.

Agassiz, a Swiss naturalist of international reputation,[101] professor of zoology and geology at Harvard University, wished to show in his contribution to *Types* that "*the boundaries, within which the different natural combinations of animals are known to be circumscribed upon the surface of our earth, coincide with the natural range of distinct types of man*"[102] (Italics his.) This statement was explicitly in opposition of the argument for climatic agency, the origin of all man in a single locale, and the commonality of origin of the human race, argued by Prichard and Bachman as well as the majority of enlightened anthropologists. As importantly, Agassiz, while advocating Morton's definition of species, also appropriates Nott's taxonomy of "distinct types," which suggests separateness of origin and distinct paths of development. Both natural and civil history, Agassiz contended, greatly supported the existence of multiple races or "primordial stocks" of men who were created in specific localities, such as Southern Africa or the Artic.

In order to bolster his claim for the existence of separately created "stocks" which were adapted to specific localities, Agassiz noted that "the evidence" derived from the "affinity of languages," for the "community of origin" was of "no value." It was in vain that philologists looked for "a community of origin" in the races of men given the existence of "the most essential differences in the very structure of these

[101] The standard work on Agassiz is Edward Lurie's *Louis Agassiz: A Life in Science,* (University of Chicago, 1960.) See also, K. J. Tinkler, *A Short History of Geomorphology* (Barnes and Noble, 1985), and John S. Haller, Jr., "The Species Problem: Nineteenth-Century Concepts of Racial Inferiority in the Origin of Man Controversy", *American Anthropologist* 72, no. 6 (1970): 1319-1329.
[102] *Types*, lviii

languages."[103] The argument from language was a critical support for the unity hypothesis in the eighteenth century. James Adair (1775) and Thomas Jefferson, both committed monogenesists, maintained the Semitic constituency of American Indian languages.

As Hannah Franziska Augstein details, the argument for the affinity between diverse language groups and the affinity of biological origin was essential to the demonstration of monogenesis and to the work of James Prichard. Prichard's ethnological work was also an exercise in philology since "in his zeal to prove the unity of mankind he had quickly discovered that the genealogical links between the peoples of the earth could not be positively proved by physiological researches."[104] As troublingly, Prichard believed the historical record insufficient to provide evidence for the unity thesis. What Prichard could demonstrate "were affinities among languages as well as among varying mythological, cultural, and religious outlooks." The unity thesis, though dependent upon climate or degrees of material advancement among civilizations to explain present distinctions between varieties and the physical differences between men, depended more upon linguistic and civilizational evidence than biological mechanisms.

With the same design as his critique of linguistic evidence, Agassiz promoted Morton's definition of species that attempted, much like Morton in the debate with Bachman, the connection of species membership with fertility. It was true, Agassiz noted, that animals of the same species "are fertile among themselves, and their fecundity is an easy test of their natural relation." However, Agassiz continued, this

[103] Ibid, lxxii
[104] *James Cowles Prichard's Anthropology*, 159.

characteristic was "not exclusive." It was therefore not "justified, in doubtful cases, in considering the fertility of two animals as decisive of their specific identity." It was "*beyond all question* that individuals of *distinct* species may, in certain cases, be productive with one another, as well as with their own kind." [105] Morton's definition of species as "*primordial organic forms*" or "distinct forms of organic life, the origin of which is lost," which remained essentially unchanged due to climate, was, according to Agassiz, the only true definition of species. Morton, with this definition of species, according to Agassiz, had resolved the controversy surrounding hybridity and species.

For Agassiz, the future of Morton's school of ethnology lay with the greatest controversy of natural history in the nineteenth century, the placement of human beings into the order of nature and the subjection of human beings to the same laws as to the rest of the order of nature. It was Morton's definition of species and his account of hybridity that allowed such a transition to be undertaken and for a true scientific ethnology to be constructed. The first step, which Agassiz himself could provide, was the beginnings of a taxonomy for the separate species of human beings.

As human beings were no longer members of the same species, they must still have so degree of commonality. To this end, Agassiz noted, "the differences existing between the races of men are the same kind as the differences observed between the different families, genera, and species of monkeys and other animals."[106] The chimpanzee and the gorilla, Agassiz continued, "do not differ more one from the other than the Mandingo and the Guinea Negro: they together do not differ more from

[105] *Types*, lxxiv
[106] Ibid, lxxiv

the orang than the Malay or the white man differs from the Negro." Agassiz essentially argues that all human beings, while differing species, were of the same *genera*.

The unity of overall unity of humanity on the level of *genera* was suggested by "a typical structure, and by the similarity of natural abilities and propensities." This unity of humanity "is compatible with a diversity of origin" and that such a unity of structure was a "universal law of nature."[107] What Agassiz argued against decisively then was unity of humanity according to the Prichardian definition of species and the traditional account of the unity of humanity that depended upon a singular creation of all of nature in one locality, the migration of ancient populations, and the act of climate upon one single "stock." What Agassiz instead proposes is separate divinely created aboriginal populations of plants and animals. These separately created stocks of animals developed in tandem with populates of plants, making up a particular *faunae*.

The correlation between "stocks" of men and the "natural limits of different zoological provinces characterized by peculiar distinct species of animals" uncovered by Morton's account of species, "is one of the most important and unexpected features in the Natural History of Mankind." Such a concilliance had only one explanation, namely: "that diversity among animals is a fact determined by the will of the Creator." The geographical distribution of plants, animals, and races of men was part of a general plan, which "unites all organized beings into one great organic conception." It followed from these propositions that "what are called human races,

[107]Ibid, lxxv

down to their organization as nations are distinct primordial forms of the type of man."[108]

Agassiz claimed that to deny the existence of distinct primordial forms, with racial difference emerging from migration and changes in climate would admit reasoning that was "contrary to all modern results of science." The argument that all men descended from a common stock would "run invariably into the Lamarckian development theory," which was "so well-known in this country through the work entitled "Vestiges of Creation." The coincidence of animal life and the natural habitat of man should, Agassiz opined, "remain an important element in ethnographic studies" with no theory of migrations or "the distribution of the races of men" which "does not account for that fact." All ethnographic studies would have to contend with the "the laws which regulate the diversity of animals, and their distribution upon earth, apply equally to man, *within the same limits* and *within the same degree*."[109] The unity of humanity, as recounted in Scripture, was then no more than the great unity of all of nature under the same laws and the harmoniousness of primitive racial stocks with their surrounding environment.

Thus, Agassiz was able to articulate the beginnings of a natural history of mankind based upon the lower orders of the natural world. Agassiz was able to do such by also underscoring the ability of Morton's doctrine to provide an escape from the evils of developmentalism. Agassiz and Morton's new natural history, of stocks and *faunae*, was then reconcilable with the plan of divine providence, and as such, an exemplar of a law working in the natural world.

[108] Ibid, lxxv-lxxvi
[109] Ibid, lxxvi

The geologist William Usher argued for the permanency of racial types by recounting the discovery of fossilized skeletons of human beings and extinct species of animals in the same sedimentary strata. Such fossils argued conclusively against the unity thesis by disputing the account of the genesis of the American Indian tribes due to a primeval migration and the action of climate. Usher concluded, "The human fossils of Brazil and Florida carry back the aboriginal population of this continent far beyond any necessity of hunting for American man's foreign origin through Asiatic immigration…the body of one Indian beneath the cypress forests at New Orleans is certainly more ancient than the lost "tribes of Israel."[110] This was precisely the argument used for the origin of Indian tribes by Joseph Adair, Thomas Jefferson, John Bachman, and James Prichard. Usher connected his detailed discussion of sedimentary deposits with an argument for the antiquity and the permanency of species as primordial organic forms, holding that human fossils prove the existence of distinct characteristics possessed by species of human beings from remote antiquity. Thus, like Agassiz, Usher's geology was both part of a systematic ethnology and dependent upon the natural historical authority of Morton. Thus, Usher was both an adherent to a school and an authority in his own right.

After Nott's contributions, ending the work was Victorian Egyptologist George Gliddon's "conscientious application of enlightened learning to the *Hebrew Text of Xth Genesis*" which Gliddon clearly distinguished from those of the "genuine English evangelical school." In contrast to the evangelical accounts, popular rather than learned, dogmatic rather than reasoned, Gliddon's account of the tenth book of Genesis not only took into consideration the High German criticism but also the

[110] *Types*, 353.

archeological account. Gliddon rendered the biblical narrative consonant with Morton's conception of species as primordial organic forms. For Gliddon, Scripture, in order to remain comprehensible according to an enlightened, hermeneutical understanding, must embrace Morton's account of species.

In order to reassess Scripture according to Morton's insight into species, Gliddon had to first critique the existing theology, principally through arguing for its inability to assimilate present archeological and linguistic developments. The evangelical school was either "wrong" or "ignored the very- accessible criticism of Continental archeologists." These "popular commentaries possess less weight in science."[111] Gliddon (or "the authors") instead proposed "the necessity using the *Xth Chapter of Genesis*" as a "ground-text" for their ethnology, engaging in a discussion of Genesis which was "strictly archeological" and which understood Genesis as a "document" written in "square-letter Hebrew character."[112] Gliddon's particular contribution was giving the ethnology of Morton a history reaching far into antiquity. Such a lineage made ethnology and a deterministic account of racial difference a consistent phenomenon of civilization rather than an early nineteenth century invention. If ethnology was a phenomenon of civilizational inquiry into the natural surroundings of men, Morton's insight into the plurality of species was recast as an essential insight into natural laws.

Gliddon's criticism used the textual criticism methods of German Higher Critics and drew from the archeological and philological investigations of French and German cuneiform and Hebraic scholars that had developed since the Enlightenment.

[111] Ibid, 467.
[112] Ibid, 468.

Gliddon puts all of these studies to use in order to prove that “every name (but NIMROD's, which is mythological) in the Xth chapter of Genesis, excepting those of Noah and " Shem, Ham, and Japheth," is a personification of countries, nations, tribes, or cities- that there is not a single "man" among the seventy-nine cognomina hitherto examined.”[113]

Gliddon described the names of Scripture (Adam,Moses, Japeth, Noah, etc,) which had traditionally described the genealogy of the original Adamic pair into the families of the twelve tribes of Israel, as “chronographic” and “ethnographic” objects. Far from the product of revelation, the account of Scripture was taxonomy of human difference in antiquity, a primitive form of Morton and Nott’s work. Gliddon detailed that the chronicler of Scripture was an ethnographer without a concept of the science. He viewed the peoples around him and divided the tribes into “three cuticular colors” in much the same manner as the Egyptians had done previously with the same tribes, “by the colors red, yellow, and white.”

Thus, Gliddon’s exegesis was the combination of a natural historical premise with the accumulation of facts that appeared to support such a contention. Through a complex argument underscoring the apparent naturalness of ethnographic narrative in human history, such a confluence of evidences and premises was designed to designate Gliddon as a faithful adherent of Morton system as well as a biblical authority in his own right.

III. The “Landmarks:” Morton’s Contribution and Nott’s Extension of the “Research School.”

[113] Ibid, 649

Nott's contributions to *Types* began with an "Introduction" in which he defined the scope of the inquiry of ethnology in the spirit of Morton, outlined previous articulations into the account of human difference, and underscored the fundamental contribution of Morton to the emergence of ethnology as a science. Far more than other contributors, Nott used the authority of Morton and the account of his intentions to articulate a distinct ethnology.

Nott's ethnology took Morton's nascent understanding of the biological fixity of human races, excerpted from narrowly framed studies, notes, manuscripts, and private correspondence, as well as Morton's substantial writings on the natural history of Mesoamericans and Egyptians, and produced a work clearly modeled in scope as James Prichard's natural history of humanity. For Nott, as for followers of Newton, the ultimate aim of his ethnography was to assist in the recovery and preservation of Morton's major insights. Nott however took advantage of the effort to grant Morton a "consistency" to articulate an ethnology radically distinct from Morton's own.

Far from being a mere adherent, Nott extended Morton's account of hybridity and developed a natural historical principle into a schema for historical explanation. Nott's efforts also reflected the evidences available and the existence of Bachman and Prichard's more systemic treatments, as well as his own efforts, which had their roots in a series of lectures and papers from the 1840s on natural history, ethnology, and archeology, to be considered an authority in his own right.

To these ends, Nott's account of hybridity and the 'mixing of the blood' not only retained the fixity of human races but also explained why specific nations had a specific history, presented specific characteristics, and were able to progress or

remain static. Nott's account of Morton's discussion of hybridity had the purpose of clarifying the mechanism behind racial types, of emphasizing the continuities between Nott's position and Morton's own, and of criticizing both Bachman and the "unity" argument. The sum of elements was an ethnological account in *Types* that aimed to be both comprehensive but that also was reducible to a series of propositions and general laws.

Nott understood ethnology, to these ends, to have the ability to address a series of fundamental questions. The first regarded "the primitive organic structure of each race." Ethnology was as interested in the "moral and psychical" character of each race and the extent to which physical and moral causes could modify a race. Ethnology was also concerned with the question of "what position in the social scale Providence has assigned to each type of man?" Ethnology had to address "the fundamental laws of living organisms" and to bring to light "every fact in civil history that has any important bearing upon the question of the races."[114]

Morton, accordingly, was "the first to conceive the proper plan" for ethnology, according to Nott, "but, unfortunately lived not to carry it out." While *Types* "falls very below the requirements of a science, we feel sure that it will at least aid materially in suggesting the right direction for future investigators."[115] In order to first define the import and scope of the ethnography after Morton, to render ethnography scientific, it was first necessary, in Nott's view, to refute the received ethnographic wisdom of the unity thesis, particularly of James Prichard. Nott's most cutting criticism of the work was to attack Prichard himself.

[114] Ibid, 49
[115] Ibid, 50

Here Morton's scientific attitude and personal bearing functioned as the antithesis to that of Prichard. Nott, in analyzing Prichard's account of the "unity of the races," focuses upon what he views as Prichard's failure to subject his claims to the rigors of scientific inquiry and to a strict empiricism. Prichard's argument is not simply wrong or misguided; it was incoherent and unscientific. Prichard himself was deluded; his reason was diminished through his attachment to prejudice. As Morton appears as a heroic scientist who was unable to complete his labors, Nott narrates Prichard as a tragic ethnographer who was pathologically unable, despite a keen intellect, to change his theories despite a deluge of evidence to the contrary.

Prichard, through his *Physical History of Mankind*, manifested a "constant changing of opinions" through a "cool suppression of adverse facts."[116] Prichard's ethnography was more art than science, an ingenious show. Prichard's reading of Genesis, furthermore, was "a very extraordinary performance." Prichard "denies its genealogies," "denies all of its scientific and historical details" yet also claims to demonstrate "that the sacred and canonical authority of the Book of Genesis." If Morton was the great pioneer and inductivist, Prichard was "the victim of a false theory," whose conduct as an investigator was a sobering example, according to Nott of how difficult it was "to break through a deep-rooted prejudice."[117]

After dispensing with Prichard, Nott informs the reader, "It will be observed that with the exception of Morton's, we seldom quote works on the Natural History of Man" since it was the case that "their arguments are all based, more or less, on fabled analogies." This, of course, was untrue, as Nott frequently quoted authorities that

[116] Ibid, 54
[117] Ibid.

supported plural "stocks" and races. Consistent with the narrative of Morton as an ethnological genius, Nott underscores that with Morton's contribution, "the whole method of treating the subject is herein changed." Nott continued, "To our view most that has been written has been rendered obsolete" which the present work has "superseded." Here Nott means that he considers the arguments of Buffon, Prichard, and Bachman to be unscientific since they subscribe to the unity of the races and regard racial difference as the outcome of climate. Nott quotes liberally from French ethnologists such as Jacquinot and the Victorian ethnologist Luke Burke since both men regard "mankind as divisible into distinct species."

Nott concluded his account with the following statement of "landmarks," "legitimate deductions" from the "facts now accessible." Here was research program which ethnology was to follow, a system of arguments. Nott declared, utilizing Agassiz's doctrines, that the "surface of the globe is naturally divided into several zoological providences, each of which is a distinct center of creation" which possessed "a peculiar flora and fauna." Every particular plant and animal "was originally assigned to its appropriate province." Nott noted that humanity was "no exception to this general law" but "fully conforms to it" with "mankind being divided into several groups of Races" each of which "constitutes a primitive element in the faunae of its particular province."

"History," Nott concluded, "affords no evidence of the transformation of one Type into another" despite "the most opposite physical influences." Furthermore, Nott underscored, using Usher's writings, that, "the primeval existence of Man" in widely separate portions of the globe "is proven by the discovery of his osseous and

industrial remains" and "more especially in his fossil bones" mixed in various strata "with the vestiges of extinct species of animals." Moreover, underscoring Morton's contribution to the hybridity debate, the "prolificacy of distinct species" is no "test of common origin." Here however, Nott sought to enlarge his own authority as an ethnologist, noting, from his own experience, that the races of men most distant from each other- Africans and Caucasians- "do not amalgamate perfectly" but nonetheless obey the Laws of Hybridity."

Thus, Nott's presentation of landmarks underscores the systematic quality of the work presented under the guise of Morton's teachings. This systematic ethnology was defended through recourse to Morton's intentions. The reality was far different. Nott imposed a systematic intention upon Morton and supported his ethnology with the narrative of the brilliance of Morton and the tragedy of his death.

IV. Nott's Natural Historical and Archeological Account: "Types," "Instinct," and the Egyptian Monuments

In his first article, "Types of Mankind," Nott quickly moves from natural history to racial destiny, from the world of natural facts to biological "types" and world-historical logics. Nott achieves this through the mediator of instinct. It was instinct that allowed Nott to begin in the natural history of Morton and Agassiz a more to the archeological and civil history which demonstrated the action of natural laws in history and which provided the most essential proof for Morton's insight and the viability of his school. "Facts," natural and civil historical, Nott concluded, "point to numerous centers of creation, wherein we find creatures fixed, with

particular temperaments and organizations which are in unison with surrounding circumstances, and where all their natural wants are supplied." The work of "successive creations" was visible in the "more recent fossil beds" in which "we find a distribution of fossil remains which agrees most remarkably with the present geographical arrangement of animals and plants."[118]

It could not have been the case, Nott asserted, that all life on the surface had originated in a central locality, as advocates of the unity thesis contended. Such a series of migratory patterns and lines was impossible with what Agassiz had proven about the habits of animals and the interaction of creatures such as mammals and men with their environments. It would be, "certainly irrational," Nott cautioned, due to the "wide-spread physical impediments imposing such migrations" and the fact that "neither the animals nor plants of one province can flourish in an adverse" zone of climate. No Artic plants existed in the Tropics and the "whole of the Monkey tribe belong to a hot climate."[119]

However, the strongest barrier to "voluntary displacement," Nott argued, "would seem to be that of instinct" defined as "that force, unknown and incomprehensible that binds them to the soil that has witness their birth."[120] It was this instinct, connected to biology, which defined the course of history. Types of men, asserted Nott, displayed the same instinctual habitation of their primitive locale as the rest of nature. The Caucasian races had always inhabited the "Temperate Zone", though they display "a certain degree of pliability that enables them to bear climates to an even greater extent hotter or colder than their native one." "The

[118] Ibid, 72
[119] Ibid, 73
[120] Ibid, 66.

Negro," Nott noted, "possess a certain degree of pliability" which enables them to enter the Temperate Zone, but to a far lesser degree than Caucasians. The ability to venture from the primitive local was also a manifestation of instinct.

Nott argued that the more superior a race the greater multiplicity of its instincts, the more open and variable its future. Nott moves quickly from a zoological to a historical and political state of affairs, from a natural history to an ideology of rule. Nott accomplishes this quite quickly and does so by rooting his arguments in Agassiz's natural history. The shift is effected through an emphasis on psychology, on an essential trait or disposition, which is also the exemplification of the laws of divine Providence, an essential truth which governs all of nature.

"Zoologically," Nott concluded, "the races or species of mankind obey the same organic laws which govern other animals." Races were furthermore "governed by certain psychological influences, which differ among the species of mankind as instincts vary among the species of lower animals." Such instincts often worked to the disadvantage of the races that possessed them driving "individuals and nations beyond the confines of human reason" with some nations "born to rule" while other nations were to be ruled through the will of Providence. This will of Providence, furthermore, was an injunction against not only philosophical liberalism but also European radicalism.

No two "distinctly marked races" could "dwell together on equal terms" with some races appearing to prosper while others living only until "the destroying race comes." The Caucasian race, Nott declared, had "in all ages been the rulers" and they were destined to conquer "every foot of the globe where climate does not impose an

impenetrable barrier." No philanthropy or legislation, missionary or other type of work could stop such a trend of conquest as it was "written in man's nature by the hand of the Creator."[121] Africans, Polynesians, American Indians have all remained "for thousands of years were history first found them," and nothing but "absolute want or self-preservation can drive him from the countries where the Creator placed them." These races were "the least adulterated" and consequently preserved "their original instincts and love of home."[122]

The "higher casts" of Caucasians, Nott continued, "are influenced by several causes in a greater degree than other races." Caucasians, Nott declared, "have been assigned, in all ages, the largest brains and most powerful intellect." "Theirs," Nott asserted, "is the mission of extending and perfecting civilization." Caucasians were by the law of their nature "ambitious" and "daring" and "impelled by an irresistible instinct, they visit all climes, regardless of difficulties." On this last natural instinct, Nott lamented, "But how many thousands are sacrificed annually to climates foreign to their nature." the Caucasian races were not of a single origin or primitive stock but "an amalgamation of an infinite number of primitive stocks, of different instincts, temperaments, mental, and physical characteristics." It was through such "commingling of blood" through "migrations, wars, captivities, and amalgamations" that Providence "carries out great ends." [123]

Later on in *Types*, Nott distinguishes between instinct and intellect, all while underscoring the principles of his ethnology, the fixity of type, and the interconnection of biology and history. Nott began, "In the primitive organization of

[121]Ibid, 79.
[122] Ibid, 69
[123]Ibid, 68.

races, their mental *instincts*, which determine their character and their destinies, are not blind hazards." "All history," Nott declared, "as well as anatomy and physiology, prove this."[124] It must be admitted, Nott argued, that animals "possess a limited degree of reason" much in the same manner as men are to a degree guided by their instincts. Reason, among types of humanity, was "often propelled by some blind internal force, which cannot be controlled." Nott asserted that much in the same manner as "groups of mankind" differ in their "cranial developments" types differ in their "instincts," which lead certain types into "lines diverging from each other," giving to each one its "national character."[125] It was maintained that all men were "more or less of reason," with "some moral sense," and "impressed with a responsibility to a supreme being, but this was not a scientific position but merely a "hypothesis," unsupported "by facts."[126]

In distinction to schemes of Utopian perfectibility (Comte, Saint-Simon) and philanthropy (Prichard) which argued that all men could attain a state of high civilization, through reason, Nott contended that "monuments of Egypt prove that *Negro* races, have not, during 4000 years at least, been able to make one solitary step, in Negro-land from their savage state." "The modern experience," Nott continued, "confirms the teachings of monuments and of history" of the dismal fate of these "organically inferior types."[127] "The Negroes," Nott noted, "may be traced back on the monuments of Egypt, with certainty, as nations, back to the XII dynasty" and a "present-day" ethnographer could not assume that "the Negroes" were not as old as

[124] Ibid, 460
[125] Ibid, 461
[126] Ibid, 462.
[127] Ibid, 95-96.

"were not then as old as any other races of our geological epoch." The "modern experience of the United States and West Indies" likewise confirms the "teachings of monuments and of history." "Our remarks on Crania," Nott continued, "render fugacious all probability of a brighter future for these organically inferior types." Nott's discussion of archeology was then a natural historical argument against not only racial equality and the soundness of Morton's natural history but also a criticism of Utopian socialism.

Nott's discussion of African and Egyptian types highlighted the convergence of biology and archeology, natural history and civil history. Nott concluded that his exposition again proved the original plurality of species and the unchanging nature of human races from remote antiquity. Nott not only developed an account of human antiquity but also narrated his understanding of the laws of human development. In many instances, as with his discussions of the stasis of Asiatic culture or the existence of Africa outside of history, these were enlightenment and Romantic tropes.

As always, these narrative conventions existed in a dynamic relationship with the more radical elements of Nott's ethnography. The permanency of "type," essential to Nott's political agenda, was bolstered by Morton's observations on the Egyptian monuments. Nott distilled Morton's insights and transposed them into his law of historical causation. Nott was careful to ground his observations in the authority of other scientists, and in the genius of Morton, using their observations, including those George Gliddon, as a springboard for his views.

Nott's discussion of African types began first with a critique of the "unity thesis." With his critique, Nott underscored the proof of the natural historical premise

of primitive locality by recourse to archeology. According to the unity thesis, Nott noted, "that this African continent was first populated by Asiatic emigrants into Egypt. The proponents of the unity thesis also held, "that these immigrants passed on, step by step, gradually changing their physical organizations, under climatic influences, until the whole continent, from the Mediterranean to the Cape of Good Hope, was peopled by the various tribes we now behold scattered over that enormous space."[128]

Drawing from the German Egyptologist Karl Lepsius (among the first to establish a chronological account of the Egyptian dynasties), Nott argued, "the Negro and the other races already existed in North Africa, on the upper Nile" in 2300 BC, and existed "we repeat, in spite of natural barriers which could not have been passed by any means previously known."[129] It was, thus, untenable "hypothesis" that African races were variations of Asiatic races radically changed by climate as "all truly African races, have from the earliest epochs, spoken languages radically different from every Asiatic tongue." It was Nott's contention, as throughout *Types* to convince his reader that the linguistic and archeological evidence harmonized with the "physiological conclusions we have reached from the monumental iconography." [130] It was also certain that, notwithstanding the "Syro-Arabian engraphments" that "these languages now as purely African now as they must have been "the idiom" uttered, "by the Egyptian ancestry of those who raised the pyramids of the IVth dynasty, 5300 years ago."

[128] Ibid, 181
[129] Ibid, 181
[130] Ibid, 182.

For Nott, there was no better source for his ethnology than the monuments depicting the Egyptian races and for Nott there was no better key to history than hieroglyphics and the pyramid reliefs. "Science" itself appealed to the Egyptians to settle questions "in the Natural History of Man." In order to gain some knowledge of the "unknown epoch of Man's creation," and in the "quest of a point of departure where we can obtain the first historical glimpse of a human being on our globe, the Archeologist is compelled to turn to the monuments of the Nile." The discipline of the archeologist, much like that of ethnology, and his attention to the visible inspection of the specimen, "archeology using mere naked eyes, has long espied most luminous stratifications," was far superior to the universal histories resulting from the "eye glasses of pedagogues" who rendered "Oriental history into a chaotic blur."

The records of Egyptian bas-relief and tombs contained substantial records to be beginnings of civilization. The "records of India," by contrast "cannot any longer be traced even to the time of Moses." The "Hebrew chronicles, beyond Abraham, present no stand-point on which we can rely." These records "highest pretension falls short by 2000 years of the foundation of the Egyptian empire." The Chinese, on the other hand, "according to their own historians, do not carry their true historic period beyond 2637 years before Christ,"[131] while "Nineveh and Babylon, monumentally speaking" were even more modern. "Egypt's proud pyramids," Nott continued, "if we are to believe the Champollion-school, elevate us at least 1000 years above every other nationality." As importantly, Nott argued that the Egyptian monuments demonstrated a nation in possession of "the time-worn habiliments of civilization." It proved to Nott that "that humanity, in its infinite varieties, has existed much longer

[131] Ibid, 211-12.

upon earth than we have been taught" and that "physical causes have not, and cannot transform races from one type into another."

The case for the permanence of racial types was, Nott wrote, sounder by the presentation of the reliefs on the pyramids of a civilization in maturity. "Her tombs," Nott described, "her temples, her pyramids, her manners, customs, and arts, all betoken a full-grown nation." Egypt had entered by 3500 BC, her Augustan age. The stability of Egyptian culture, through the millennia, was easily explicable as it was the characteristic of Asian nations and races to display a "fixedness of civilization." Egyptian history, known to a fair degree of detail, underscored the "adhesion to fixed formulae."

The monuments and the pyramids demonstrated to Nott fundamental ethnological truths. While a degree of change had occurred in Egyptian civilization, it was only through the imposition of foreign or outside elements. Thus, it was only through the imposition of the Greeks, Romans, Arabs, and Turks that "all old habits were uprooted." If the Egyptians were the key to the truths of ethnology, they could also bring about its undoing. It was here that the genius of Morton again makes an appearance. As to the vexing question of the race of the Egyptians, which "has given rise to endless discussions," Nott denied it could be "absolutely answered." If Egyptians were not of the Caucasian type, it could disprove Nott's entire hierarchical scheme as well as his account of instinct, intellect, the truth of the connection between biology and racial destiny. It could not be the case, Nott believed, along with Morton, Prichard, and many others, that Nubians had constructed the Great Pyramids. A conclusive answer would also demonstrate the fixity of types into the present. This

argument, furthermore, provides an instance of Nott's taking of various elements from authorities and traditions while disregarding others and the reconciliation of those elements with monumental archeology and biology.

The race of the Egyptians, as Nott knew well, had been the subject of controversy since the French Enlightenment. French historians Charles Rollins and Volney knew that "the Egyptians were reputed to be *Negroes*" and the Egyptian civilization to be descended from that of Ethiopia. Nott agreed with Champollion and Rossellini in their concurrence of the Caucasian features of Egyptian civilization but underscored his disagreement with Champollion's contention that Egyptian civilization emerged from Ethiopia, emerging from the locality of Nubia, with the present-day Copts emerging because of the "*metissage*" of the races. According to Nott, George R. Gliddon's *Chapters on Ancient Egypt* as well as Morton's 1844 work, *Crania Aegyptiaca*, refuted the Ethiopic or Nubian origin of Egyptian civilization.

Gliddon's reasoning was as follows. The descendents of the children of Ham settled the lower Nile from their Asiatic dispersion. Asians and "White Men" carried civilization up the Nile. The proponents of the African origin of Egyptian civilization "are founded on no Scriptural authority for early migrations — are supported by no monumental evidence, or hieroglyphical data, and cannot be borne out or admitted by practical common sense." It was furthermore not in the plan of Providence, according to Gliddon, that God would scatter the tribes after the Deluge only to have them encounter and "sink into utter oblivion among the barbarous races" who inhabited the "Ethiopian and Nigritian territories of that vast continent."

As importantly, according to specific "hieroglyphical tests" there was no support for the origin of civilization in Ethiopia. Drawing from the Orientalist J. Gardiner Wilkinson on the features, customs, and manners of the ancient and existent Egyptians, Gliddon noted that much evidence supported the Asiatic origins of Egyptian civilization. Gliddon then drew upon the noted hieroglyphic expert, Samuel Birch, who was then at the British Museum, who concurred in the conclusion of the Asiatic origin of Egyptian civilization.[132] Blumenbach and Cuvier both concluded that the mummies they examined were exemplars of the "Caucasian type." Jomard, another eminent Orientalist, Gliddon noted, "sustains the Arabian and consequently the Asiatic and Caucasian origins of the early Egyptians."

However, both Champollion and Rossellini, relying upon Grecian authorities, put the origins of the Ancient Egyptians in Nubia. Champollion maintained that the original "Berbers" or "Nubians" were originally Africans who had been "engrafted" with Caucasian blood. Gliddon disagreed most with Champollion's contention that the Egyptian monuments depict the same race as present-day Berbers. Gliddon asserted, "I reject their similitude to the monumental Egyptians in toto" and argued instead that either "had either modified his previous hastily-formed opinion, or, at any rate, had not taken a decided stand on this important point." Nott reiterates the multitude of "authorities" that have aligned themselves against the "Nigritian hypothesis of Volney." Nott's ethnology, with Gliddon's paraphrasing also drew upon the Enlightenment historian De Fourmont, concluding, "The Egyptians…issued out of either Arabia or Phoenicia" as "Egypt was composed of Chaldean, Phoenecian, and Arab people." Morton was, however, the final authority on matter's Egyptian for

[132] Ibid, 213

Josiah Nott. Essential to the narrative of Morton's findings is the familiar trope of Morton as the genius founder who, through contentious labor and flashes of insight, settles ethnographic controversy.

Nott described how "Morton, drawing from his vast resources in craniology, skillfully combined with history and such monuments." Morton concluded that The Nile Valley was peopled with the Caucasian race. Morton continued, "These primeval people, since called the Egyptians, were the Mizraimitcs of Scripture, the posterity of Ham, and directly affiliated with the Libyan family of nations." As importantly, Morton noted, "Besides these exotic sources of population, the Egyptian race…at different periods modified by the influx of the Caucasian nations of Asia and Europe: Pelasgi, or Hellenes, Scythians, and Phoenicians" with the present day Copts being a "mixture of the Caucasian and Negro" though "in extremely viable proportions."

Morton used the 4th century Roman historian Ammianus Marcellinus in order to underscore the contradictions in the ancient testimony by noting that it was impossible for Egyptians to be "black" and to have the ability to "blush and grow red." Nott continued, noting that the dubiousness has been increased to such an inextricable extent by the opposing scholasticisms of modern historians, yoked with the "first impressions" of unscientific tourists" that the only thing obtained with certainty from these accounts was that the Egyptians of the New Empire, or those from the XVII dynasty onwards, were a "mixed population."

Morton's contribution was that he "took the whole question out of the hands of the Greeks "and their subsequent copyists" by appealing "directly to the iconography of the sculptures, and the mummified remains of the old population

found in the catacombs."[133] While many opinions concerning the Egyptians had shifted since the publication of Morton's work in 1844, it was nonetheless the case that other conclusions of Morton had "triumphantly withstood the test of time." Morton was in his *Crania Aegyptiaca*, to Nott, "dealing exclusively with the known facts." One could not help but admire "the sagacity with which, for the first time in Egyptian ethnology, Morton brought order out of chaos." This was even more the case since his ethnology of ancient Egypt was constructed from limited evidences. It was a testimony to his "genius" that "he had before him but a few monuments of the XII dynasty…and nothing of earlier date." Furthermore, his analysis of the XII and of the "XVII and succeeding dynasties must remain an imperishable attestation to his genius."[134]

V. Hybridity, Nott's Authority, and the Extension of Morton's Insight

Although civilization, linguistics, and archeology all provided, for Nott and for "present day Naturalists," convincing arguments about the permanence of types and the interdependency between civilization and biology, the hybridity argument remained for Nott a potential rallying point for naturalists who, along with Bachman and Prichard, considered infertile hybridity to be the indication of a mark of species and all human beings to be a singular species. Hybridity was essential for Nott since it explained, in a far better fashion than climate, the existing variation among human beings. As importantly, hybridity was the essential insight from which Morton drew

[133] Ibid, 218.
[134] Ibid, 219

not only his authority in natural history but also, more privately, his views on the plurality of the races. Morton's account of hybridity and his related understanding of species were the bedrock of his "school." Furthermore, Morton's account of hybridity allowed Nott to negotiate his own status as an ethnologist and naturalist.

As part of the effort to establish himself as an independent authority, Nott noted that in 1842, well before Morton happened upon the subject himself, he published an article on hybridity "to show that the White man and the Negro were "distinct species." Nott illustrated his conclusions using natural historical examples from species of lower animals. Nott declared, "Many of (my) arguments were new," even to Morton. In this article, he concluded that "mulattoes" were the "shortest lived of any class of the human race." Due to his residency in New Orleans, rather than the Northern Atlantic States, Nott changed his opinion as to the varieties of hybridity possible.[135] Nott's conclusions in 1842 now only held true with the hybrids of the Anglo-Saxon and Teuton with the "True Negro." Nott believed to have viewed recently enough evidence to affirm the existence "of certain *affinities* and *repulsions* among the various races of men"[136] which causes "their blood to mingle more or less perfectly." Nott attested to many examples of "great longevity among *mulattoes*" and "sundry instances where their inter-marriages… were attended with manifest prolificacy."[137]

Nott opined that, "a small trace of white blood in the negro improves him in intelligence and morality; and an equally small trace of negro blood, as in the quadroon, will protect the individual against the deadly influence of climates which

[135] Ibid, 373.
[136] Ibid, 373.
[137] Ibid, 373-4.

the pure white-man cannot endure." Mulattoes, declared Nott, rarely succumbed to yellow fever and other types of tropical diseases. On the other hand Nott pointed out, "That negroes die out and would become extinct in New England, if cut off from immigration, is clearly shown by published statistics." Robert Knox, the Victorian anatomist (now famously) noted that it was unclear if Caucasians were naturally suited to the climate of America. To this Nott retorted, "It is impossible to conjecture what time may effect."[138]

Quick to defer to the authority of Morton, however, Nott declared, "I attach little importance to my own labors on the subject, beyond that of attracting Dr. Morton to the investigation."[139] In the next sentence, Nott undertakes a critical transition from Morton's system to his own. Nott not only used Morton's ideas "freely" throughout the chapter but "merely" extended Morton's inquiry from "lower animals" into "the *races of men*." Nott's innovation was the treatment of degrees of hybridity, from unions resulting in sterile progeny to, "that which takes place among closely proximate species" among "mankind" as well as domesticated animals in which "prolificacy is unlimited." Nott's account of degrees of hybridity allowed for him to argue for a complete theory of the mechanics of racial difference. Such a complete theory allowed Nott's ethnological observations to become systematic, deterministic, and political.

For Nott, the degrees of hybridity explained the ability of types to intermix and to a far greater degree than arguments dependent upon local causes, such as climate, explained the varieties of human variation. Going further, Nott also underscored how

[138] Ibid, 368-69.
[139] Ibid, 375.

natural laws acted upon both humans and lower animals to the same degree. The integration of human beings into the order of nature was complete. With the law of hybridity established and with the ability of closely aligned species to produce fertile hybrids, Nott articulated what he believed to be the final conclusive assertion against the unity thesis and a most essential "landmark" for a science of ethnology. This was the case since the hybridity thesis allowed for there to be "many specific centers or zoological provinces" in which the "faunae" was "exclusively particular." [140]

Speaking of human types specifically, Nott noted how "the genus *homo* includes many primitive species" which though "all proximate" possess a surprising range of prolificacy, with some "possessing a tendency to become extinct when their hybrids are bred together." Thus, what for Nott constituted the most useful unity of ethnological analysis was "an infallible test of a specific character," rather than fertility of offspring, as Prichard and Bachman had argued, but "the permanence of type." This was not simply a natural historical truth but a civil historical one, a law of history. Nott asserted, "So far as the races of man can be traced through osteography, history, and monuments, the present volume establishes that they have always been distinct." There was no single instance in the archeological or any other historical record "where one race has been transformed into another by external causes."

Hybridity not only affected outward physical characteristics, but intellect as well. Intellect was essential to Nott's account of instinct, which was in turn central to his understanding of the laws of history. Such an understanding of instinct foretold a dim future for colonial peoples, in Nott's opinion. For Nott, instinct and intellect

[140] Ibid, 376

provided many clues into present politics, into the biological mechanisms behind the hierarchies present in society.

Here much of Nott's argument developed from his multi-page natural history of dogs. Such a natural history demonstrated that the same laws governed human beings and dogs. Since the brain and the nervous system were of an "animal nature" so too should "mulattoes," like dogs, "partake of intermediate characters." The "mulatto" "is certainly more intelligent than the Negro, is less so than the white man." The intelligence of the "mulatto" "augments in proportion to the amount of white-blood in his veins." The case of the Liberian "mulatto" colonists exemplified the consequences of this intermediate status. An examination of their crania "alone substantiates" the view that their future was "not exhilarating" and an examination of the historical record demonstrated that "all Negro empires are ruled by the superior *Foolah* (or North African) races."[141]

Although the same physical laws governed dogs and men, it was also the case that "mind and mind alone…constitutes the proudest prerogative of man." Mind, in the form of intellect and virtue, was an unbridgeable gap between the "lower" and "higher" races as "Negro and other unintellectual races…possess heads much smaller, by actual measurements in cubic inches, than the white races." When those offspring were crossed together, the offspring "exhibited throughout a modified anatomical structure." The head of the "mulatto" is "much larger than that of a Negro," the "forehead more developed, the facial angle enlarged" and the intellect "manifestly improved."

[141] Ibid, 402.

The recent historical record demonstrated these anatomic differences as the "mulattoes," though a "fraction of the population in Hayti, had ruled the island till expelled by the overwhelming jealousy and major numerical force of the blacks."[142] All of the progress of the Liberian colony, furthermore, was due to the impact of "white blood," without which "the whole fabric would doubtless fall into ruins." "Dark-skinned races" Nott continued, "history attests are only fit for military governments." Military governments were "the unique rule genial to their physical nature" as they "are unhappy without it."[143]

According to Nott, none but the "fair-skinned types of mankind have been able, hereto, to realize, in peaceful practice, the old Germanic system described by Tacitus" in which a minority ruled under constant principles which the majority followed. It was evident then, according to Nott, "at least theoretically, "that the superior races ought to be kept free from all adulterations" as "otherwise the world will retrograde, instead of advancing in civilization." It was an open question, to Nott, "whether there is not already too much adulteration in Europe." Spain and Italy, home of the "darker races" "still continue behind the march." France "although teeming with gigantic intellects has been struggling in vain for sixty years to form a stable government" since "her population is tainted with bad elements." The "civilization of ancient Rome" the product of a "very mixed race" though "grand in its way" was nevertheless "characterized by cruelty, barbarism, and a certain lack of refinement."[144]

[142] Ibid, 403
[143] Ibid, 404
[144] Ibid, 405

The contrast to the "theoretical purity of the races," and Nott's reading of the actual physical history of humanity led him to entertain a dire prophecy. He concluded that it was inevitable that "the superior race must inevitably become deteriorated by any intermixture with the inferior" and thus, through the action of hybridity alone "the human family might become exterminated by a thorough amalgamation of all the various types of mankind."[145] "Nature," however, continued Nott, "marches steadily towards perfection" and "attains this end through the consecutive destruction of human beings. Geology and paleontology, Nott noted, "proved a succession of creation and destructions" before the advent of man. In much the same way, Nott continued, the "unintellectual races seemed doomed to eventual disappearance." The history of European contact with indigenous populations seemed to demonstrate this for Nott. The Portuguese exterminated the entire "race" of the Canary Islanders during the thirteenth and fourteenth centuries, while a similar fate befell the pre-Celtic inhabitants of Britain, Gaul, and Scandinavia.

The aborigines of North America have dwindled, Nott noted, to two million while the Caribs "have long been extinct in the West Indian islands." In the present time, "the mortal destiny of the whole American group is already perceived to be running out." In New Holland and New Guinea and in "many other parts of the world, the same work of destruction is going on."[146] All of these observations led Nott to a grand theory of the course of history in which he concluded, "There are reserved, without doubt, in the destinies of nations, fearful epochs for the ravage of

[145] Ibid, 407.
[146] Ibid, 409

the human race; and there are times on the divine calendar marked for the decline of empires, and for the periodic renewal of mundane features."[147]

The metaphysical statement at the end of the text underscores how far Nott's system had traversed from the "science" of Samuel Morton. Nott drew great capital from the "intention" of Morton to systematize his ethnological observations. Nott's construction of general laws and the accumulation of further facts from the ethnological insights of Morton- his cranium data, his account of hybridity, his Egyptology- to the exclusion of all other authorities that did not support either man's insights, produced a related but fundamentally novel ethnological project. Nott, unlike Morton, constructed general statements concerning history, politics, religion, natural history, and anatomy from those facts in such a way as smother the opposition and castigate its methods and approaches. This was so distinct from Morton's enterprise that Nott's project was not merely the logical extremity of Morton's methodology, but in some respects, an entirely new system.

Nott's departures were due to a complex negotiation between the evidences available, the potentialities inherent in Morton's insights, and Nott's own desire to be an ethnological authority as well as an adherent to Morton's "school." While it is certainly the case that Nott believed himself to be a follower of Morton, Types, especially Nott's contributions, was far more than a mere "memorial" to the memory of Morton, a faithful application of his principles. Nott's work was rather a distinct system of ethnological ideas and imperatives, which structured and authorized its departures through strategies of argumentation and systems building consistent with

[147] Ibid, 410

the development of a research program, grounded in the authority of Morton and couched in the rhetoric of the "follower." This program sanctioned specific authorities over others as well as privileged specific types of evidence over others. As importantly, it underscored the methodological and conceptual innovations it had introduced as well as providing a plan for the future progress of the science

Conclusion

While the American anthropological community did not articulate a professional identity until the 1870s or 1880s, it was nonetheless the case, as Terry A. Barnhart writes in his account of the role of the Indian archeologist Ephraim G. Squier, that the four elements which later defined the anthropological practices of the twentieth century –physical anthropology, archeology, linguistics, and ethnology- "existed in embryo" in the anthropology of Josiah Nott and George Gliddon, "however imprecise the rudimentary boundaries and definitions." Nott and Gliddon self-consciously referred to a 'cis-Atlantic school of Anthropology,' which they began in the spirit of Morton. The pro-polygenesis ethnological periodical, the *Anthropological Review*, produced by the Anthropological Society of London, concurred with this conclusion, noting that it was possible to write "a history of transatlantic anthropology, from the death of Samuel George Morton (in 1851) to a very recent period."[148] Nott's own life, when it was eulogized by the same journal in 1868, was cast, as "amply alive to the truth" defined by labors where he "patiently accumulated facts of various kinds," not unduly adhering to any particular theory, but always sympathetic to "the polygenistic school of anthropology."

The obituary to Nott in the *Anthropological Review* narrates Nott as the faithful student under the tutelage of the founder, whose views were consistent, but never public. It was from this private correspondence that the notion of an "American school," emerged, through an emphasis on Morton's firm belief in the original diversity of human beings. This was affected with an excerpt of a letter from

[148] *Ephraim George Squier and the Development of American Anthropology*, 4-5

Morton to George Gliddon, with Morton asserting that, "The doctrine of the original diversity of mankind unfolds itself to me more and more with distinctness of revelation." This doctrine, understood with the "distinctness of revelation," was much like the Romantic flashes of intuitive genius, transcendent in their source. However, Morton was unable to act upon this "unfolded doctrine" and in the opinion of the obituary author, "left the defense of the anthropological axiom to the adherents of his school, then mainly represented by Nott, Gliddon, Usher, and Patterson."[149]

The obituary, written by the British anthropologist Kenneth R.H. Mackenzie, wished to narrate a continuity of views between Morton and Nott, according the status of the diversity of the races to the status of a divine insight, with Nott and Gliddon's writings merely existing as the application and an elucidation of an anthropological axiom, of assiduous labor and fact gathering. Mackenzie's narrative of a "school" was however born from his adherence to the doctrine of polygenesis and racial domination. By underscoring the unbroken continuity between Morton's natural history and Nott's universal history of the races, Mackenzie granted the latter's positions an authority and a rootedness in the specific fact-gathering practices of naturalism that they did not possess.

R.H. Mackenzie's rhetoric had important political and institutional implications going to the core of the developing disciplinary identity of anthropologists and British humanitarianism and anti-slavery in the 1860s. Mackenzie was part of the radically polygenesist and racial supremacist faction of the ethnological community lead by James Hunt. James Hunt, much like Nott, connected the natural history of man with the political structures of racial domination.

[149] *The Anthropological Review*, "The Life and Anthropological Labors of Josiah Nott," lxxix-lxxx

Like Nott, Hunt argued that Africans were the intellectual inferiors without a history,[150] while it was the case that history displayed instances of the "highest civilization" by Europeans. Like Nott and Louis Agassiz, Hunt held that savage civilizations were by their nature rooted into their original localities. The European, on the other hand, was "forever restless" and was everywhere "the conqueror and the dominant race." No amount of education or "philanthropy," or abstract liberal universalism, one of Nott's frequent targets, would change the future dominion of the European over the African.

These generalizations about civil history and present politics, including admonitions against pedagogy and "philanthropy", "supported" by measurements from skulls, from the natural history of various animal species such as horses, a theory of hybridity and type explaining both instinct and physical characteristic, and an emphasis upon the *genus* identity of human beings rather than species,[151] were some of the most prominent features of a shared ethnological system between British and American polygenesist ethnographers. An emphasis upon Morton's authority and the construction of a clear doctrinal line allowed Hunt's (along with Nott's) articulations to have their roots in a moment of intuition akin to revelation.

The connection of both Hunt and Nott's "system" to a genius founder was a tactical move when in the 1860s the Anthropological Society of London was a splinter organization from the Ethnological Society of London. Inspired by the racial theories of Robert Knox, James Hunt and his followers repudiated the humanitarian and anti-slavery politics of the Ethnological Society and formed their own separate

[150] James Hunt, *The Negroes' Place in Nature*, 13
[151] Hunt, 13-17

society. Only in 1871 were the societies reunited by T.H. Huxley. Thus, the narrative of Morton's genius and of Nott's patient labor was a rhetorical weapon used by partisans for the polygenetic, anti-humanitarian wing of anthropologists during the process of professionalization of anthropology during the late 1850s and 1860s.[152]

Aleš Hrdlička, in the inter-war period, (1919) used the figure of Morton to narrate the growth and development of the science of anthropology in America and to underscore the potential of physical anthropology to contribute to a renewed understanding of the science of man. For Hrdlička, the "founder" of "physical anthropology," or the study of human beings, their growth and development from a biological perspective, the inquiries of Morton represented the first halting, incomplete beginnings to the emergence of a modern science of physical anthropology with its own cadre of experts, instruments, research methods, pedagogical techniques, and scientific aims. Hrdlička noted that the history of anthropology in America had demonstrated, first, "a shorter or longer preparatory period, occupied with growth of interest in a new direction" with "the beginnings of collection or assembling of data" as well as the first efforts at "lectures, writing, and association in the new field." Morton's work represented the pre-critical period in the history of anthropology, in which there was the slow preparation "of the ground."[153]

After false starts with the works of natural history by Buffon, Cuvier, and Blumenbach, as well as failed institutions such as the American Antiquarian Society,

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[152] See Douglas A. Lorimer, "Images of Race, II. The Politics of Race and Science," in Lightman, *Victorian Science in Context* (Chicago: University of Chicago Press, 1997), see also George Stocking, *Victorian Anthropology*, (Simon and Schuster, 1991), especially, "Evolutionary Ideas and Anthropological Institutions."

[153] *Anthropology in North America*, John Reed Swanton, Roland Burrage Dixon, William Henry Holmes, Clark Wissler, Aleš Hrdlička, Pliny Earle Goddard, Robert Harry Lowie, Paul Radin, Franz Boas, Alexander Goldenweiser, 136

founded in 1812, the study of human crania received "great impetus" through the establishment of phrenological societies in Washington D.C. and Boston. Physical anthropology "began" however with the investigations of Samuel Morton.[154]

Morton's *Crania Americana* "manifested some of the defects of the early period of anthropology," but those defects are slight when compared "with the bulk of astonishingly good work and the number of sound conclusions." In his research for *Crania Americana*, Morton preformed "a sensible series of measurements" though with an imperfect sample size. When instruments were lacking or insufficient, Morton "invented or improved" them. Morton's "craniometric methods call for special note" particularly his recording of ten measurements from each skull. Of these measurements, "the most important six were taken from precisely the same landmarks as they are taken today."[155] While the terms used to describe the measurements "are not as specific as those which would be employed today…but their meaning is unmistakably identical."[156]

Morton was a methodological and conceptual innovator, whose labors and insights, while marking the halting beginnings of physical anthropology in America, nonetheless charted a clear line to modern methodological practices and ways of gathering evidence. His work was a "highly useful compendium of anthropological knowledge; he established "the main proportions of the skulls of many American tribes;" and finally, Morton "gave for the first time excellent illustrations, both plates and figures of many American crania."[157]

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[154] Ibid, 138-140
[155] Ibid, 142
[156] Ibid, 143
[157] Ibid, 144

Hrdlička, however, had a low opinion of the work of Josiah Nott and George Gliddon, "two men closely associated with Morton in his anthropological work." The work of Gliddon was marred by their efforts to harmonize Morton's ethnology with the account of Scripture. Overall, *Types of Mankind*, while it exercised "considerable influence on the public mind in the field they covered," exhibited a dearth of "actual field or laboratory research" and was more "popular science" than the "report of scientific investigation."[158]

Hrdlička's dismissal of Nott and Gliddon and his approval of Morton had much to do with the promotion of his own anthropological outlook, which advocated a strict empiricism, laboratory work, and examination of the anatomic specimen. Anthropology was the "*study of man's variation*" and physical anthropology was the study of "racial anatomy, psychology, and pathology," which addresses the "human body and its inseparable functions," and the "causes and ways of human evolution."[159]

The progress of physical anthropology had been hampered by several realities, all of which existed in some form in Morton's time and which had limited the progress of physical anthropology into a systematic and useful body of knowledge. The most important was "the imperfect state of anatomical knowledge" as the science of physical anthropology "commenced to be differentiated while general human anatomy was still imperfectly understood."[160] As problematic is the "defective state of collections of requisite materials," the lack of men trained in the methods of

[158] Ibid, 154
[159] Aleš Hrdlička, *Physical Anthropology: Its Scope and Aims*, 8
[160] Ibid, 13

physical anthropology, and the "difficulties…attending the accurate collection of anthropological data in many parts of the civilized and uncivilized world."[161]

The future progress of physical anthropology, for Hrdlička, depended upon the "definite unification and perfection of anthropometry in its entire range, upon the systemization of the methods of treating and recording data" as well as advancing towards better textbooks, specialized periodicals, and the "augmentation and improvement of collections." The future progress of physical also anthropology depended upon a professional identity and a commitment to a specific plan of study, and afterwards towards a specialized methodology of research. Such research required not only a worldwide community of practitioners, a "worldwide organization," but also needed the "further standardization and perfection of anthropometric methods and instruments."[162]

The narrative of Morton's work was essential for Hrdlička as he attempted to standardize the concepts, taxonomy, instrumental practices, and reviewing standards for work in physical anthropology in the inter-war period. Hrdlička's task of presenting a research program for physical anthropology was all the more vital given the competition and existence of three distinct conceptions of anthropology that emerged between 1916 and 1932. The first was Franz Boaz's understanding of the primacy of culture; the second was that of Hrdlička; the third was that of Charles Davenport, who emphasized eugenics and the utility of anthropology for social planning.[163]

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[161] Ibid, 14
[162] Ibid, 18
[163] Thomas Carl Patterson, *A Social History of Anthropology in the United States*, 55

With such competition, especially from Boas, who continually stressed the connections between ethnology, linguistics, folklore, archeology, and physical anthropology, it was all the more important that Hrdlička articulate a research program specific enough to distinguish himself from the other anthropological methodologies. Hrdlička had to prove that given the resources, standardization of practices and taxonomies, the proliferation of textbooks, the increase of anatomical knowledge, and the procurement of large collection of human specimens, physical anthropology could not only become scientific but also an authoritative body of knowledge capable of advancing the science of man. Morton's own work was essential to this narrative of physical anthropology's worth to the science of man as it gave the discipline of physical anthropology a narrative of sustained progress towards a modern science.

Aleš Hrdlička and R.H. Mackenzie utilized Morton's dual status as a "genius" of ethnology and the founder of a "school" in order to promote specific research programs and conceptions of the progress of the science, moves necessary in the context of the professionalization of British and American anthropology and with the existence of competing anthropological methodologies. These narratives exemplify the central contention of this thesis and the central claim it makes against previous historiographic treatments. Namely, that the conception of Morton as a "genius" innovator and Nott as a "follower" fails to take into account the degree to which such a narrative is used in order to construct a specific research program at the expense of others or to grant ideas an authority which they otherwise would not posses.

As importantly, Aleš Hrdlička and R.H. Mackenzie, for their own specific purposes, each extracted specific methodological and conceptual elements at the expense of others. A more holistic view of Morton's endeavor would have underscored his rootedness in an enlightened worldview and the distinctiveness of his intentions from subsequent uses of his authority. Morton's own "system," to the extent to which he articulated one, was disassembled for the promotion of subsequent research programs, ironically obscuring his actual contribution to ethnology and his position between the civil history of the enlightenment and the nineteenth century natural history of man. The narrative reduction of Morton's arguments, however, reveals the essential characteristics of the systems and research programs that the reduction supported.

Such narratives are the principle ways through which anthropologists sanctioned specific concepts, methodologies, and pedagogies in the pursuit of their own research programs. That the narrative of Morton as a "genius" and the founder of a "school" have remained unexamined, furthermore, has much to do with the narrative of the development of the discipline of anthropology that scholars have themselves constructed. This mirrors the language of practitioners themselves, emphasizing flashes of insight, with a rigid distinction between the "founder" who constructs the system and the "follower," who simply applies the methods and patiently labors in the spirit of the system. The case of Nott demonstrates that the rhetoric of the follower was utilized to sanction innovations in the system that granted both authority and identity to the ethnologist. Accordingly, as Simon Schaffer has argued in the case of the natural sciences, both the moment of insight, the work of

“genius,” and the narrative of a “school,” in the history of anthropology should be the site of analysis rather than of evidence.

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